



Penn
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COURSE REGISTER



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ACCOUNTING (WH) {ACCT}

099. 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 the department Chair must be obtained before registration.

L/R 101. (ACCT620) 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.

205. (ACCT705) Tax Planning and Administration. (C)

Prerequisite(s): ACCT 101,102.

Presents an overview of the Federal tax raising system and its impact on the planning and conduct of business operations. Draws on the disciplines of business finance, public finance, and accounting as they relate to taxation.

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.

230. (ACCT730) International Accounting and Financial Reporting. (B)

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

The objectives of the course are to broaden the students' knowledge of how generally accepted accounting principles and financial reporting practices are developed and applied in the various countries, how the differences in principles and their application impact on financial statements and business decisions, and to enhance the students' ability to think through and resolve

international accounting and financial reporting problems.

Development of international accounting principles (the standard setting process) and comparative practices are reviewed at the outset of the course. This is followed by discussion and resolution of several technical subjects which are used as a vehicle for further consideration of comparative practices. Inflation accounting and foreign currency translation, two subjects of importance to international business, are treated. Subjects of a managerial nature (such as accounting for hedging transaction losses by using forward contracts, management control in the foreign environment, analysis of foreign financial statements, transfer pricing and international taxation) consume most of the second half of the course.

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

Prerequisite(s): ACCT 101 & FNCE 100.

The primary objective of the course is to advance one's understanding of how financial reporting is used in a variety of decision making and contracting contexts (e.g., investment decisions or lending contracts). The course is designed to improve your ability to extract and interpret information in financial statements. It will also enhance your ability to use financial statements as part of an overall assessment of the firm's strategy and valuation.

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. 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

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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.

SM 910. Accounting Theory Research I. (A)

910/911 Accounting Theory sequence. 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 911. Accounting Theory II. (A)

Accounting 910/911 sequence. 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 920. Fundamental Empirical Accounting Research. (B)

A fundamentals course that covers empirical research design and provides students with a perspective on historically important accounting research.

SM 921. Empirical Research Application I. (B)

Topical course on various specific areas such as research on analysts, regulation, and tax or methodologies such as econometric techniques, event studies, and the use of survey data.

SM 922. Empirical Research Application II. (B)

Empirical topics course in areas such as research on analysts, regulation, and tax or methodologies in econometric techniques, event studies, or the use of survey data.

AFRICAN STUDIES (AS) {AFST}

Undergraduate Courses

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

In this seminar you will learn the history and culture of gospel music as an African American and contemporary African musical form. You will come to know gospel music as a written, recorded, and living musical tradition, through close listening, reading and writing about, the music; and you will participate in a class research project with Philadelphia based gospel musicians. This is an academically based community service seminar.

SM 018. (ANTH018) Popular Culture in Africa. (C) Barnes. Freshman Seminar.

This course concentrates on popular culture in sub-Saharan Africa. It examines the way people reflect on and represent various aspects and issues in their daily lives, in public media, and through a diverse range of performative and creative outlets. It explores the way cultural traditions are created, promulgated, and perpetuated. It looks at the way popular culture deals with pleasure and pain; identity, difference, and diversity; wealth and power; modernity and history; gender relations; suppression, resistance, and violence; and local versus global processes. In short, popular culture will serve as a window through which to observe contemporary life.

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 invoked 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.

SM 107. Freshman Seminar: World after 1800. (C) Babou.

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

168. (GSWS168, NELC168) 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.

190. (AFRC190, ANTH190, HIST190) 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.

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

213. (FOLK203) Introduction to 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.

SM 214. (AFRC214, ANTH214) Societies and Cultures of Africa. (M) Kopytoff.

An Introduction to the peoples and cultures of Sub-Saharan Africa, including culture history, languages, traditional social and political structures, and traditional religion.

221. (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 230. Law in Africa. (M) Fetni.

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 231. (AFRC231, CINE210, 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. (CINE233, HIST232) Topics in World History. (C) Staff.

SM 233. (FOLK233) African Folklore. (M) Blakely.

Chinua Achebe's metaphor "proverbs are the palm wine with which words are eaten" highlights the importance of metaphor in the sophisticated rhetoric of Igbo of Nigeria and more widely in Sub-Saharan Africa. Study of proverbs and other African folklore oral genres including folktale, epic, song, praise, poetry, drama, and oratory provides a privileged lens into African worldviews and cultural values: from generational and gender relations to notions of honor, hospitality, and worldly and spiritual power. The course also reveals the vibrancy of African folklore in contemporary life through such topics as editorial poetry in daily newspapers which Tanzanians read avidly; Ivorian women's coding and decoding of proverbs in popular cloth designs; Lesotho migrant workers' songs of struggle; and Congolese popular theatre portraying proverbial wisdom in television performances.

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, FOLK253, GSWS253, MUSC253) 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. We will cover sub-Saharan and North Africa with a strong focus on southern Africa. Learning to perform a limited range of African music/dance will be a part of this course. No prior performance experience required, though completion of Music 050 is recommended.

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

268. (GSWS268) Women and Human Rights in Africa. (A) Staff.

Is violence against women a violation of human rights regardless of whether this occurs in the private or public spheres? Should rape and sexual violence against women and girls in situations of armed conflict be considered as war crimes? As gender issues have become central to the development dialogue, the linkages between human rights, gender and development have become increasingly apparent and especially relevant for the African continent. A primary goal of the course will be to reveal the gendered nature of human rights issues and the current application of human rights concepts in Africa. It will also illuminate issues affecting women in all facets of life including rape and forced pregnancy during war time and expanding definitions of torture, freedom of expression, violence, internal displacement and refugees as stated in the Universal Declaration of Human Rights. Class assignments will be designed to craft a vision and application of human rights that are truly relevant to women and men alike.

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

292. (AFRC260, RELS211) African Religious Culture in Nigeria and in the African Diaspora. (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 296. Sustainable Development in Ghana. (A) Cassanelli. 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 301. (AFRC301) Africa and the African Diaspora. (M) Nwadiora.

This course will take the form of an introductory seminar designed to provide undergraduate students an overview of significant themes and issues focusing on the historical, political and cultural relationships between Africans and their descendants abroad. It will encompass: a review of different historical periods and geographical locations, from Ancient Egypt to modern American, Caribbean and African states; a critical evaluation of social movements and theories that have

developed in the nineteenth and twentieth centuries among scholars of different origins in their attempt to reconstruct Africa as a center and the Diaspora as a specific cultural space; and, an exploration of representations of Africa and the Diaspora in canonical literary works and other forms of fiction like the visual arts.

323. (AFST523, HSOC356) Discourses on HIV/AIDS in Africa. (C) Staff.

This course focuses on the cultural and social dimensions of HIV/AIDS and its impact on African communities, that is, both the infected and the affected. It considers the different means these communities are using to combat the scourge despite certain cultural beliefs and practices which sometimes hinder diagnosis and treatment. In addition to exploring how Africans characterize the disease in their own languages, we will examine the role of the mass media, folk media, short stories, songs, popular theatre, etc. in educating people about HIV/AIDS reflecting on the strengths and weaknesses of various strategies as reflected in the success rates in some countries but not others.

SM 354. (ARTH354) African Art & Culture. (A) Blakely.

African art is a rich and varied field of study encompassing visual arts and architecture of ancient cultures, regional artistic traditions of diverse peoples in more recent precolonial and colonial times, and contemporary artists, both self-taught and formally trained. The principal goals of this course are to help students to appreciate the scope of this field while also gaining in-depth understanding of particular African artistic traditions, artists, and artworks within specific historical and cultural contexts. Topics to be considered include persistent misconceptions about African art; indigenous African aesthetics; semiotics of African visual signs and sign systems; roles of "traditional artists" in African societies; gender issues in art production, representation, and performance; historical contacts and cultural interaction; spiritual, therapeutic, and political uses of art; and interrelations of visual art with verbal and kinesthetic expression.

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.

SM 393. (ENGL393) Topics in Literature & Society: South African Literature. (C) Barnard.

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.

SM 489. (AFRC488, AFST589, HIST489, URBS489) 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 emigrants' 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.

Graduate Courses

SM 511. (HIST511) African Cultural History. (C) Feierman.

This seminar will investigate the cultural history of Africa, with a special emphasis on concepts and methods. Topics include the history of religion before and during the colonial period, the social context of knowledge transmitted orally or through literate means, the circulation of ideas, images, and practices, the changing nature

and significance of popular culture and the cultural significance of popular social movements. Examples will be drawn from the whole of sub-Saharan Africa.

514. (AFRC514, ANTH514) Anthropology of Africa. (M) Kopytoff.

African culture history, as inferred from archaeology, linguistic relationships and ethnology. Culture areas of Africa and representative societies; common themes and differences; significance for anthropological concerns.

523. (AFST323) Discourses on HIV/AIDS In Africa. (C) Staff.

This course focuses on the cultural and social dimensions of HIV/AIDS and its impact on African communities, that is, both the infected and the affected. It considers the different means these communities are using to combat the scourge despite certain cultural beliefs and practices which sometimes hinder diagnosis and treatment. In addition to exploring how Africans characterize the disease in their own languages, we will examine the role of the mass media, folk media, short stories, songs, popular theatre, etc. in educating people about HIV/AIDS reflecting on the strengths and weaknesses of various strategies as reflected in the success rates in some countries but not others.

SM 572. (AFRC572, COML575, ENGL586) Topics in African Literature. (M) Barnard.

This course is concerned with the context, and an aspect of the content and form, of African Literature. It is based on a selection of representative text written in English, as well as a few texts in English translation. It involves first, 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 by the writers in their use of old forms and experiments with new.

SM 589. (AFRC488, AFST489, HIST489, URBS489) AFRICANS ABROAD. (M)

SM 593. (AFRC593, FREN593) 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 620. (ENVS620) Topics on African Environmental Issues. (B) Staff.

Africa is a land of great contrasts and possesses a rich mix of scenic beauty, impressive biodiversity, many cultures, economies and interesting history. Almost completely encircled by water and home to a network of some of the world's largest and longest rivers, Africa is also home to two vast and expanding hot deserts. While Africa contains enormous amounts of mineral wealth, it also has fifteen of the world's least developed countries. Its climate ranges from the harsh extremes in hot deserts to the Arctic Current dominated temperate climate of the southern tip of Africa and the pleasant Mediterranean climate of North Africa.

Africa's remarkable ecological diversity is unique and is an expression of the varied climates in the continent, with camels in Egypt, Goliath frogs (the largest frogs in the world) in Cameroon and the African penguins in Namibia and South Africa. Africa has extensive fertile grasslands and lush equatorial forests, yet many of its people suffer from hunger and starvation. Despite possessing some of the most scenic and pristine landscapes in the world, poor resource management has resulted in serious environmental problems in various parts of Africa, including air and water pollution, deforestation, loss of soil & soil fertility and a dramatic decline in biodiversity through out the continent.

This course aims to explore Africa's natural environment and the impact of human activities on it. Each semester the course will offer an overview of Africa's environment as it relates to one of the following two topics 1) Water issues; 2) Environmental impact of development projects, natural resource extraction and consumption. Each semester, in addition to analyzing one of the above topics, we will pick a couple of case studies from within the US that can be used to show parallels between some of the issues discussed in the African case studies. The students will be asked to conduct research on a relevant topic in any region in Africa for a paper due at the end of the semester.

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) Feerman.

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. (HIST650) Topics in African History. (C) Cassanelli.

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 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 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, 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.

185. (AFRC185, AFST585) Elementary Swahili: Accelerated. (C) Staff.

Offered through the Penn Language Center.

240. (AFRC240, AFRC540, AFST540, NELC481) Elementary Amharic I. (A) Hailu.

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.

245. (AFST545) Intensive Elementary Amharic I and II. (M) Hailu. Offered through Penn Language Center.

247. (AFRC247, AFRC548, AFST547, 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 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, 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.

484. (AFST590) Aspects of Kiswahili Language, History, and Culture. (M) Mshomba. Prerequisite(s): Completion of Advanced Swahili I & II.

This course taught in Kiswahili 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 resources for the Swahili speaking world: Who are first language speakers and the varieties they speak? How did Swahili spread from the coast to other Swahili speaking areas as far inland as Uganda, Rwanda, Burundi, and Congo. Swahili is a lingua franca and its importance in the spread of religion and in trade movements. Influence of other languages on Swahili and influence 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. (AFST690) 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. (AFST691) African Language Tutorial - Elementary II. (C) Staff. Prerequisite(s): Permission of Penn Language Center. Offered through Penn Language Center.

Continuation of AFST 490.

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

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

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

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.

SM 515. (PSCI516) Elementary Hausa I. (M) Staff. Offered through Penn Language Center.

517. (AFRC170, AFST170) 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, 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 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 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 I. (B) Hailu.

Offered through Penn Language Center

545. (AFST245) Intensive Elementary Amharic: I & II. (C) Hailu.

Offered through Penn Language Center

546. Intensive Intermediate Amharic I & II. (L) 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 writing. 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.

AFRICANA STUDIES (AS) {AFRC}

Undergraduate Courses

001. (ARTH005, HIST007, RELS007, SOCI027) Introduction to Africana Studies. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Beavers, Butler, Charles, Savage, Ramsey, Shaw, 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. (SOCI001) Introduction to Sociology. (C) Society Sector. All classes. Zuberi.

Sociology provides a unique way to look at human behavior and the world. Sociology is the systematic study of the groups and societies in which people live. In this introductory course, we examine and analyze how social structures and cultures are created, maintained, and most importantly, how they affect behavior. The course deconstructs our taken for granted world of social interactions and behaviors and examines what theory and research can tell about human social behavior.

L/R 006. (ASAM006, SOCI006, 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) Staff.

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 Program's website at www.sas.upenn.edu/africana for a description of current offerings.

SM 011. (SOCI011, URBS112) Urban Sociology. (M) Staff.

A comprehensive introduction to the sociological study of cities. Topics will include theories of urbanism, methods of research, migration, history of cities, gentrification, poverty, urban politics, suburbanization and globalization. Philadelphia will be used as a recurring example, though the course will devote attention to cities around the U.S. and the world.

SM 017. (ENGL016) Topics in Literature. (C) Tillet. Freshmen Seminar.

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 Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 018. (AFST018, ANTH018) Popular Culture in Africa. (C) Barnes. Freshman Seminar.

This course concentrates on popular culture in sub-Saharan Africa. It examines the way people reflect on and represent various aspects and issues in their daily lives, in public media, and through a diverse range of performative and creative outlets. It explores the way cultural traditions are created, promulgated, and perpetuated. It looks at the way popular culture deals with pleasure and pain; identity, difference, and diversity; wealth and power; modernity and history; gender relations; suppression, resistance, and violence; and local versus global processes. In short, popular culture will serve as a window through which to observe contemporary life.

SM 041. (SOCI041, URBS010) Topics in Sociology. (C) Culhane. This course is cross-listed with SOCI 041 (Topics in Sociology) when the subject matter is related to African, African American, or other African Diaspora issues.

Freshman Seminar. Topics vary from semester to semester. A recent topic is "Homelessness and the Urban Crisis."

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 056. (AFST056, 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.

063. (ENGL063) 20th-Century American Literature. (M) Beavers.

This course surveys American literature across the twentieth-century, considering its formal innovations in the wake of modernism, the two World Wars, the Cold War, and postmodernity. Authors treated might include: James, Wharton, Eliot, Pound, Faulkner, Hemingway, Rhys, Baldwin, Ginsberg, Plath, Pynchon, Walcott, and Morrison.

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

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 Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

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

The development of Latin America from pre-Columbian times to 1850. Emphasis is on the interaction between European, Indian, and African elements in colonial society, the growth of national consciousness, and the related phenomena of political instability and economic underdevelopment.

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 Program's website at www.sas.upenn.edu/africana 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, the slave trade era. 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 "tribalism" in modern Africa.

077. (FOLK075, MUSC035) Jazz: Style and History. (M) Parberry, Ramsey. Open to all students.

Music 077.401 (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.

SM 078. (HIST173, URBS178) Urban University-Community Relations: Faculty-Student Collaborative Action Seminar. (C) Harkavy. Prerequisite(s): Benjamin Franklin Seminar.

One of the seminar's aims is to help students develop their capacity to solve strategic, real-world problems by working collaboratively in the classroom and in the West Philadelphia community. Students work as members of research teams to help solve universal problems (e.g., poverty, poor schooling, inadequate health care, etc.) as they are manifested in Penn's local geographic community of West Philadelphia. The seminar currently focuses on improving education, specifically college and career readiness and pathways. Specifically, students focus their problem-solving research at Sayre High School in West Philadelphia, which functions as the real-world site for the seminar's activities. Students are typically engaged in academically based service-learning at the Sayre School, primarily on Mondays from 3 to 5 and Tuesdays from 4-6. Other arrangements can be made at the school if needed. Another goal of the seminar is to help students develop proposals as to how a Penn undergraduate education might better empower students to produce, rather than simply "consume", societally useful knowledge, as well as function as life-long societally useful citizens.

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 Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

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

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 Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

083. (ENGL083, JWST083) 20th-Century Literatures in Dialogue. (M) Staff. This course is cross-listed with ENGL 083 (20th Century Literatures in Dialogue) when the course content includes African, African American, or other African Diaspora literatures.

What dialogues have defined and constituted American and other literatures? This course examines critical intersections between different literatures, addressing questions of race, ethnicity, and culture. Previous versions of this course have included such titles as "African-American and Jewish American Literature." Our readings will consider a range of literary interactions, and will take a self-consciously comparative and intertextual approach.

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

084. (ENGL084) Theories of Race and Ethnicity. (M) Staff.

The idea of "race" -- broadly defined as the signification of biological and socio-cultural differences as an index of human superiority or inferiority -- has played a crucial role in the literary imagination and is fundamental to studying most literatures in English. This course will examine representations of race in literary practices, and in particular the centrality of such representations to the historical unfolding of communities and nations. How do ideas of race inform and engage with literary forms and genres in a given historical moment, and how does literature in turn address the histories and legacies of racist practices? We will also analyze the connections between questions of race and questions of "ethnicity": what, for instance, is the history of this concept, and what does it mean to designate a body of imaginative writing as an "ethnic literature?"

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 100. (ARTH100) Intro to Art. (C)

L/R 101. (CINE115, 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 guest lecturers.

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 103. (HIST104) Freshman Seminar: America after 1800. (C) Staff.

This course is cross-listed with HIST 104 (Freshman Seminar: America after 1800) when the subject matter is related to African, African American, or African Diaspora issues.

See the Africana Studies Program's website at www.sas.upenn.edu/africana 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 Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

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

This course explores the sources of current differences in economic status by race, ethnicity and gender. First, we explore reasons for race, gender and economic differences that are not due to current discrimination. We examine the history of participation in the U.S. economy for various racial and ethnic groups and

evaluate whether that history creates differences in current productivity by race and ethnicity. We examine the effects of family decisions about work within the household on gender differences in labor market productivity. Second, we review the economic theories of current discrimination in the labor market. Third, we use data to test how well the various discrimination and non-discrimination theories explain current labor market patterns. Finally, we review the major national policies on labor market discrimination and evaluate their effectiveness in light of the theoretical and empirical evidence amassed throughout the course.

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.

This course is cross-listed with RELS 112 (Religious Ethics and Modern Society) when the subject matter is related to African, African-American or African Diaspora issues. A recent topic is "Religion in the Civil Rights Movement: Martin and Malcolm."

See Africana Studies Program's website at www.sas.upenn.edu/africana 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.

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.

147. (FOLK106, MUSC146, 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 tradition. 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. Specific attention is given to the ways in which black music generates "meaning" and how the social energy circulating within black music articulates myriad issues about American identity at specific historical moments.

160. (LING160) Introduction to Afro-American and Latino English. (A) Labov.

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.

SM 161. (LING161) The Sociolinguistics of Reading: A Service Learning Seminar. (B) Labov.

This course will be concerned with the application of current knowledge of dialect differences to reduce the minority differential in reading achievement. Members will conduct projects and design computer programs to reduce cultural distance between teachers and students in local schools and to develop knowledge of word and sound structure.

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. 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.

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 vast 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 crisis of the twentieth century. We will conclude with an analysis of the major issues shaping modern Brazilian society and culture.

176. (HIST176) Afro-American History 1550-1876. (C) History & Tradition Sector. All classes. Engs.

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-Present. (C) History & Tradition Sector. All classes. 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. Barnes.

During the semester we will focus on the 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.

SM 202. (COMM206) Race and Media in the 20th Century U.S. History. (C) Berger.

This course explores the changing relationship between race and media in American life throughout the 20th century. We will examine these connections in two ways: 1. how media institutions shaped and shifted notions of race and 2. how different racialized groups used media to construct racial meaning or pursue political objectives. Our discussions will treat race as both a social construct and a lived reality. Case studies will include the construction of ethnic identities through media representations, the role of media in the civil rights movement, and the racial codes of popular culture. Readings and class discussion will emphasize the changing nature of race for different racialized groups, especially African Americans as well as Latinos and Whites. Our definition of media is purposefully broad, covering film, radio, newspapers, music and television. The course will introduce students to radio, newspapers, music and television. The course will introduce students to historical developments, cultural analysis, and critical race theory.

SM 206. (HIST206) Major Seminar of the World after 1800. (C) Babou.

This course is cross-listed with HIST 206 (Major Seminar of the World after 1800) when the subject matter is related to African, African American, or other African Diaspora issues. A frequent topic is "African Intellectual History."

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

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 examinations and class discussions.

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) Special Topics in Sociology. (C) Charles, Zuberi. 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."

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 231. (AFST231, CINE210, 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.

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, the laws of the United States and other countries as well as international law, will be studied. Throughout the course, discussions will include real controversies relevant to social change such as civil liberties, gender and the law, and issues of nation-building. A comparative framework will be used in the analysis of this interdependent relationship between law and social change.

L/R 236. (PSCI234) Civil Rights and Civil Liberties. (C) Smith.

By examining Supreme Court decisions in light of works on American history, politics, and political theory, we will explore legal, political, and philosophical debates on civil liberties today. Readings will consider litigation of the 1st, 2nd, 4th, 5th, 8th, and 14th Amendments. Issues will include

struggles over freedom of religion, speech, privacy, and property rights, analyzed in the context of American cultural traditions and hierarchies; and conflicts over the rights of suspects, criminals, and citizens, analyzed in the context of racial and class tensions, criminal violence, and anti-terrorist security concerns.

L/R 252. (SOCI252) 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.

253. (AFST253, ANTH253, FOLK253, GSWS253, MUSC253) Music and Performance of Africa. (M) Muller.

This class provides an overview of the most popular music 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 a part of this course. No prior performance experience required, though completion of Music 50 is recommended.

SM 254. (AFRC552, PHIL252, PHIL552) African American Philosophy. (B) Anita 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.

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. (ANTH227, FOLK259, LALS258, MUSC258) Caribbean Music and Diaspora. (M) Rommen.

This survey course considers Caribbean musics within a broad 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, migrations, 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 jankanoo, 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 relation to our own North-American contexts of music consumptions and production.

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 Program's website at www.sas.upenn.edu/africana 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 the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 283. (AFST283, ENGL271) Topics in Anglophone African Literature. (M) 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.

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

294. (ARTH294, ARTH694, ASAM294, CINE293, 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 301. (AFST301) Africa and the African Diaspora. (M) Staff.

This course will take the form of an introductory seminar designed to provide undergraduate students an overview of significant themes and issues focusing on the historical, political, and cultural relationships between Africans and their descendants abroad. It will encompass: a review of different historical periods and geographical locations, from Ancient Egypt to modern American, Caribbean and African states; a critical evaluation of social movements and theories that have developed in the nineteenth and twentieth centuries among scholars of different origins in their attempt to reconstruct Africa as a center and the Diaspora as a specific cultural space; and, an exploration of representation of Africa and the Diaspora in canonical literary works and other forms of fiction like the visual arts.

SM 303. (ARTH301, CINE300, 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 Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 308. (FOLK310, RELS310, URBS310) Religious Diversity in America. (M) Staff. 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.

In the 1990's America seemed to be a land of Protestant, Catholic, and Jew. Now it is clearly also a land of Muslims and Hindus, Buddhists and Taoists, Rastafarians and Neo-pagans and many more religious groups. This course will focus upon a variety of topics: religious diversity in West Philadelphia, Philadelphia and beyond; the politics of religious diversity; religion in American schools and cities; and conflicts and cooperation among diverse religious groups.

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 324. (URBS324) Seminar on Strategies to Reduce Intergroup Tension in Multi-Cultural Settings: West Philadelphia and Penn as a Test Case. (B) Romer, Pouncy.

This action-research seminar explores several social science approaches to reducing intergroup tension, especially in multi-ethnic urban settings. Tools for analyzing tension are reviewed so that students can conduct their own studies of the ethnic and cultural tensions that exist in various local sites (e.g., public schools, nearby neighborhoods, and Penn itself). Students are encouraged not only to increase their understanding of the tensions in their chosen sites but also to suggest policies and interventions that can increase intergroup cooperation.

346. (GSWS346, HIST346) 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.

SM 355. (AFST355) Women and Ritual in Africa. (M) Blakely.

Students will examine a wide range of ritual phenomena involving African women including spirit possession, spirit mediumship, semi-secret association activities, healing processes, birth rituals, initiation, funerary events, other rites of passage, and Christian and Islamic movements. Topics to be considered include the constitution of gender roles through African ritual, significance of spirit possession and mediumship to folk practitioners, and the ethnoaesthetics of African ritual.

L/R 363. (HIST363) The Civil War and Reconstruction. (B) Staff.

This course investigates the major ingredients - political, social, and economic - leading to the sectional crisis and war, analyzes war and leadership on both sides, and explores the major issues of Reconstruction.

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 Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 372. (AFST373, HIST371) Africa & the Mid-East. (C) Eve 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. 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 Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 387. (ARTH387, COMM387, GSWS387, LALS387, SOC1340) Topics in Africana Studies. (C) Staff.

Topics vary. A recent topic is "The Black Body and the Lens."

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

390. (AFST390) Debates in African Studies. (B) Staff.

An advanced course which examines current debates about African societies and debates about the study of Africa from a variety of disciplinary perspectives. This course is sponsored by the cooperative Africa Consortium between Swarthmore, Bryn Mawr, Haverford and the University of Pennsylvania and will include students from all four campuses.

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. (ARTH489, CINE392, COML391, ENGL392) 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 Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 400. (CINE370) Seminar in Africana Studies. (C) Bogle.

Topics vary. A frequent topic is "Blacks in American Film and Television." See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 405. (HIST405, RELS439, URBS405) Church and the Urban Challenge. (B) Lamas.

Urban development has been influenced by religious conceptions of social and economic justice. Progressive traditions within Judaism, Christianity, Islam, Buddhism, and Humanism 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 urban development.

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 Program's website at www.sas.upenn.edu/africana 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 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 472. (URBS472) Race and the City: The Origins and Prospects of the Black Underclass. (A) Hershberg.

This course focuses on the origins and prospects of the black underclass and the competing public policies proposed to bring the group into the economic mainstream. The course is particularly concerned with understanding the separate effects on the underclass of racial discrimination and recent structural changes in the economy, transportation, and housing, which have shaped central cities and their regions.

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.

SM 485. (HIST485) Topics in African-American History. (C) Savage.

Topics vary.

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 488. (AFST489, HIST489) Africans Abroad: Emigrants, Refugees, and Citizens in the New African Diaspora. (M) Babou, 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.

Graduate Courses

522. (EDUC522) Psychology of the African-American: Implications for Counseling and Human Development. (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 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 Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 529. (HIST529) Readings in African American History to 1900. (C) Staff.

This reading and discussion seminar will review the issues and resulting historical literature on the major transitions in the African American experience from the 16th thru the 19th century.

SM 530. (HIST530) 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 531. (AFRC431, SOCI430, SOCI530) Advanced Selected Topics. (C) Charles, Zuberi. This course is cross-listed with SOCI 530 (Advanced Selected Topics) when the subject matter is related to African, African American, or other African Diaspora issues.

Topics vary. Recent topics include "Race, Colonialism and Methods," "Residential Segregation," and "The Demography of Race."

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 533. (AFRC230, LALS530, PSCI534, SOCI230, SOCI530) Advanced Selected Topics in Sociology. (M) Charles, Zuberi.

This course is cross-listed with SOCI 530 (Advanced Selected Topics in Sociology) when the subject matter is related to African, African American, or other African Diaspora issues. Recent courses offered include "African Urbanization" and "Critical Race Theory."

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

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 570. (AFST570, COML573, ENGL570) Topics in Afro-American Literature. (M) Staff.

This course treats some important aspect of African American literature and culture. Topics vary. Consult the Center for Africana Studies for detailed course descriptions. 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."

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.

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of current offerings.

SM 593. (AFST593, FREN593) Studies in Francophone Literature. (M) Moudileno.

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

SM 610. (HIST610) Colloquium in American History. (A) Staff.

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 Program's website at www.sas.upenn.edu/africana 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 624. (SOCI624) 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 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) Proseminar in Africana Studies. (E)

Beavers, Charles, Jackson, Savage, Thomas, Zuberi.

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

SM 693. (AFST693, FREN693) Africa Looks to Europe. (M) Moudileno.

Topics will vary. See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

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."

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 Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

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

SM 712. (EDUC712, URBS713) Policy Making in Education: Theory and Practice. (C) Staff.

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.

723. (EDUC723) 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 perspectives, 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.

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 Program's website at www.sas.upenn.edu/africana 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 Program's website at www.sas.upenn.edu/africana for a description of current offerings.

SM 798. (SWRK798) Advanced Topics. (M) Freeman, Dixon-Roman.

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 Program's website at www.sas.upenn.edu/africana 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. (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) Bolger. 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.

185. (AFST185, AFST585) Elementary Swahili: Accelerated. (C) Staff. Offered through the Penn Language Center.

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) Hailu. 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. (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.

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 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 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

**AMERICAN CIVILIZATION
(AS) {AMCV}**

499. Honors Tutorial. (C)

Supervised study and research for seniors in the honors program.

ANATOMY (MD) {ANAT}

L/L 420. Fundamentals of Human Anatomy. (L) Dr. Neal Rubinstein.

Prerequisite(s): Permission of department.

This course will provide the student with an opportunity to acquire a first-hand knowledge of structural and functional human anatomy. The course will consist of lectures and demonstrations on prosected human cadavers, student dissections of human cadavers, and introduction to various imaging modalities, including CT scans, MRIs, and 3D radiological imaging.

501. Human Anatomy: Head and Neck. (M) Drs Weisel & Teresi (Dir.), Staff.

Prerequisite(s): Permission of instructor; open to graduate and professional students only.

This course in gross anatomy provides the student with an opportunity to acquire a first-hand knowledge of structural and functional human anatomy. The basic

principle of learning is student dissection of the cadaver, supplemented by lectures, conferences, demonstrations, computer software, and independent study. The goals of the course are: to give the student a solid foundation of anatomical knowledge as a background for clinical education/practice or research; to prepare students for future, independent study of anatomy; to prepare students for the physical examination of the patient or research involving analysis of anatomical specimens; and to introduce new applications of gross anatomy for the physician and the biomedical student.

502. Gross Human Anatomy. (M) Drs Weisel & Teresi (Dir.), Staff.

Prerequisite(s): Permission of instructor; open to graduate and professional students only.

This course in gross anatomy provides the student with an opportunity to acquire a first-hand knowledge of structural and functional human anatomy. The basic principle of learning is student dissection of the cadaver,

supplemented by lectures, conferences, demonstrations, computer software, and independent study. The goals of the course are: to give the student a solid foundation of anatomical knowledge as a background for clinical education/practice or research; to prepare students for future, independent study of anatomy; to prepare students for the physical examination of the patient or research involving analysis of anatomical specimens; and to introduce new applications of gross anatomy for the physician and biomedical scientist.

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. 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. (HIST027) Ancient Rome. (B) History & Tradition Sector. All classes. 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 113. (CLST113) Introduction to Greek and Roman History. (A) Wilker.

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 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.

195. (CLST195, EALC005) Worlds Apart: Cultural Constructions of "East" & "West". (M) Humanities & Social Science Sector. Class of 2010 & beyond. LaFleur/McInerney.

Multiculturalism increasingly characterizes our political, economic, and personal lives. This course will focus on real and perceived differences between the so-called "East" and "West". Taking a case study approach, we shall read and compare literary materials from classical Greece and Rome, a major source of "Western" culture, and Japan, an "Eastern" society. Through analysis of these texts, we shall explore some of the concepts, values, and myths in terms of how "East" and "West" define themselves and each other: e.g. gender, sexuality, rationality, religion, society, justice, nature, cultural diffusion, work, leisure, life, and death. Readings will include selections from Greco-Roman and Japanese myths, poetry, drama, essays, history, and philosophy. Class format will be lecture with opportunity for questions and discussion. Grading will be based on midterm and final examinations, a short paper, and class participation. No prerequisites.

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 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. Grey

SM 306. (CLST306) Greece Under Roman Empire. (M) McInerney.

"Greece, the captive, took her savage victor captive" runs the famous line from the Roman poet Horace. Traditionally the complex relationship between Greece and Rome has been seen from the Roman point of view, emphasizing the changes in Roman culture as a result of Rome's contact with the Greeks. This class takes a different approach, considering the impact on Greece. We will use the results of archaeological survey and excavation to chart the economic transformation of Greece, especially in relation to the Roman colony at Corinth. This will involve examining changes in land distribution, the growth of road networks, and the increase in large public works such as theatres, aqueducts and baths. We will also use writers such as Dio Chrysostom and Pausanias to consider the effect on the institutions of the traditional Greek city-state of being incorporated into a single province, Achaia. We will read some of the ancient novels, such as Longus' *Daphnis and Chloe*, as well as the essays of Plutarch. There are many avenues into the past, and the particular richness of our sources for Roman imperial history makes it possible for us to approach Greece from a variety of perspectives.

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

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

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.

398. Honors Thesis. (C) Staff.

This course is taken in the spring of the senior year by students admitted to the honors thesis program for the Ancient History major. For policies see the Classical Studies department website.

399. Independent Study. (C)

This course is taken by students doing independent work with a faculty advisor. Students admitted to the honors thesis program typically enroll in this course in the fall of the senior year, followed by CLST 398 in the spring. For policies see the Classical Studies department website.

499. Independent Study. (C)

510. (LATN510) Latin Historical Documents. (M) Staff.

The analysis of non-literary Latin texts from antiquity preserved on various types of permanent media, mainly stone and metal, is the primary concern of the discipline of Latin epigraphy. Such texts, which have been recovered in hundreds of thousands, constitute one of the most important sources of data for the modern-day historian of Rome. The student will be introduced to the conventions of editing and reading epigraphical texts, and to the major collections of Latin inscriptions. The seminar will then concentrate on different types of documents in order to understand their formatting and style, as well as the kinds of historical evidence that can be derived from them. Public and private inscriptions, from the decrees of emperors and senatorial careers to personal curse tablets and the simple tombstone epitaphs of the urban poor, will be considered as examples of the range of epigraphical texts available to the modern researcher.

SM 512. Methods in Roman History. Staff.

SM 535. (HIST535, LATN609) Problems in Ancient History. (C) McInerney.

A separate topic is offered in either the history of Ancient Near East, Greece or Rome.

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

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

SM 602. Athenian Economy. (M) Cohen.

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 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

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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 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 ancient peoples using archaeological illustrations to indicate the relationships of archaeological interpretations with cultural and physical anthropology.

L/R 002. The Anthropological Study of Culture. (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. Also fulfills General Requirement in Society for Class of 2009 and prior.

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 analyses the current state of globalization & sets it in historical perspective. It applies the concepts & methods of anthropology, history, political economy & 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 actual processes but about the growing awareness of them, and the consequence of this awareness. In answering these questions, we distinguish between active campaigns to cover the world (e.g. proselytism, opening up markets, democratization) and the unplanned diffusion of new ways of organizing trade, capital flows, tourism and the internet. The body of the course will

deal with particular dimensions of globalization, reviewing both the early and recent history of these processes. The overall approach will be historical and comparative, setting globalization on the larger stage of economic, political and cultural development. The course is taught collaboratively by an anthropologist, a historian, and a sociologist, offering the opportunity to compare and contrast distinct disciplinary points of view. It seeks to develop a concept-based understanding the various dimensions of globalization: political, social, and cultural.

SM 018. (AFRC018, AFST018) Popular Culture in Africa. (C) Staff. Freshman Seminar.

This course concentrates on popular culture in sub-Saharan Africa. It examines the way people reflect on and represent various aspects and issues in their daily lives, in public media, and through a diverse range of performative and creative outlets. It explores the way cultural traditions are created, promulgated, and perpetuated. It looks at the way popular culture deals with pleasure and pain; identity difference and diversity; wealth and power; modernity and history; gender relations; suppression, resistance, and violence; and local versus global processes. In short, popular culture will serve as a window through which to observe contemporary life.

022. (AFRC050, AFST050, FOLK022, MUSC050) World Music and Cultures. (A) Arts & Letters Sector. All Classes. Muller. 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 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.

L/R 104. (BIBB150, GSWS103) Sex and Human Nature. (B) Living World Sector. All classes. Valeggia/Fernandez-Duque.

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.

An examination of the methods and techniques of physical anthropology as applied to specific problems of biological variation in man. Emphasis will be upon physical anthropology as a biological science.

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, ANTH629, 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. (B) 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, two

archaeologists and one physical anthropologist 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.

124. (JWST124, NELC155, RELS024) Archaeology & the Bible. (M) Staff.

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, while being exposed to the interpretive traditions of Anthropology as an alternative approach to the available evidence. Open discussions of the religious, social and political implications of the material covered will be an important aspect of the course.

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 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.

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, COMM141) Public Policy, Museums, and the Ethics of Cultural Heritage. (M) 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 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 Penn Museum.

143. Being Human: Biology, Culture & Human Diversity. (C) Valeggia. Prerequisite(s): ANTH 003.

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.

SM 152. Fat and Society. (C) Kauer.

This course is designed to approach a topic of great interest and relevance to people living in the US today- the readings and concepts of fat: physiology, anatomy, body image, body weight, macronutrient, "fatty" foods, ideas about low fat and non-fat, and the morality of fat and thin. Using critical thinking skills from anthropology, students and instructor will explore meanings of fat: their origin, their effects on individuals, and

on society. In particular, we will examine ideas taken for granted by society (especially the biomedical culture, as it extends into the community) about the relations between food, fatness, happiness, health and morality. Course material draws broadly from the social sciences and humanities and deals with the biological, biomedical, and socio-cultural aspects of fat in our culture. In saying "fat", we are also implicitly saying "thin", and this course is designed to delve into the varied discourse on fat/thin, on body/body image, health, and beauty.

160. (CINE106) 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 168. Genetics and the Modern World. (M) Schurr. Prerequisite(s): ANTH 003; some background in biology and genetics is also helpful, but not required.

Without question, genetic research is making a profound impact on the modern world. It has led to many new and exciting insights in the field of biological anthropology, particularly those subareas concerned with human origins and biological diversity, and is having an equally important influence on the biomedical sciences. Furthermore, through the use of new genetic technologies, the entire human genome has been recently sequenced, giving us an opportunity to better understand the nature of human development, disease and biological variation at the molecular level. This course will explore the new findings in biological anthropology resulting from the use of these genetic methods, as well as examine the social and political implications of these advances. Among the topics to be

covered in the course are the Human Genome Project, genetic testing in forensic and criminal cases, race and biological variation, genetic engineering, the genetic basis of disease, and modern human origins.

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. Staff.

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 chairman. See Department for Advisor.

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

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 the ordinary people to the 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 the 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 have 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 cultures 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.

230. (ANTH633) 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. (CINE231) 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 the first week of class.

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 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--Wednesday (12:15-2:00pm) or Thursday (1:15-3:00pm).

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 254. (LALS254) 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. (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 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 273. (HSOC239) Globalization & Health. (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.

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.

280. Language and Culture. (M) Staff. Prerequisite(s): ANTH 002 or permission of instructor.

Examination of language as a part of culture, as a source of knowledge about other aspects of culture, and as social behavior.

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

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

300. Senior Thesis. (A) Staff. Permit required.

Individual research under faculty supervision culminating in a thesis.

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.

SM 310. (HSOC310) Anthropology and Biomedical Science. (M) Barg.

Prerequisite(s): ANTH 243 or permission of instructor. Priority given to Penn Med students.

An examination of the role of anthropology in biomedical research, focusing upon health and disease as outcomes of biocultural systems. Where possible, students will engage in collection and analysis of data and the dissemination of the results.

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 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.

341. (ANTH667) Psychology and Culture. (C) Staff. 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) 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.

404. Introduction to the Human Skeleton. (M) Monge. Prerequisite(s): ANTH 003 or ANTH 105.

An introduction to the anatomy and biology of the human skeleton. Laboratory work will be supplemental 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.

413. Archaeology of American Southwest. (M) Preucel.

This course provides an overview of the prehistoric cultures of the American Southwest. It interweaves archaeological data, ethnohistorical accounts, ethnographic descriptions, and indigenous perspectives. Topics covered include the history of archaeological research, origins and migrations, agriculture and land use, ideology and belief systems. Special attention will be given to Chaco and Hohokam as contrasting case studies of regional ideological systems with strong connections to indigenous people today. In addition, the course addresses such historical and contemporary questions as colonization, resistance, tourism, and repatriation. Relevant ethnographic and archaeological videos will be shown and the Southwestern collections of the University Museum will be used.

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 416. (COMM420) Race: Hist, Theory & Practice. (C) Jackson.

ANTH416 investigates the history of race as a socially meaningful category. Where did it come from? Why/how did it develop? What are its various historical and contemporary manifestations? In which ways might it be inextricably linked to other forms of differentiation (eg. class, gender, religion, ethnicity and sexuality)? This course asks students to think critically about their own political and emotional investments in race as a social/biological fact. We will examine from various fields (in the humanities, the natural sciences, and the social sciences) the realities of racial thinking, highlighting the kinds of theories which address race's continued relevance (or irrelevance). Race is a complicated construct (considering how much we all think we understand it), one which demands careful attention to culture and biology, mythology and history, science and superstition. This course seeks to unpack the power of race through an interdisciplinary self-reflective engagement with it, using a philosophy of knowledge approach to its construction and reproduction as a political and analytical category.

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 437. (GAFL474, HSOC437) Cultural Models & Health. (C) Barg.

There is a great deal of variation among population groups in the incidence of and mortality from most major diseases. Biological and social factors can account for some of this variation. However, there is increasing evidence that behavior- and the cultural models that are linked to health behavior- play an important role, too. Cognitive anthropology is the study of how people in social groups conceive of objects and events in their world. It provides a framework for understanding how members of different groups categorize illness and treatment. It also helps to explain why risk perception, help-seeking behavior, and decision-making styles vary to the extent they do. This seminar will explore the history of cognitive anthropology, schema theory, connectionism, the role of cultural models, and factors affecting health decision making. Methods for identifying cultural models will be discussed and practiced. Implications for health communication will be discussed.

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.

445. Old World Paleolithic. (M) Dibble. Prerequisite(s): ANTH 001.

Survey of European Paleolithic archaeology including evidence relative to changing habitat, human fossil finds, technology, subsistence activities, and the social and cultural inferences that have been drawn.

SM 447. (GSWS447) Human Reproductive Ecology. (J) Valeggia, Claudia R. 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 training ourselves to present

our ideas to a funding agency, we will write individual research proposals.

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.

455. Lithic Analysis. (M) Dibble.

Survey of method and theory of lithic analysis, including experimentation, typology, technology, and microwear, focusing on the behavioral implications of lithic assemblage variability.

468. (LALS468) The Ancient Maya. (M) Sharer. Prerequisite(s): ANTH 001.

Examination of current understanding of Ancient Maya, emphasizing critical review of recent archaeological research and theories.

Graduate Courses**SM 504. (AFST227, AFST503, ANTH227) Media in Africa. (M)** Hasty.

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.

SM 506. (FOLK502, GSWS502) Fieldwork Theory. (C) Hufford, M.

This graduate seminar explores the theory and practice of folkloristic ethnography, with a focus on sites in West Philadelphia. Through reading and exercises in ethnographic observation and writing, students consider the nature of the ethnographic encounter, its social functions and civic possibilities, and the writings, archives, films, recordings and community events that form its outcomes. Historical and contemporary reading provide an overview of ethnography as it has emerged in the social sciences over the past century, while attention to the techniques and technologies in fieldnotes, sound and video recording, photography, archiving, and sensing will develop students' skills as ethnographic scholars, writers, and community activists. Undergraduates may enroll with permission.

507. (ANTH207) Primate Behavior Ecology. (M) 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.

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 515. Primate Field Methods and Data Analysis. (M) Fernandez-Duque.

Prerequisite(s): Permission of instructor. Knowledge of introductory biology or evolutionary biology.

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.

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 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 526. Data Analysis and Presentation in Biological Anthropology. (M) Valeggia.

This is an advanced seminar for graduate and undergraduate students interested in analyzing datasets in biological anthropology and related fields. Students

will work on their own datasets, which they would have collected during the previous academic year or during the summer. We will meet to discuss and work on data organization, analysis, interpretation, presentation, and dissemination. Feedback from the class on each individual project will be an important aspect of this course, which will finish with a final oral presentation (professional meeting style) open to the department.

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 hand-on formal training in filmcraft 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 toward these interpretative ends.

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) Preucel. 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. Fundamentals of Physical Anthropology. (C) Schurr.

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 physical 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 include 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 and criteria by which models of linguistic form and function are formulated and on 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.

SM 617. Contemporary Approaches to the Study of Culture and Society. (C) Staff. 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) Valeggia.

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) Staff.

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.

633. (ANTH230) 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.

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 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) Staff.

This course will explore issues of Post-Traumatic Stress Disorder as individual, personal, and social adaptations, covering such experiences as post-childbirth syndromes, bullying, automobile accidents, natural disasters, rape, combat and other threats to one's personhood and identity.

676. Culture and Conflict in International Relations. (M) Spooner.

Selected international conflicts will be analyzed from a cultural point of view. This exercise will have the following advantages, each of which will be emphasized throughout the course: (a) students will study a series of internationally important situations from a distinctive academic point of view; (b) they will explore the analytical value of the concept of culture with the rigor with which it has been developed in anthropology, but in application to material not commonly treated by anthropologists, and (c) since anthropologists have difficulty comprehending and analyzing conflict within a cultural framework, they will at the same time be engaging in a theoretically experimental exercise by addressing questions concerning the relationship between conflict and cultural process. The course should be useful both to anthropology graduate students and to students interested in the modern world in other social sciences, and will ideally attract students with a wide variety of interests.

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. (COML706, 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, GSWS705, 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 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. 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.upenn.edu; (215) 898-6965; Univ Museum 412/6398.

SM 750. (ANTH450) African American Archaeology. (M) Schuyler.

Archaeology of African Americans. 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. (CINE842, 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 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.

**520. (MATH420) Ord Differential
Equat.**

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 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.

**601. Algebraic Techniques for
Applied Mathematics and
Computational Science, I. (M)** Staff.

We begin with an introduction to group theory. The emphasis is on groups as symetries 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.

**602. Algebraic Techniques for
Applied Mathematics and
Computational Science, II. (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 then turn to the problem of solving systems of polynomial equations, introducing basic properties of rings, ideals and modules. This allows us to define Grobner bases and their use in the numerical solution of algebraic equations. The theoretical content of this course is illustrated and supplemented throughout the year with substantial computational examples and assignments.

608. (MATH608) Complex Analysis. (M) Staff. Prerequisite(s): Math 508-509.

Rapid development of Cauchy theory, the maximum principle and subharmonic functions, basic harmonic function theory, conformal mapping and the Dirichlet Problem. Representations in terms infinite series and products and connections to the theory of entire functions. Meromorphic functions and the Mittag-Leffler and Weierstrass problems. Other topics as time permits (Second order linear O.D.E.'s, asymptotics, prime number theorem, Picard theorems, elliptic functions, basic sheaf theory, Riemann surfaces, fluid flow problems.)

609. (MATH609) Real Analysis. (M) Staff. Prerequisite(s): Math 508-509.

Construction and properties of Lebesgue measures in Euclidean space, Borel measures and convergence theorems. Elementary function spaces. Some general measure theory, including the Caratheodory construction of measures from outer measures, the Radon-Nikodym theorem, the Fubini theorem, and Hausdorff measure. Stone Weierstrass theorem. Elements of classical Harmonic analysis: the Fourier transform on basic function spaces, the Hilbert and Cauchy transforms.

990. Masters Reg Tuition.

999. Independent Study & Research.

**ARCHITECTURE
(FA) {ARCH}**

Undergraduate Studios

L/R 201. Visualization I: Representation. (A) Faculty.

Prerequisite(s): This course is not open to students in their first or second freshman terms at Penn. Students must be rising sophomores to advance register for this course.

Introduces technical drawing and explores its thematic possibilities, through both an analysis of antecedents and the production of new works. These complimentary studies serve both to establish an understanding of representation as the foundation to visual communications and to develop the ability for seeing through drawing.

202. Visualization II: Fabrication. (B) Faculty. Prerequisite(s): ARCH 201.

Continues research into visualization with a special emphasis introducing the fabrication shop, tools and techniques. The capacity of materials, their manipulation and the consequences of their inter-relationships are explored as a fundamental issue in making. Through the analysis of precedents and the production of new works, visualizing these relationships compliments drawing with a material imagination and vocabulary.

301. Design Fundamentals I. (A) Faculty. Prerequisite(s): ARCH 202.

An introduction to principles of visual perception and the language of visual form. Students explore the relationship between the two-dimensional images and their corresponding three-dimensional interpretation in plan, section, elevation, axonometric, one-point perspective, and two-point perspective. Moving back and forth between these dimensions leads to the development of a working design method.

302. Design Fundamentals II. (B) Faculty. Prerequisite(s): ARCH 301.

An introduction to two and three-dimensional design. Students explore the relationship between form and meaning, investigating the relationship between visual structure and metaphor, acquiring creative problem-solving skills in abstract and concrete processes, developing a sense of material and craft, and learning to communicate verbally and graphically.

401. Architecture and Landscape Design I. (A) Faculty. Prerequisite(s): ARCH 302.

An introduction to fundamental topics in architecture and landscape architecture. Issues of mapping, placement, scale, and construction are explored through studio design exercises, site visits, and discussions. Course work focuses on the preparation and presentation of discrete design projects that emphasize the acquisition of representational and analytical skills, and the development of imaginative invention and judgment.

402. Architecture and Landscape Design II. (L) Faculty. Prerequisite(s): ARCH 401.

A continuing exploration of architectural design. Content and technique in representation and construction are explored through various studio design exercises.

Undergraduate Theory

L/R 411. (ARCH711) Theory I. (A) Leatherbarrow. Corequisite(s): ARCH 401.

This course in theory and history will reconsider the architecture of the twentieth century and ask questions about the building's most visible and articulate surface: the facade. Added to the typical concerns with production and representation will be a topic of design and experience that is often overlooked: performance. The course will argue a simple thesis: the way the building looks is largely determined by what the building does.

L/R 412. (ARCH712) Theory II. (B) Leatherbarrow/Wesley. Corequisite(s): ARCH 402.

This theory and history course has three parts: a review of contemporary ecological mandates, in-depth studies of specific buildings, and a reassessment of the real possibilities for contemporary architecture. The course is for both undergraduate and graduate students. Student work will involve reading, writing, and drawing.

Undergraduate Intensive Major in Design

431. (ARCH531) Construction I. (A) Trubiano.

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) Falck.

A continuation of Construction I, focusing on light and heavy steel frame construction, concrete construction, light and heavyweight cladding systems and systems building. Open only to Intensive Design majors.

433. (ARCH533) Environmental Systems I. (A) Malkawi.

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) 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. Open to Intensive Majors only.

L/L 435. (ARCH535) Structures I. (A) Farley.

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) Farley.

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.

Undergraduate Electives

SM 101. Architecture Today. (A)

Faculty.

Why do buildings by different Architects look so different: The Getty Museum in Los Angeles, for example, is quite different from the Bilbao Guggenheim, Rem Koolhaas' library in Seattle seems worlds apart from Tom Beeby's Harold T. Washington Library in Chicago. In addition to site function, and construction, architecture is affected by style, and today there are many different stylistic approaches. Style is neglected in most discussions of architecture yet it is central to the design and appreciation of buildings. The seminar will examine the role that style plays in the work of prominent contemporary architects both in the United States and abroad. Field trips, seminars and selected readings will form the basis for four graphic and written assignments.

300. Product Design Fundamentals.

(L) Faculty.

The creation of a successful product requires the integration of design, engineering, and marketing. The purpose of this 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 will emphasize the development of basic design skill sets 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 program in Integrated Product Design (IPD).

440. Introduction to Computers in Architecture. (B) Faculty.

This course provides an introduction to computer graphic technology in the context of current architectural practice. We use AutoCAD's latest release (now 2007) as the basic software for the course. AutoCAD is the most widely-used architectural software and provides a good grounding for exploration of other programs. Topics include basic vector graphics, two-dimensional drawing and drafting and basic three-dimensional modeling. The course is organized around a series of

structured exercises that illustrate basic principles and enable students to develop greater facility with the software. The modeling emphasis is placed on quick study models as part of the design process. There is also a field trip to the offices of Venturi, Scott Brand and Associates to see the use of computers in their practice. No experience with Auto CAD software is required.

490. Independent Study. (C) Faculty.

Prerequisite(s): Permission of the Director of the Undergraduate Program.

491. Senior Thesis. (C) Faculty.

Prerequisite(s): Permission of the Director of the Undergraduate Program.

499. Senior Honors Thesis. (C)

Prerequisite(s): Permission of the Director of the Undergraduate Program.

Graduate Studios

501. Design Studio I. (A) Kim 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) 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. 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) 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.

703. Post-Professional Architectural Design Studio. (A) Dubbeldam 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.

SM 704. Advanced Design: Research Studio. (B) Rahim and 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.

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.

Graduate Visual Studies Workshops

521. Visual Studies I. (A) Kim and Faculty. Corequisite(s): Arch 501.

The study of analysis and projection through drawing and computer visualization

522. Visual Studies II. (B) Faculty. Corequisite(s): ARCH 502.

A continuation of the study of analysis and projection through drawing and computer visualization.

621. Visual Studies III. (A) Faculty. 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.

Graduate Required and Designated Courses

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. (ARCH412) History and Theory II. (B) Furjan.

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 with in 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.

531. (ARCH431) Construction I. (A) Trubiano.

Lecture course exploring the basic principles of architectural technology and building construction. The course is focused on materials used in construction, methods of on-site and off-site preparation, material assemblies, and the performance of these materials in the field over time. Topics covered 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, integrated building practices and building codes.

532. (ARCH432) Construction II. (B) Falck.

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) Malkawi.

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) Faculty.

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.

631. Technology Case Studies I. (A)
Falck.

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.

632. (IPD 532) Technology: Designated Elective. (B) Faculty.

Several sections are offered from which students make a selection such as: Deployable Structures, Performance Design and Daylighting.

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)
Gardner.

This course consists of a series of workshops that introduce students to a diverse range of practices that architects currently employ and the architectural profession more generally.

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.

772. Professional Practice III. (B)
McHenry.

This course focuses on the nature of projects in the context of activities within an architect's practice and on the idiosyncrasies of managing multiple projects. Detailed studies of the legal, financial, marketing, management and administration issues associated with the different forms of office

Master in Environmental Building Design Required Courses**708. Environmental Design Laboratory. (L)** Faculty. Prerequisite(s): ARCH-751, ARCH-752, ARCH-753, and ARCH-754.

An intensive, 6 week design laboratory. The lab will build on the simulation and analysis techniques developed in the sequence of required course and electives to fully develop performance based design of building projects. The location of the lab may be at Penn or abroad.

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. Integrated Building Design. (B) Malkawi.

The interrelationships of environmental control systems will be explored by means of building type studies. Innovative systems will be emphasized. Projects such as residential, educational and commercial buildings, office and assembly buildings, and facilities for research and manufacturing will be analyzed in details. The Operational characteristics of buildings will be studied with regard to occupancies and their needs. The relationship between energy conservation and the principles of initial building cost versus life cycle costs will be discussed.

753. Building Performance Simulation. (A) Malkawi.

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 reserve for MEBD.

SM 754. Performance Design Workshop. Yi.

The workshop applies simulation techniques developed in Building Performance Simulation and diagramming techniques developed in ecology, technology and design to a series of discrete design projects at different scales. The emphasis is on refinement and optimization of performance based design. This course is required and reserved for MEBD students.

Graduate Electives**SM 561. (IPD 561) IPD Theories & Methods I.** Rottenberg.

The first half of this year-long course will introduce students to the theories and methods of integrated product design through a combination of lectures, readings, and exercises. The course will examine the different ideas and techniques involved in integrated product design, reviewing critical concepts, historical developments, and the role of different techniques of representation and fabrication. Course work will involve readings, class participation, in-class exercises, and a final submission.

SM 562. (IPD 562) IPD Theories/Methods II.

This course will introduce students to the theories and methods of integrated product design through a combination of lectures, readings, and exercises. The course will examine the different ideas and techniques involved in integrated product design, reviewing critical concepts, historical developments, and the role of different techniques of representation and fabrication. Throughout the course, students will learn processes for product design, develop practices that enable them to become better designers, and explore the types of problems that an integrated approach to product design will help them address.

SM 711. (ARCH411, ARTH788, GRMN611, LARP780) Topics in History and Theory I. (A) Faculty.

A seminar on advanced topics in architectural design and theory. Topics and instructors will vary.

SM 712. (FNAR712) Topics in Architectural History and Theory II. (B) Faculty.

Several sections are offered from which students make a selection. Topics and instructors will vary.

SM 715. Seminar on Architectural Criticism. (A) Faculty.

The practice of architecture relies on the clear and effective communication of design ideas, to colleagues, clients, reviewing agencies, the public, and other interested parties. This communication occurs not only through drawings, models, and verbal presentations, but often—especially in the early stages of a project—through the written word. The aim of this course is to train students in the principles and techniques of nonfiction writing as it relates to architecture. Weekly writing exercises will include short critical reviews of existing buildings and unbuilt projects, opinion pieces, and personal essays. A longer building review is discussed in draft form before final submission.

L/R 716. (EALC229, EALC629) Chinese Architecture. (B) Steinhardt.

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 717. Self Organization & Dynamics Cities. (A) DeLanda.

Cities are among the most complex entities that arise out of human activity. For some of these cities (Versailles, Washington, DC) the process through which they emerge is not hard to grasp because it is planned top to the last detail by a human bureaucracy. Other cities, such as Venice and its labyrinthian system of streets, emerged spontaneously without any central agency making the relevant decisions. But even those cities in which urban structure was the result of a deliberate act of planning, house many processes which, like Venice, represent the spontaneous emergence of order out of chaos. This seminar will examine a variety of these processes, from markets to symbiotic nets of small producers, from epidemics of urban disease to the creation of new languages and urban dialects. It will explore the interaction between these self-organized phenomena and centrally

controlled processes which are the result of human planning.

718. (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.

719. (ARTH715) Archigram and Its Legacy: London, A Technopia. (A) Fierro.

Acknowledging the ubiquitous proliferation of "Hi-Tech" architecture in contemporary London, this research seminar examines the scope of technology as it emerges and re-emerges in the work of various architects currently dominating the city. This scope includes the last strains of post-war urbanism which spawned a legacy of radical architecture directly contributing to the Hi-Tech; a particular focus of the course will be the contributing and contrasting influence provided by the counter-cultural groups of the 60's—Archigram, Superstudio, the Metabolists and others. Using the premise of Archigram's idea of infrastructure, both literal and of event, the course will attempt to discover relational networks between works of the present day (Rogers, Foster, Grimshaw, etc.). As this work practices upon and within public space, an understanding of the contribution of technology to urban theatricality will evolve which is relevant to contemporary spheres of technological design practices. Students will be required to produce and present a term research paper.

722. Drawing Elective. (B) Faculty.

The making of architecture is executed through the reading of lines, mathematically described to indicate the boundaries and relationships of materials. Central to the act of drawing is the act of invention; illusion precedes realization. Line, surface, shadow, and perspective, explored through different media, are the language of inquiry. As a laboratory to test both analog and digital media, the intent of the course is to test how modes of can reveal the qualitative aspects of spatial propositions. The course is organized as series of loops between media, layering and capturing their intrinsic effects and intensifying the potential for new expression. A series of investigations parallel discussions with artists and architects exploring representations of space

and form; visits to galleries, museums and architecture offices provide a window into the relationship between the instruments and media utilized to project built form and the preceding propositional representations. This course seeks to engage the intuitive and ephemeral with the highly precise, recognizing that the act and the artifact of transformation.

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 and engineering principles at full scale. 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 mass production; quality control, efficient use of material, durability, and human factors. Students will conduct research into industrial design processes, both traditional and contemporary, and will adapt these processes into techniques to design a prototype for limited production. Instruction will include model making, the full scale production of a prototype, its detailing; design for mass production and the possibility of mass customization; design for assembly, furniture case studies; software integration, optimization studies; Computer Aided Manufacturing (CAM) and a site visit to a 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.

728. (IPD 528) Industrial Design. (B) Faculty.

This course introduces students with design background in architecture, landscape architecture and engineering to design of products using a combination of seminar and workshop formats. The first half of each session presents aspects of the history, theory and practice of product design as it relates to the course. Guest lecturers and critics engage at regular intervals throughout the course to share their insights. The goal of the course is to inspire innovation in product development. By capitalizing on product design theory and process, which encourages the integration of engineering and business concerns along with the experience of human interaction and emotive qualities, students are encouraged to re-think a utilitarian product by exploring beyond models promulgated by disciplines that focus more exclusively on either form or function.

SM 731. Experiments in Structures. (A) Faculty.

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.

734. Dimensions of Sustainability. (B) Martin.

Building 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, we have a unique ability to go farther than simply being "less bad," We can learn to imagine designs that heal the damage and regenerate our environment. This course explores the evolving approaches to ecological 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.

739. (HSPV551) Building Pathology. (M) Henry.

This course addresses the subject of building deterioration and intervention, with the emphasis on the technical aspects of deterioration. Construction and reconstruction details and assemblies are analyzed relative to functional and performance characteristics. Case studies cover subsurface conditions, structural systems, wall and roof systems, and interior finishes with attention to performance, deterioration, and stabilization or intervention techniques.

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 743. Form and Algorithm. (A) Balmond/Snooks.

A course on the philosophy and generative tools of Informal design, which is defined in terms of non-Cartesian, non-linear geometries and borrows algorithmic procedures from models in mathematics and the physical sciences. The course reviews readings on the topic, introductory instruction in scripting and assignments through which students gain familiarity and skill with specific on-linear models. This seminar meets every other week.

744. (IPD 544) Digital Fabrication. (B) Kolatan.

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.

762. Design and Development. (B) Faculty.

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."

765. Project Management. (A) Arena.

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.

768. (REAL321, REAL821) Real Estate Development. (B)

Nakahara/Saltzman. Prerequisite(s): REAL 721.

This course analyzes the development process and related investment risks and returns. Cases and case discussions are the dominant teaching method, with lectures, project tours(s) interspersed. Clear and decisive thinking is required and students will appreciate the many disciplines required to make a real estate project successful.

780. Architecture in the Schools. (C) Braham.

Architecture in the schools is a 20+ year program of teaching architecture in Philadelphia area schools run by the American Institute of Architects. As a participant in the AIE (Architecture In Education) program students have the opportunity to work directly with children in the classroom making an impact on their lives and on the future of our neighborhoods and cities. Students work with a classroom teacher and a design professional to develop a weekly series of eight (1-1/2 hour) interdisciplinary experiential lessons using the built environment as a laboratory to create stimulating new ways of seeing, learning, and doing. Requirements for credit are attendance at all meetings and the submission of a brief summary report of the exercises that were used in the classroom.

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.

Graduate Elective Programs

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,

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.

782. (ARCH482) Study Abroad Program. (L) Fierro/Malkawi.

A four to six week program of study in locations that vary, such as Paris, Japan and Scandinavia.

Ph.D. Program

SM 811. 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. 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 student an opportunity to synthesize their previous course work at Penn.

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

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in conjunction with ARCH 852 after all other courses have been completed. Normally a member of the student's

Dissertation Committee supervises this course.

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 Bronze Age through the Hellenistic Period. Topics to be considered include Minoan Crete, Mycenae, the Greek Dark Ages, Geometric Greece, the Archaic Period, Classical Athens, and the world of Alexander the Great. Emphasis on the consideration of the archaeological evidence, e.g., sculpture, painting, pottery, architecture and numismatics.

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.

416. (ARTH416, COML415) 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 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.

422. (ARTH422) The Art of the Ancient Near East. (C) Pittman.

A survey of the art of Mesopotamian and Egyptian cultures from 4000 B.C. through the conquest of Alexander the Great.

SM 423. (ARTH424, CLST424) Greek Vase Painting. Brownlee, A.

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 4th century BC, with particular emphasis on the pottery of the archaic and Classical periods of produced in the cities of Athens and Corinth. We will look at the vases as objects--and the extensive collection of Greek vases in the University of Pennsylvania Museum will be an important resource for this course--but we will also consider them as they relate to broader cultural issues. Some background

in art history or classical studies is helpful but not required.

L/R 424. (ARTH224, ARTH624) Art & Archaeology of Mesopotamia. (C) Pittman.

Emphasis on monumental art work of the Ancient Near East as the product of cultural and historical factors. Major focus will be on Mesopotamia from the late Neolithic to the Neo-Assyrian Period, with occasional attention to related surrounding areas such as western Iran, Anatolia, and Syria.

425. (ARTH425) Art of Ancient Iran. (C) 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. The format is slide illustrated lecture.

427. (ARTH427, CLST427) 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.

431. (ARTH431) Early Christian and Byzantine Architecture. (C) Staff.

A survey of major architectural monuments from Early Christian times in East and West until the 6th century A.D., and in the Byzantine lands until the Turkish Conquest.

SM 477. (ANTH477, HSPV577) Archaeological Chemistry. (M) McGovern.

SM 504. (ARTH504) Structural Archaeology. (C) Staff.

A proseminar designed to acquaint the participants with the physical evidence of buildings. It treats the properties of pre-modern building materials, their static and dynamic behavior, their contexts and reasons for their use, and the means for their procurement and working. It considers the methodologies for the historical interpretation of physical evidence, including the recording, analysis and presentation of evidence, determining the date and original form of buildings, their sequence of construction, and their subsequent modifications. Each participant carries out a small-scale field exercise.

SM 506. (CLST506) Greek Vase Painting. (M) Staff.

A study of Greek vase painting utilizing the artifacts of the University Museum.

SM 510. (CLST510) Topography of Athens. (C) Staff.

Layout and monuments of Athens from the Bronze Age into the time of Roman Empire.

SM 515. (CLST515) Geographical Information Systems (GIS) Applications in Archaeology. (M) Romano.

An introduction to the procedures and uses of GIS in modern archaeological field and laboratory work. The course will introduce the student to computerized GIS, discuss the philosophy and theory of its use, as well as the analytical potential of its utilization. Archaeological case studies will be presented. Open to graduate students. Undergraduates with permission.

SM 516. (ARTH516) Islamic Epigraphy. (M) Holod.

Topic varies.

SM 517. (ARTH517) The Islamic City. (C) Holod.

Approaches to the study of the city in the Islamic World.

SM 518. (ARTH518, NELC617) The 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, and metropolitan and provincial architecture in the fourteenth century.

SM 519. (ARTH519) Art of Andalusia. (M) Holod.

A discussion of the arts of the Islamic period in the countries of the western Mediterranean. The particular focus is the art of Muslim Spain (Andalusia), dealing with the importance of its architectural and artistic achievements for the art of the western Mediterranean.

SM 520. (CLST520) The East Greeks. (M) Staff.

An examination of the culture of the East Aegean Greeks and the neighboring Anatolian peoples from the eighth to the fourth centuries B.C.

SM 521. (ARTH521, CLST521) Proseminar in Classical Art. (C)

Kuttner.

Topic varies.

SM 522. (ARTH522) Pro-seminar of the Art of the Ancient Near East. (C)

Pittman.

Topic varies: Art of the Late Uruk and Jemdet Nasr period; The Royal City of Susa; Assyrian reliefs; Art of Early Bronze Age of the Near East.

SM 525. (ARTH525, CLST525) Aegean Bronze Age. (C)

Betancourt.

An examination of a selected problem in the Greek Bronze Age, focusing on the Minoan, Mycenaean, and Cycladic cultures.

Lectures by the instructor and reports by the students will examine a series of interrelated topics.

SM 527. (ARTH527) Proseminar in Classical Architecture. (C)

Haselberger.

Topic Varies

SM 528. (ARTH528, CLST528) Proseminar in Greek and Roman Architecture. (C)

Haselberger.

Topic Varies

SM 529. (ARTH529) Vitruvian Studies. (C)

Haselberger.

Research on Vitruvius's Ten Books on Architecture, Art and Construction: Structure, sources, intended readers; analysis of theories and their relation to practice; formation of art theory; statics and aesthetics; discrepancy with the ideals of the "Augustan Revolution." Working knowledge of Latin recommended.

SM 530. (ARTH530) Chapters in Classical Architecture. (M)

Haselberger.

Topic varies.

SM 542. (ARTH542) Early Medieval Architecture. (C)

Maxwell.

A proseminar stressing familiarity with the materials and methods of research. Topic varies. Recent courses have treated North Italy, Carolingian, and Ottonian architecture. Reading knowledge of German, French and/or Italian desirable.

543. (ANCH542, NELC242, NELC542) Empires Anc Near East. (M)

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. (M)

Staff.

Topic varies.

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)

Graham.

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

SM 616. (ARTH617) Islamic Civilization & Visual Culture. (C)

Holod.

A one-semester survey of Islamic art and architecture which will examine 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 will be available in English translation.

620. (ARTH220, ARTH620) 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 621. (ARTH221, ARTH621, CLST621) Hellenistic and Roman Art and Artifact. (B)

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 from pottery, silverware and jewelry to textiles and ornamental furniture). We start with the Hellenistic cosmopolitan culture of the Greek kingdoms and their neighbors, and the late Etruscan and Republican Italy; next we map Roman art and art industry as developed around the capital city Rome, further adapted to unify the Empire's many peoples from Britain to the Middle East. That means the nature of the intercultural exchange is consistently an issue. 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 people's art writing too. Diverse

approaches introduce art historical aims and methods, and their relationships to archaeology, anthropology and other disciplines--and also to modern kinds of museums, not least our own University Museum of Archaeology and Anthropology.

No prerequisites. Of interest also to students of classical, middle-eastern, visual and religious studies, anthropology, history, communications and the programs of GSD.

SM 623. (ARTH623) Art and Culture of Ancient Egypt. (M) Pittman.

Survey of the art of Ancient Egypt from the Predynastic Period through the New Kingdom. Emphasis on major monuments of architecture, sculpture, relief and painting; questions of stylistic change and historical context.

SM 625. (CLST625) City & Landscape Planning in Roman Corinth. (M)

Romano.

This seminar considers the procedures and the results of the Roman *agrimensors. Founded on the site of the former Greek city of 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.

626. (ARTH226, ARTH626) Hellenistic Art. (C) Kuttner.

A survey of the principal Hellenistic arts and styles and their private and public display contexts, from the 4th c. BC rise to power of Macedon and the conquests of Alexander, through the 1st C. AD consolidation of the Roman imperial system. We will look at artifacts, architectural planning and designed landscapes for cities, sanctuaries, houses and palaces, from Italy to the Middle East; media include sculpture, painting, mosaic, and the luxury and mass-produced arts of ceramics, gems, and metalwork. Viewing art in its social and design contexts, the course will emphasize; reconstructing Hellenistic aesthetics and ideas about art history; patronage and display habits; the thematic arrangements of images and structures for political and social expression; and cultural competition and synthesis in a multi-ethnic world of Greek, "Eastern" and Roman peoples and states. Lecture format.

SM 635. (ANCH635, ARTH534, CLST635) Iron Age Greece & Anatolia. (M) Staff.

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 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, Dörpfeld, 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 716. (ARTH716) Seminar in Islamic Art. (M) Holod.

Topic varies.

SM 717. (ARTH717) Islamic. (C) Holod.

Topic varies.

SM 718. (ARTH718) Seminar in Islamic Architecture. (M) Holod.

Topic varies.

SM 719. (ARTH719) Islamic Archaeology. (M) Holod.

Topic varies.

SM 720. (ARTH729, CLST729) Seminar in Classical Art. (C) Kuttner.

Topic varies.

SM 721. (ANCH721, ARTH721) Seminar in Greek Architecture. (C)

Haselberger.

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. (ARTH720, CLST614) Seminar in Aegean Art. (M)

Pittman/Betancourt.

SM 724. (ARTH724) Seminar in the Art of the Ancient Near East. (M) Pittman.

Topic varies: Proto-Elamite glyptic art; The art of Akkad; Old Assyrian period; Neo-Sumerian period; Middle Assyrian period; Assyrian reliefs.

SM 725. (ARTH725) Seminar in Neo-Assyrian Art. (C) Pittman.

Topic varies.

SM 727. (ARTH727) Athenian Acropolis.

SM 728. (ARTH728, CLST728) Seminar in Roman Architecture. (C)

Haselberger.

Topic varies.

SM 729. The Age of Augustus. (M) Kuttner.

Investigation of significant monuments and modes of artistic display at Rome in the "Age of Augustus", ca. 50 BC - 20 AD.

SM 730. (ARTH730) Seminar in Early Christian and Byzantine Architecture. (M) Staff.

Prerequisite: reading knowledge of German, French, or Italian. Topic varies. Recent seminars have treated aspects of architecture of Ravenna, Rome, and Constantinople. Participants undertake research on a specific issue which they present orally to the seminar and submit in written form.

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 741. (ARTH741) Early Medieval Architecture. (C) Maxwell.

Topic varies.

UNIVERSITY COURSE REGISTER

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

005. (AFRC001) Introduction to Africana Studies. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Shaw.

SM 100. (AFRC100) Introduction to Art. (C) Staff. For Freshmen Only. Topic Varies.

101. Pre-History to the Renaissance: Intro to Western Art, from its Beginning to 1400. (B) Arts & Letters Sector. All Classes. Ousterhout, Maxwell.

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. Renaissance to Contemporary: Introduction to Western Art, 1400 - Present. (B) Arts & Letters Sector. All Classes. Silver, Dombrowski.

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 103. (EALC013) East Asian Art & Civilization. (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 University Museum or the Philadelphia Museum of Art.

104. (SAST200, SAST500) Introduction to Art in South Asia. (C) 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, 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.

105. (ANCS101, CLST104) Ancient World Cultures. (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. Formerly ARTH 001. May not be repeated as ARTH 106.

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. 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.

107. (CINE103, ENGL095) Introduction to film Theory. (B) Beckman.

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.

Core Courses

209. (AFRC209, AFST209) 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 concered, as will questions of modernity, religious impact, tradition and colonialism.

210. (ARTH610, CINE223) Post War Japanese Cinema and Visual Culture. (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 will place their films in period context, and will pay 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" will also be discussed. Miyazaki Hayao - also took up these issues, and referred to the "big three" will be discussed at the end of the course.

211. Art in India. (C) 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) Indian Temple Architecture. (C)

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. (K) Davis, Chance. May include visits to the PMA, University Museum, or other local collections, as available.

This course will introduce the major artistic traditions of Japan, from the Neolithic period to the present, and 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. 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' overtime; and the transformation of tradition in the modern age.

L/R 214. (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.

215. 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 will form the basis of analysis, and themes such as landscape, narrative, and the expression of cultural identities in painting, will be 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.

L/R 216. (ARTH616, 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 will be considered with regard to larger social and cultural 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 look at paintings at the University of Pennsylvania Museum, PMA and/or local collections will be offered when possible.

217. (ARTH617) Introduction to Visual Culture of the Islamic World 125. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Holod. Also fulfills General Requirement in History & Tradition for Class of 2009 and prior.

A one-semester survey of Islamic art and architecture which will examine 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 will be available in English translation.

L/R 218. (ARTH618) Early Modern Japanese Art and the City of Edo. (H) 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, among others.

May include visits to the PMA, University Museum, or other local collections, as available.

L/R 220. (AAMW620, ARTH620, CLST220) 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 role 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, ARTH621, CLST221, CLST621) Hellenistic and Roman Art and Artifact. (B) 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 from pottery, silverware and jewelry to textiles and ornamental furniture). We start with the Hellenistic cosmopolitan culture of the Greek kingdoms and their neighbors, and the late Etruscan and Republican Italy; next we map Roman art and art industry as developed around the capital city Rome, further adapted to unify the Empire's many peoples from Britain to the Middle East. That means the nature of the intercultural exchange is consistently an issue. 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 people's art writing too. Diverse approaches introduce art historical aims and methods, and their relationships to archaeology, anthropology and other disciplines--and also to modern kinds of museums, not least our own University Museum of Archaeology and Anthropology.

No prerequisites. Of interest also to students of classical, middle-eastern, visual and religious studies, anthropology, history, communications and the programs of GSD.

222. (ARTH622) Minoan Cycladic and Mycenaean Art. (A) Shank.

This course is designed to give the student an overview of the cultures of the Aegean Bronze Age. The art and architecture of Crete, the Cyclades and the Mainland of Greece will be 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 will be examined. There are two texts for the course: Sinclair Hood's *The Arts in Prehistoric Greece* and Donald Preziosi and Louise Hitchcock's *Aegean Art and the Architecture*.

223. Egyptian Art. (M) Pittman.

Survey of the art of Ancient Egypt from the Predynastic Period through the New Kingdom. Emphasis on major monuments of architecture, sculpture, relief and

painting; questions stylistic change and historical context.

L/R 224. (AAMW424, ARTH624) Art of Egypt & Mesopotamia. (M) Pittman.

A survey of the art of Mesopotamian and Egyptian cultures from 4000 B.C. through the conquest of Alexander the Great.

225. (ARTH625) Greek Architecture and Urbanism. (B) 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.

226. (AAMW626, ARTH626) 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.

227. Neoclassical Architecture. (C)

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.

240. (ARTH640) Medieval Art. (C)

Maxwell.

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.

241. (ARTH641) 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 will provide us with an overview of this rich artistic culture. We will pay special attention to the role of the Orthodox Church and liturgy in the production and reception of art works. Weekly recitation sections will 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 will also grapple 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).

242. (ARTH642) Introduction to Medieval Architecture. (C) Maxwell.

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 will integrate the study of the architecture and 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.

247. (ARTH647) Eastern Med Architecture. (M)

252. (ARTH652) Art in the Time of Michelangelo. (C) staff.

Introductory survey of the art of the late Renaissance, with an emphasis on drawing, painting, sculpture, and architecture in central Italy. The course will cover works by Michelangelo, Leonardo da Vinci, and Raphael, among others.

255. (ARTH655) Italian Renaissance Art. (C) staff.

Survey of the visual arts in Italy in the fourteenth, fifteenth, and sixteenth centuries, with emphasis on painting, sculpture and architecture in the major cultural centers. Topics may include the origins of modern urbanism, the rise of art theory, the art of the courts, and the role of art in the religious conflicts that ended the period. The course will devote attention to Donatello, Leonardo, Michelangelo, and Titian, among other artists.

256. (ARTH656) Italian Renaissance and Baroque Architecture. (C) staff.

An introductory survey of architecture on the Italian peninsula, ca. 1300-1750. The course will cover both standard types (palaces, churches, squares) and distinctive individual monuments. Topics may include urban planning, garden and fountain design, and the relation of practice to theory.

260. (DTCH230) Northern Renaissance Art. (C) 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.

261. (ARTH661, 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.

SM 262. (DTCH230) German Art. (M) Silver.

This course will focus on paintings, prints, and sculptures produced in the Germanic world 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.

271. (ARTH671) Caravaggio, Rubens, Rembrandt: Seventeenth-century European Art. (C) Silver.

Principal European artists of the seventeenth century.

L/R 274. (CLST274) Introduction to Roman Archaeology. (M) Bowes.

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 Colosseum 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. Roman Baroque Art. (M) Staff.

An introduction to the city of Rome from the late sixteenth to the mid-eighteenth century. The course will look at works by such artists as Caravaggio, Bernini, Poussin, and Borromini, considering them in relation to the conditions in which they were originally produced and viewed.

L/R 281. (ARTH681) Modern Architecture I. (A) 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.

L/R 282. (ARTH682) Modern Architecture II. (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 283. (ARTH683) The Modern City. (C) Brownlee.

A study of the European and American city in the eighteenth, nineteenth, and twentieth centuries. Emphasis will be placed on the history of architecture and urban design, but political, sociological, and economic factors will also receive attention. The class will consider the development of London, St. Petersburg, Washington, Boston, Paris, Vienna and Philadelphia.

L/R 284. (ARTH684) Revolution to Realism: 1770-1870. (A) 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 revolutionary history paintings, we will 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 will be addressed are: the revolutionary hero, the birth of the public museum, the anxious masculinity of the themes that will be addressed are: 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 will recover the original radicality of art's formal and conceptual innovations at times of political and social crisis. We will focus on the history of French painting, but will include sculpture, photography, visual culture and the development of the modern city, in England, Germany and Spain.

L/R 285. (ARTH685) Impressionism: European Art: 1860-1900. (C) Dombrowski.

Impressionism opened the pictorial field to light, perception, science, modernity, bourgeois leisure and, famously, the material qualities of painting itself. This course will survey the movement's major contexts and proponents-Magnet, Monet, Morisot, Cezanne, Guaguin, Van Gogh, Rodin-from its origins in the 1860s to its

demise in the 1890s, as well as its subsequent adaptations throughout the world until WWI. We will pay particular attention to Impressionism's critical reception and the historical conditions, which allowed one nation, France, to claim the emergence of early Modernism so firmly for itself. Questions to be addressed include: how can an art of vision and light figure the complexities of history and politics, and especially the revolutions that marked the period? What are the gendered and sexual politics of Impressionism's obsession with the nude female body? How did the invention of the new technologies and media effect the development of modern art?

Throughout the course, we will also analyze the effects the rapidly changing social and cultural fabric of Paris had on artistic developments. Arguable, Paris was the "capital of the nineteenth century," and it is here where most artistic innovation of the time took place. None-the-less, we will look outside of France's borders with some frequency, especially to Germany and Britain.

L/R 286. (ARTH686) Twentieth Century Art: 1900-1945. (C) Poggi.

The art of the early twentieth century is marked by a number of exciting, and sometimes bewildering, transformations. This period witnessed the rise of abstraction in painting and sculpture, as well as the inventions of collage, montage, constructed sculpture, performance art, and new photography-based practices. Encounters with the arts of Africa, Oceania and other traditions unfamiliar in the West spurred innovations in media, technique, and subject matter. Artists also began to respond to the challenge 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 exhibition organizers. This course will examine these developments, with attention to formal innovations as well as cultural and political contexts. The emphasis will be on major movements and artists in Europe.

L/R 287. (ARTH687) Contemporary Art: 1945-Present. (B) 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.

288. 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 Starck.

L/R 289. Contemporary Art. (M) Butterfield.

291. (CINE209) The Road Movie. (C) Beckman.

This course will allow us to study the changing shape of the road movie genre from Bonnie and Clyde (1967) to the French feminist revenge narrative, *Baise-moi* (Rape me), (2000). In addition to considering the possibilities and limits of genre as a category of analysis, we will grapple with a number of questions that will persist throughout the course: What is the relationship between cinema and the automobile? Is the road trip a particularly American fantasy, and if so, what does it mean when non-U.S. filmmakers adopt the road-movie genre? Is the road movie a "masculine" genre? What role do urban and rural spaces play in the development of the genre? What happens to race/gender/sexuality/national identity in the road movie? What kinds of borders does this genre dream of crossing? Do the

radical fantasies of characters within the road movie genre necessarily translate into films with radical politics?

SM 292. (CINE202, COML292, ENGL292) Women and Film. (M)

Beckman.

This course will introduce students to the work of mainstream and experimental women filmmakers from around the world. As we examine films from the nineteenth, twentieth and twenty-first centuries, we will consider how a counter-history of women's cinema alters more conventional versions of the medium's history, whether gender is a useful category of analysis for film studies, how women filmmakers have responded to each others' work, and how other markers of identity like race and class complicate utopian narratives of "sisters in cinema."

293. History of Photography. (M) Butterfield.

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.

294. (AFRC294, ARTH694, ASAM294, CINE293, 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.

296. (ARTH696) American Art: 1865-1968. (M) Leja, Shaw.

This course will survey 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 will examine 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 myriad 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.

Undergraduate Seminars & Independent Study

SM 300. Undergraduate Methods Seminar. Staff.

SM 301. (AFRC303, CINE300, CLST301, ITAL300, LALS301) 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) General Honors Seminar. (C) Kuttner.

Topic varies.

SM 386. (ENGL386) Topics - American Lit. (M)

SM 387. (AFRC387, COMM387) Topics in Africana Studies. (C)

SM 392. (CINE392, COML391, ENGL392) Topic in Film Studies. (M) Corrigan.

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

412. Indian Temple Architecture. (C) Meister.

The history of Hindu temple architecture from A.D. 400-1400, concentrating on the means by which a "language" for symbolic architecture was developed. Lab sessions with photographs as well as lectures will be included.

416. (AAMW416, 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 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.

417. (COML417) 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".

422. (AAMW422, NELC422) Art of the Ancient Near East. (C) Pittman.

Emphasis on monumental art work of the Ancient Near East as the product of cultural and historical factors. Major focus will be on Mesopotamia from the late Neolithic to the Neo-Assyrian period, with occasional attention to related surrounding areas such as Western Iran, Anatolia, and Syria.

425. (AAMW425) Art of Ancient Iran. (C) 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. The format is slide illustrated lecture.

427. (AAMW427, CLST427) Roman Sculpture. (M) Kuttner, Haselberger.

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.

431. (AAMW431) 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.

432. Early Medieval Architecture. (M) Maxwell.

Selected problems in pre-Carolingian, and Ottonian architecture. The course will be conducted as a colloquium, focusing on current issues and methodologies for dealing with them. A reading knowledge of French, German, or Italian is desirable.

441. Medieval Architecture. (M) Maxwell.

442. Medieval Art in Italy to 1400. (M) Maxwell.

A survey of sculpture, painting, and architecture in Italy from c. 300 to 1400.

473. (DTCH473, HIST407, RELS415) Baroque Painting in Northern Europe. (M) Silver.

Emphasis on the "Golden Age" of painting traditions of Holland and Flanders from the outset of the Dutch Revolt in the 1560s to the French invasions around 1670. Principal artists include: Pieter and Jan Brueghel, Rubens, Van Dyck, Goltzuis, Hals, Rembrandt, Ruisdael, Vermeer, and Steen. Attention to the rise of pictorial genres: landscape, still life, tavern scenes, portraiture, as well as relationship of art to the rise of Absolutist rulers, religious conflicts, and the Thirty Years War.

500-Level Seminars

SM 500. Problems of Interpretation. (L) 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. (AFRC501, SAST502) Museum Methods. (M) Staff.

Topic varies. Organized in cooperation with local museums and collections.

SM 503. Origins of Graphic Art. (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.

Topic varies.

SM 504. (AAMW504) Structural Archaeology. (C) Staff.

A proseminar designed to acquaint the participants with the physical evidence of buildings. It treats the properties of pre-modern building materials, their static and dynamic behavior, their contexts and reasons for their use, and the means for their procurement and working. It considers the methodologies for the historical interpretation of physical evidence, including the recording, analysis, and presentation of evidence, determining the date and original form of buildings, their sequence of construction, and their subsequent modifications. Each participant carries out a small-scale field exercise. No prerequisites.

SM 511. Ukiyo-e: Japanese Prints and Paintings of the "Floating World". (M) Davis.

Study Japanese woodblock prints from the seventeenth through the twentieth century. For most of the course, we will be concerned with prints from the Edo, or Tokugawa, period (1615-1868) in the style known as "ukiyo-e" ("images of the floating world") and the culture that produced them, but in the final weeks we will also consider the continuation and adaptation of woodblock printing in modern print movements. Study of prints at the Philadelphia Museum of Art and other local collections.

SM 512. (SAST512) Proseminar in Indian Art. (C) Meister.

Topic varies.

SM 513. Pro-Seminar in East Asian Art. (C) Davis.

Topic varies.

SM 514. (SAST505) Aspects of Indian Art. (C) Meister.

Aspects of sculpture, painting, iconography, or architecture in the Indian sub-continent. Topic varies.

SM 515. (SAST503) Aspects of Indian Architecture. (M) Meister.

Indian temples explored in terms of the morphology of a symbolic architecture. Topic varies.

SM 516. (AAMW516) Islamic Epigraphy. (M) Holod.

Topic varies.

SM 517. (AAMW517) The Islamic City. (C) Holod.

Approaches to the study of the City in the Islamic World.

SM 518. (AAMW518, NELC617) 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.

SM 519. (AAMW519) Art of Andalusia. (M) Holod.

A discussion of the arts of the Islamic period in the countries of the western Mediterranean. The particular focus is the art of Muslim Spain (Andalusia), dealing with the importance of its architectural and artistic achievements for the art of the western Mediterranean.

SM 521. (AAMW521, CLST521) Proseminar in Classical Art. (M) Kuttner.

Topic varies.

No prerequisite. Open to advanced undergraduates with permission of the instructor.

SM 522. (AAMW522) Art of the Ancient Near East. (M) Pittman.

Topic Varies

SM 525. (AAMW525, CLST525) Aegean Bronze Age. (C) Betancourt, A. Brownlee, Shank.

Topic Varies.

SM 526. (AAMW526, CLST526) Material & Methods in Mediterranean. (C) Kuttner.

The art of Greece and its neighbors from the time of Alexander the Great to Roman dominion of the Mediterranean (c. 323 to 31 B.C.). Focus on painting and sculpture from major centers such as Alexandria and Pergamon.

SM 527. (AAMW527) Proseminar in Classical Architecture. (C)

Haselberger.

Topic Varies

SM 528. (AAMW528, CLST528) Proseminar in Roman Architecture. (M) Haselberger.

Topic varies.

SM 529. (AAMW529) Vitruvian Studies. (C) Haselberger.

Topic Varies.

SM 541. (HIST536, RELS536) Topics in Medieval Art. (M) Maxwell.

Topic varies.

SM 542. (AAMW542) Early Medieval Architecture. (M) Maxwell.

Colloquium on selected problems in the history of Western European architecture from the seventh century to the dawn of the Romanesque.

Topic varies.

SM 543. Topic in Byzantine Art. (C) Ousterhout.

Topic Varies

SM 551. Proseminar in Early Renaissance Art. (M) staff.

Topic varies.

SM 552. (GSWS552) Proseminar in Renaissance/Baroque Art. (C) staff.

Topic Varies.

SM 562. Northern Renaissance Art. (M) Silver.

Topic varies.

SM 579. (DTCH579, GRMN589) Seminar in Baroque Art. (M) Silver.

Topic varies.

SM 580. Neoclassical Architecture. (M) Haselberger.

This proseminar will explore the architecture of the Neoclassical century (ca. 1750-1850), the "true style", as it made its appearance all over Europe and parts of North America, with a new revival from the 1890s to the 1940s. We will do research on

the intellectual preconditions and key treatises (e.g., Laugier, Stuart and Revett) as well as on selected monuments, some of them right in Philadelphia (e.g., Second Bank; Water Works; PMA). Field trips and practical instructions of analysis. No prerequisites.

SM 581. 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 582. Proseminar in Modern Architecture. (C) Brownlee.

Topic varies.

SM 583. (CINE548, ITAL588) Cinema and the Sister Arts. (M) Staff.

Undergraduates by permission of instructor. Reading knowledge of Italian desirable but not required.

This course explores cinema as a pan-generic system constructed of other art forms; fiction, theater, painting, photography, architecture, music and dance. The interrelationships between film and its sister arts will be discussed 1) with respect to the historical emergence of cinema as a new medium that evolved from antecedents in painting, photography, and (melo)drama; 2) as a reflection of an individual director's own style and programmatic choices (e.g., Visconti in his relationship with opera); 3) to consider how the conscious citation and appropriation of non-verbal narrative forms function emblematically to enhance cinematic meaning (e.g., in musical commentary on a soundtrack; in the incorporation of folksongs to serve "realism"; in the use of dance as a metaphor for social interaction or sexual seduction). Emphasis will be on Italian cinema, with selected films and texts from other national cultures. Each week class discussion will focus on one film and draw as well on one or more secondary films, using clips to focus discussion. Students will be responsible for viewing supplementary films independently each week and for weekly readings. The latter include literary texts on which films have been based as well as film theory and criticism.

SM 585. Proseminar in Nineteenth-Century Art. (C) Dombrowski.

Topic varies.

SM 586. (COML586) Proseminar in Twentieth-Century Art. (C) Poggi.

Topic varies.

SM 588. Proseminar in American Art. (M) Leja, Shaw.

Topic Varies.

SM 589. Proseminar in Contemporary Art. (M) Silverman.

Topic varies.

SM 593. (CINE591, COML592, ENGL591, FREN591) Topics in Contemporary Theory. (B) Beckman.

Prerequisite(s): Permission of Instructor for Undergraduates.

Topics in Contemporary Theory will introduce students to key issues, debates, and authors in contemporary theory. Course topics will include Film Theory, Theories of Gender and Sexuality, as well as focused readings of particular authors, (e.g. Gilles Deleuze, Michel Foucault).

SM 599. (SAST516) Photo Archival Studies. (M) Meister.

Topic Varies

600-Level Courses

610. (ARTH210) Post War Japanese Art. (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 will place their films in period context, and will pay 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" will also be discussed.

SM 611. Art in India. (C) 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, SAST501) Indian Temple Architecture. (C) 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, EALC557) Arts of Japan. (K) Davis, Chance.

This course will introduce the major artistic traditions of Japan, from the Neolithic period to the present, and 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. 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. (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. 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 will form the basis of analysis, and themes such as landscape, narrative, and the expression of cultural identities in painting, will be 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.

616. (ARTH216, 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 will be considered with regard to larger social and cultural 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 look at paintings at the University of Pennsylvania Museum, PMA and/or local collections will be offered when possible.

617. (AAMW616, ARTH217, COML619) Islamic Civilization & Visual Culture. (C) Holod.

A one-semester survey of Islamic art and architecture which will examine 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 will be available in English translation.

L/R 618. (ARTH218) 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, among others.

May include visits to the PMA, University Museum, or other local collections, as available.

620. (AAMW620, ARTH220) Greek Art & 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 621. (AAMW621, ARTH221, CLST621) Hellenistic and Roman Art and Artifact. (B) 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 from pottery, silverware and jewelry to textiles and ornamental furniture). We start with the Hellenistic cosmopolitan culture of the Greek kingdoms and their neighbors, and the late Etruscan and Republican Italy; next we map Roman art and art industry as developed around the capital city Rome, further adapted to unify the Empire's many peoples from Britain to the Middle East. That means the nature of the intercultural exchange is consistently an issue. 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 people's art writing too. Diverse approaches introduce art historical aims and methods, and their relationships to archaeology, anthropology and other disciplines--and also to modern kinds of museums, not least our own University Museum of Archaeology and Anthropology.

No prerequisites. Of interest also to students of classical, middle-eastern, visual and religious studies, anthropology, history, communications and the programs of GSD.

622. (ARTH222) Minoan, Cycladic, and Mycenaean Art. (C) Shank.

This course is designed to give the student an overview of the cultures of the Aegean

Bronze Age. The art and architecture of Crete, the Cyclades and the Mainland of Greece will be 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 will be examined. There are two texts for the course: Sinclair Hood's *The Arts in Prehistoric Greece* and Donald Preziosi and Louise Hitchcock's *Aegean Art and the Architecture*.

SM 623. (AAMW623) Egyptian Art. (M) Pittman.

Survey of the art of Ancient Egypt from the Predynastic Period through the New Kingdom. Emphasis on major monuments of architecture, sculpture, relief and painting; questions stylistic change and historical context.

L/R 624. (AAMW424, ARTH224) Art of Egypt & Mesopotamia. (M) Pittman.**625. (ARTH225) Greek Architecture and Urbanism. (B)** 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.

626. (AAMW626, ARTH226) 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.

SM 627. (AAMW627) Neoclassical Architecture. (C) 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.

640. (ARTH240) Medieval Art. (C)

Maxwell.

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) 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 will provide us with an overview of this rich artistic culture. We will pay special attention to the role of the Orthodox Church and liturgy in the production and reception of art works. Weekly recitation sections will 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 will also grapple 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).

642. (ARTH242) Introduction to Medieval Architecture. (C) Maxwell.

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 will integrate the study of the architecture and 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.

647. (ARTH247) Eastern Med Architecture.**652. (ARTH252) Art in the Time of Michelangelo. (C)** staff.

An introductory survey of late Renaissance Italy, with an emphasis on drawing, painting, sculpture, and architecture in the major cultural centers. The course will cover works by Michaelangelo, Leonardo da Vinci, Raphael, and Titian, among others.

655. (ARTH255) Italian Renaissance Art. (C) staff.

Survey of the visual arts in Italy in the fourteenth, fifteenth, and sixteenth centuries, with emphasis on painting, sculpture and architecture in the major cultural centers. Topics may include the origins of modern urbanism, the rise of art theory, the art of the courts, and the role of art in the religious conflicts that ended the period. The course will devote attention to Donatello, Leonardo, Michelangelo, and Titian, among other artists.

656. (ARTH256) Italian Renaissance and Baroque Architecture. (C) staff.

An introductory survey of architecture on the Italian peninsula, ca. 1300-1750. The course will cover both standard types (palaces, churches, squares) and distinctive individual monuments. Topics may include urban planning, garden and fountain design, and the relation of practice to theory.

SM 660. 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.

661. (ARTH261) 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.

SM 662. (GRMN679) German Art. (C) Silver.

This course will focus on paintings, prints, and sculptures produced in the German-speaking lands of the Holy Roman Empire from around 1350 until around 1600. Principal attention will focus on the changing role of visual culture, which begins as a principally religious imagery, centered on icons and altarpieces but evolves into an era of "art," and collecting of pictures.

670. (COML670, GRMN670) German Literary Theory & Criticism. (M) Weissberg.

Study of the major contributions of such critics as Lessing, Benjamin, Gadamer, Iser to principles of criticism with particular emphasis on such basic concepts as mimesis, illusion, and aesthetic distance.

671. (ARTH271) Caravaggio, Rubens, Rembrandt: Seventeenth-century European Art. (C) Silver.

Principal European artists of the seventeenth centuries.

SM 674. (COML674, GRMN674) Topics in Aesthetic Theory. (A) Weissberg.

Are literature and the visual arts compatible "sister" arts or bitter rivals? An investigation of the often competitive relationships among verbal and visual media, focusing on the problem of constructing and representing visual art in words. Topics include: painting, sculpture, and photography; spectatorship; the ekphrastic tradition; the gendering of narrative and visual arts. Authors include: Ovid, Winckelmann, Lessing, Goethe, Hoffmann, Eichendorff, Buchner, Keller, Sacher-Masoch, Storm, Rilke, Kafka, Th. Mann, Freud. All readings and lectures in English.

SM 675. Roman Baroque Art and Architecture. (C) staff.

An introduction to the city of Rome from the late sixteenth to the mid-eighteenth century. The course will look at works by such artists as Caravaggio, Bernini, Poussin, and Borromini, considering them in relation to the conditions in which they were originally produced and viewed.

SM 678. (GRMN678) Realism.

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.

Readings (except for selected secondary literature) and discussions in German.

L/R 681. (ARTH281) Modern Architecture I. (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.

L/R 682. (ARTH282) Modern Architecture II. (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 683. (ARTH283) The Modern City. (C) Brownlee.

A study of the European and American city in the eighteenth, nineteenth, and twentieth centuries. Emphasis will be placed on the history of architecture and urban design, but political, sociological, and economic factors

will also receive attention. The class will consider the development of London, St. Petersburg, Washington, Boston, Paris, Vienna and Philadelphia.

L/R 684. (ARTH284) Revolution to Realism: 1770-1870. (A) 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 will 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 will be addressed are: the revolutionary hero, the birth of the public museum, the anxious masculinity of the themes that will be addressed are: 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 will recover the original radicality of art's formal and conceptual innovations at times of political and social crisis. We will focus on the history of French painting, but will include sculpture, photography, visual culture and the development of the modern city, in England, Germany and Spain.

L/R 685. (ARTH285) Impressionism: European Art 1870-1900. (C) Dombrowski.

Impressionism opened the pictorial field to light, perception, science, modernity, bourgeois leisure and, famously, the material qualities of painting itself. This course will survey the movement's major contexts and proponents—Magnet, Monet, Morisot, Cezanne, Guaguin, Van Gogh, Rodin—from its origins in the 1860s to its demise in the 1890s, as well as its subsequent adaptations throughout the world until WWI. We will pay particular attention to Impressionism's critical reception and the historical conditions, which allowed one nation, France, to claim the emergence of early Modernism so firmly for itself. Questions to be addressed include: how can an art of vision and light figure the complexities of history and politics, and especially the revolutions that marked the period? What are the gendered and sexual politics of Impressionism's obsession with the nude female body? How did the invention of the new technologies and media effect the development of modern art?

L/R 686. (ARTH286) Twentieth Century Art: 1900-1945. (C) Poggi.

The art of the early twentieth century is marked by a number of exciting, and sometimes bewildering, transformations. This period witnessed the rise of abstraction in painting and sculpture, as well as the inventions of collage, montage, constructed sculpture, performance art, and new photography-based practices. Encounters with the arts of Africa, Oceania and other traditions unfamiliar in the West spurred innovations in media, technique, and subject matter. Artists also began to respond to the challenge 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 exhibition organizers. This course will examine these developments, with attention to formal innovations as well as cultural and political contexts. The emphasis will be on major movements and artists in Europe.

L/R 687. (ARTH287, COML688) Contemporary Art: 1945-Present. (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.

689. Contemporary Art. (C) Butterfield.**SM 691. The Road Movie. (C) Beckman.**

This course will allow us to study the changing shape of the road movie genre from *Bonnie and Clyde* (1967) to the French feminist revenge narrative, *Baise-moi* (*Rape me*), (2000). In addition to considering the possibilities and limits of genre as a category of analysis, we will grapple with a number of questions that will persist throughout the course: What is the

relationship between cinema and the automobile? Is the road trip a particularly American fantasy, and if so, what does it mean when non-U.S. filmmakers adopt the road-movie genre? Is the road movie a "masculine" genre? What role do urban and rural spaces play in the development of the genre? What happens to race/gender/sexuality/national identity in the road movie? What kinds of borders does this genre dream of crossing? Do the radical fantasies of characters within the road movie genre necessarily translate into films with radical politics?

SM 693. History of Photography. (C) Butterfield.

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 a "fine art", photography and the critique of art history, and photography and censorship. Lecture/discussion, with two examinations and three papers.

694. (AFRC694, ARTH294) 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.

696. (ARTH296) American Art: 1865-1968. (M) Leja, Shaw.

This course will survey 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 will examine 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 myriad 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.

700-Level Courses

SM 700. Third Year Graduate Development. (C) Davis.

Workshop for third-year Ph.D. students in Art History, AAMW, and related fields. Topics include: dissertation proposals, grant and fellowship applications, research practices, review of the field and the profession, among others. Students outside Art History must consult with the instructor prior to registration.

SM 701. (AAMW701, GRMN578) Seminar in Method 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. Seminar in Indian Architecture. (M) Meister.

Topic varies.

Architecture and architectural sculpture of the Indian sub-continent explored in terms of its morphology and symbolism. Students make use of the resources of the South Asia Art Archive.

SM 711. (SAST711) Seminar in Indian Art. (C) Meister.

Topic varies.

SM 713. Seminar in East Asian Art. (C) Davis.

Topic varies.

SM 716. (AAMW716) Seminar in Islamic Art. (C) Holod.

Topic varies.

SM 717. (AAMW717) City in the Islamic World. (C) Holod.

Topic varies.

SM 718. (AAMW718) Seminar in Islamic Architecture. (C) Holod.

Topic varies.

SM 719. (AAMW719) Islamic Archaeology. (M) Holod.

SM 720. (AAMW723, CLST614) Seminar in Aegean Art. (M) Betancourt, Pittman.

Topic varies.

SM 721. (AAMW721, ANCH721) Seminar in Greek Architecture. (C) Haselberger.

Topic varies.

SM 722. (AAMW722) Seminar in Bronze Art. (M) Pittman.

Topic varies.

SM 724. (AAMW724) Seminar in Ancient Near Eastern Art. (M) Pittman.

Topic varies.

SM 725. (AAMW725) Seminar in Neo-Assyrian Art. (C) Pittman.

Survey of the major arts of the Assyrians (ca. ninth-seventh centuries B.C.): architecture, relief sculpture, glyptic, metalwork - in the political and cultural context of the expanding Assyrian empire.

Survey of the major arts of the Assyrians (ca. ninth-seventh centuries B.C.): architecture, relief sculpture, glyptic, metalwork - in the political and cultural context of the expanding Assyrian empire.

SM 726. Iconography of the Ancient Near East. (M) Pittman.

Topic varies.

SM 728. (AAMW728, CLST728) Vitruvian Studies. (C) Haselberger.

Research on Vitruvius' ten books on architecture, art, and construction. We will 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 729. (AAMW720, CLST729) Roman Architecture and Topography. (C) Haselberger.

Topic varies.

SM 730. (AAMW730) Early Christian and Byzantine Architecture. (C)

Ousterhout.

Topic varies.

SM 740. MEDIEVAL ART. (M) Maxwell.

SM 741. (AAMW741) Early Medieval Architecture. (C) Maxwell.

Topic varies.

SM 742. Problems in Medieval Art. (M) Maxell.

Topic varies

SM 743. Medieval Typology and Iconography. (C) Staff.

Topic varies.

SM 744. Sem in Byzantine Arch. (M) Ousterhout.

SM 752. Seminar in Renaissance and Baroque Art. (C) staff.

Topic varies.

SM 762. (DTCH601, GRMN679) Seminar in Northern Renaissance Art. (C) Silver.

Topic varies.

SM 771. Seminar in Baroque Art. (C) Silver.

Topic varies.

SM 781. Seminar in Nineteenth-Century Architecture. (C) Brownlee.

Topic varies.

SM 782. Seminar in Twentieth-Century Architecture. (C) Brownlee.

Topic varies.

SM 784. Seminar in Nineteenth-Century Art. (C) Dombrowski.

Topic varies.

SM 785. (COML785, RUSS785) Seminar in Twentieth-Century Art. (C) Poggi.

Topic varies.

SM 786. Seminar in American Art. (C) Shaw, Leja.

Topic varies.

SM 787. (COML787, ENGL790, GSWS787) Seminar in Contemporary Art. (C) Poggi, Silverman.

Topic varies.

SM 788. (ARCH711) Graduate Seminar in Architecture. (M) Brownlee.

Topic varies

SM 793. (CINE793, ENGL797) Problems in Film Studies. (M) Beckman.

Topic varies.

Program in ANCIENT STUDIES (ANCS)

101. (ARTH105, EALC003) Ancient World Cultures. (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.

ASIAN AMERICAN STUDIES (AS) {ASAM}

001. (SOCL103) Asian Americans in Contemporary Society. (C) Society Sector. All classes. Kao.

This course presents an overview of sociological research on Asian Americans in the U.S., framed around the evaluation of Asian Americans as "model minorities." We begin with a brief overview of popular images of Asian Americans as seen through recent portrayals in mainstream media (movies, television). We review general sociological frameworks used to understand racial and ethnic groups in the U.S. and move quickly to document the history of Asian immigration to the U.S. We explore how Asian Americans fare in educational attainment, labor market experiences, political organizations, urban experience, and Asian interracial marriage and biracials. We examine whether and how "Asian American" is a meaningful label.

002. (ENGL072) Introduction to 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 racism on American-born APA's. Issues of class and gender as well as the impact of international politics on APA lives 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) Nair.

From cultural fashion shows to protests; what does it mean to be a student activist in the new millennium? Are Penn students apathetic or has the definition of activism shifted over time? Through this course, students will unpack many of the controversies regarding the discourse on "multiculturalism" and "diversity". In examining these phenomena, we will concentrate particularly on student experiences, curricula, campus climates, and administrative practices. 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 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.

200. Multicultural Psychology. Staff.

Please see our website for more current information: asam.sas.upenn.edu

201. (SOCL150, 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. (CINE272, COML248, ENGL272, ENGL293) 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, ARTH294, CINE293) 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: Race, Immigration, and Citizenship in the 'Frontier'. (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 key theoretical and empirical work in the sociology of education. We will focus specifically on the question of

stratification and how systems of schooling maintain or alleviate inequality. We will also examine classical approaches to schooling, schools as organizations, schools and their effects on social mobility, (class, race, and gender) stratification in achievement and attainment, tracking/ability grouping, theories and empirical work on social and cultural capital, school choice, and cross-national expansion of education.

ASTRONOMY AND ASTROPHYSICS (AS) {ASTR}

001. A Survey of the Universe. (C)

Physical World Sector. All classes. Only one ASTR course below ASTR 011 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.

003. The Solar System. (C) Physical World Sector. All classes. Only one ASTR course below ASTR 011 may be taken for credit.

A survey course on the Solar System designed for the non-major. The emphasis will be on understanding the origin and history of our Solar System and planetary systems around other stars using the latest observational results. Elementary algebra and geometry will be used. Physical science majors and engineering students should prefer ASTR 011 to this course.

005. Galaxies and the Universe. (C)

Physical World Sector. All classes. Only one ASTR course below ASTR 011 may be taken for credit.

A survey course on understanding stars, galaxies, and the history of the Universe. Subjects include the Sun, supernovae, black holes, the Milky Way, dark matter and dark energy, and the Big Bang. All discussions will emphasize how our knowledge of distant, exotic objects is based on physical theories such as Relativity, and tested with observations and discoveries that continue to the present day. Elementary algebra and geometry will be used. Physical-science majors and engineers should prefer ASTR 012 to this course.

006. Life in the Universe. (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 011 may be taken for credit.

An examination of the origin and evolution of life in the Universe. This class is intended for non-majors and has no specific required science or math preparation beyond high school levels. Course material includes aspects of biology, geology, astronomy, physics, and chemistry as well as the study of and search for life in our Solar System (Mars, Europa) and elsewhere in the Universe. The origin of life on Earth and the range of extreme conditions in which life on Earth exists today will also be studied. Students will be asked to synthesize course material from lectures, readings, laboratory exercises, and homeworks to form an understanding of origin of life on Earth and the prospects for life elsewhere.

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 011 may be taken for credit.

An introductory course for freshmen 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.

011. Introduction to Astrophysics I.

(A) Physical World Sector. All classes. Prerequisite(s): MATH 104, PHYS 150, or concurrently.

A basic course for majors in astronomy, in other physical sciences, and in engineering. Fundamental knowledge of the solar system, its formation, stellar structure and evolution including black holes.

012. 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 150. Observational Astronomy.

(M) Physical World Sector. All classes. An observing-based astronomy course for non-science majors; no prerequisites.

Topics: how to read star-maps and find objects in the night sky, learning about astronomical phenomena as we observe them, telescope training, planets, and stars, the nature of light, and signal processing. Two one-hour daytime lectures each week plus three-hour evening lab in smaller groups. Attendance at one lab session per week is required by each student - multiple times are scheduled due to the uncertainty and unpredictability of weather conditions for observing. Requires substantial out-of-class time dedication and commitment to sharing work in small groups.

L/L 250. Astronomical Techniques.

(M) Prerequisite(s): ASTR 001, or ASTR 007, or ASTR 011, or ASTR 012. 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.

525. (PHYS503) General Relativity and Cosmology. (M)

This is a graduate level, introductory course in general relativity and modern cosmology. The basics of general relativity will be covered with a view to understanding cosmology and carrying out calculations relevant to the expanding universe and

perturbations in it. Some of the key topics in modern cosmology will be covered -- these include the cosmic microwave background, large-scale structure, gravitational lensing and dark energy. The current cosmological model and open questions driving research will be discussed briefly in connection with these topics.

533. Galaxies: Structure, Dynamics and Formation. (H)

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 I.

(A) Van Duyne and Wand. 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. Macromolecular Biophysics II.

(B) Sharp. Prerequisite(s): BMB 508 or permission of instructor. Undergraduates require permission of instructor.

This course introduces fundamental concepts in chemical kinetics and their application to problems in biochemistry such as protein folding and enzymology. There is an emphasis on dynamic processes in proteins and the techniques used to characterize them over a wide range of timescales. The latter half of the course focuses on emerging areas in biochemistry and biophysics including membrane biochemistry, single molecule methods and proteomics with an emphasis on mass spectrometry

518. (CAMB615, NGG 615) Protein Conformation Diseases. (A) Argon and Ischiropoulos. 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. (A)

Marmorstein and Skordalakes.

Prerequisite(s): Undergraduate calculus and trigonometry. Course meets for 8 weeks for 0.5 credits.

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 literature and presented by faculty and students.

559. (CHEM559) Biomolecular Imaging.

Dmochowski. Course meets for 8 weeks for 0.5 credits.

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.

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. (B)

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)

Wehri.

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)

Huang and Skordalakes. Prerequisite(s): Highly qualified undergrad students and MS 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.

590. (PHYS580) Biological Physics.

(H) Goulian. Prerequisite(s): PHYS 401 or CHEM 221-222 (may be taken concurrently) or familiarity with basic statistical mechanics and thermodynamics. Recommended: Basic background in chemistry and biology.

A survey of basic biological processes at all levels of organization (molecule, cell, organism, population) in the light of simple

ideas from physics. Both the most ancient and the most modern physics ideas can help explain emergent aspects of life, i.e., those which are largely independent of specific details and cut across many different classes of organisms. Topics may include thermal physics, entropic forces, free energy transduction, structure of biopolymers, molecular motors, cell signaling and biochemical circuits, nerve impulses and neural computing, populations and evolution, and the origins of life on Earth and elsewhere.

598. Tutorial. (C) Staff.

Literature studies in a specific research area under supervision of Biochemistry and Molecular Biophysics Graduate Group faculty, concluded by a written summary and a seminar presentation. Course offered fall, spring and summer semesters.

601. Fundamentals of Magnetic Resonance. (B) 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

603. Advanced Topics in Magnetic Resonance. (K) Reddy.

Advanced topics in theory and applications of magnetic resonance spectroscopy and imaging (Nuclear Magnetic Resonance - NMR; and Electron Spin Resonance - EPR) of biological tissues and solid-state materials to problems in biochemistry, biology, bioengineering and medicine.

611. Advanced X-ray Diffraction Methods. (H) Van Duyne. Prerequisite(s): BMB 554/CHEM 555 or equivalent, or permission of instructor. Course meets for 8 weeks and is offered for 1/2 credit.

Advanced topics in macromolecular x-ray diffraction. Crystallization, synchrotron data collection, data processing, anomalous

diffraction, phasing methods, density modification methods, refinement. Emphasis is on applications and currently available methodology.

616. Medical Problems in Modern Biochemistry. (B) Nelson.

Prerequisite(s): Undergraduate biochemistry; undergraduates need permission of course director.

This course on metabolic pathways will focus on the clinical aspects of energy metabolism, with an emphasis on how we maintain a continuous supply of glucose in the body without eating continuously. Topics covered include: glycolysis, citric acid cycle and oxidative phosphorylation, glucose homeostasis, glycogen metabolism, gluconeogenesis, fatty acid oxygenation and ketone utilization. The course will combine didactic lectures with discussions on clinical cases. The overall emphasis is on the integration of these pathways and how defects in one pathway can have consequences on general metabolism.

618. Applications of High Resolution NMR Spectroscopy to Problems in Structural Biology. (A) Wand.

Prerequisite(s): Undergraduate biochemistry and physical chemistry and BMB 601, or permission of instructor.

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. (I) 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 and Ostap. Prerequisite(s): BIOM 600 or equivalent. Please discuss background with instructors if this prerequisite is not met. 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. Ion Channels and Pumps. (K) Kallen and Lu. Prerequisite(s): Permission of course directors. Course meets for 8 weeks and is offered for 1/2 credit.

This course will introduce students to the fundamentals of ion channel function, with the course loosely organized around major classes of ion channels (voltage, mechanical and ligand gated). Discussion will focus on methods of study, mechanisms of ion selectivity and gating, and pathophysiology of human diseases (channelopathies). Intended for 2nd year graduate students or 1st year students with a strong background in biophysics or physiology.

625. Optical Methods in Cell Physiology. (J) Salzberg. Prerequisite(s): Undergraduate physics; calculus. Course offered for 8 weeks for 1/2 credit.

This course will provide an introduction to the principles and application of modern optical methods to the investigation of physiological processes. These include optical measurement of membrane potential, fluorescent indicator measurement of intracellular ion concentrations, single molecule fluorescence measurements, TIRF, FRET, LRET, confocal and multi-photon microscopy, and dynamic light scattering. The course will consist of lectures and discussions of original literature. Intended for 2nd year graduate students, but MD/PhDs and postdocs are welcome.

626. Mass Spectrometry and Proteomics. (J) Speicher. 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. (K)

Sharp and Van Duyne. Prerequisite(s): Familiarity with Unix recommended. Permission of instructor for nonBGS 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 0.5 credits.

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.

631. Redox Pot./Electr.Transf. Course meets for 8 weeks for 0.5 credits.

632. Probing Structure and Function of Complex RNA-Protein Machines. (K) Lynch. Course meets for 8 weeks for 0.5 credits.

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.

633. Cellular Biochemistry and Biophysics. (A) Kallen and Ferguson.

The syllabus of this course is linked to BIOM 600, Cell Biology and Biochemistry. It is intended to reinforce and extend select aspects of the material covered in BIOM 600 that are relevant to students in the Biochemistry and Molecular Biophysics graduate group. For each class one or two papers will be assigned that relate to the topics covered in the BIOM 600 lectures. In-class discussion of other areas of material covered in BIOM 600 is encouraged. Priority will be given to 1st year BMB students. The course will also be open to 2nd year BMB students and to students from other programs who are either currently taking or have completed BIOM 600 (with course directors permission). Grading will be based on student presentations and participation in discussion.

SM 650. (CAMB702) Current Biochemical Topics. (C) Black and Shorter.

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. (C) Shorter.

Supervised "mini-projects" for graduate students in Biochemistry and Molecular Biophysics. Seminar presentation required. Course offered fall, spring and summer sessions.

700. (CHEM700, PHRM630) Selected Topics in Chemistry. (C) 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) Lemmon. Course meets for 8 weeks for 0.5 credits.

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. The course is given for 6 weeks in the beginning of the spring semester.

990. Master's Thesis Research. (C) Staff. See Department for section numbers.

995. Dissertation Research. Staff. See Department for section numbers.

BIOENGINEERING (EG) {BE}

099. Independent Study in

Bioengineering. (C) Prerequisite(s): Freshman or Sophomore standing in BE (Both BAS and BSE).

An individualized research-based learning experience on a biomedical research problem. Requires preparation of a proposal, literature evaluation, and preparation of a research paper and presentation. Regular progress reports and meetings with a faculty advisor are required.

100. Introduction to Bioengineering.

(A) Corequisite(s): MATH 104, PHYS 140 or 150. Open to Freshmen only.

Survey course introducing students to the breadth of bioengineering. Course consists of weekly guest lectures and a series of small projects and reports that allow students to explore different facets of bioengineering.

101. Intro To Bioeng II.

L/R 200. Bioengineering I: Introduction to Biomechanics and Biomaterials. (A) Prerequisite(s):

Sophomore standing, MATH 104, 114, PHYS 140, 141 or PHYS 150, 151. Corequisite(s): MATH 240.

This course investigates the application of statics and dynamics to simple force analyses of the musculoskeletal system, introduces the fundamentals of the mechanics of materials, and introduces the biomechanics of soft and hard tissues (e.g. microstructure and mechanical properties). The first portion of the course will present fundamental concepts of force and mechanics of rigid and deformable bodies. The remainder of the course will consist of an introduction of materials science and engineering, including the classification and bulk properties of implantable materials.

L/L 209. Bioengineering Lab I. (A)

Corequisite(s): BE 200.

Students taking BE 209 are required to be enrolled in BE 200 and to have completed the physics and chemistry laboratories scheduled during the freshmen year. BE 209 is the first laboratory course in the Bioengineering curriculum. It is required for both BSE and BAS majors. It is intended for the fall semester of the Sophomore year.

L/L 210. Bioengineering Lab II. (B)

Prerequisite(s): BE 209. Corequisite(s): Math 241.

Second term of a two-year sequence designed to integrate real world experiences into various Bioengineering Science courses. It is required for both BSE and BAS majors. It is intended for the spring semester of the Sophomore year.

SM 225. Technology and Engineering in Medicine. (C)

Prerequisite(s): First year college physics, chemistry and biology or AP credit; Sophomore and higher standing only.

This course will provide an examination of technology and its impact on medicine, with an emphasis on the intersection of engineering with medicine and health. Basic foundations of historical perspective, constraints on technological development, and the promise and peril of technological impact on medicine will be discussed. Modules will also focus on specific technological advances as a basis for the discussion. Planned topics include: implants with emphasis on cochlear devices and sensory rehabilitative devices. Reading will integrate topics of the impact of technology on medicine, as well as examine societal issues related to effects technology in health care.

L/R 301. Bioengineering Signals and Systems. (A)

Prerequisite(s): BE 209, BE 210, MATH 241, Junior standing.

Properties of signals and systems and examples of biological and biomedical signals and systems; linear, time invariant systems; Fourier analysis of signals and systems with applications to biomedical signals such as ECG and EEG; frequency analysis of first and second order systems; the frequency response; of systems characterized by linear constant-coefficient differential equations; introduction to digital and analog filtering, sampling and sampling theorem and aliasing.

L/R 303. (EAS 303) Ethics, Social and Professional Responsibility for Engineers. (A)

Prerequisite(s): Junior Standing.

Provides an overview of the ethical and professional responsibilities of engineers, as engineering professionals, as members of engineering organizations, and as participants in medical or scientific research. The course will make extensive use of student group presentations and role playing in the analysis of cases based on real-world problems with ethical dimensions. The case studies will vary from year to year, but will be chosen to reflect the full range of engineering fields and

disciplines including areas of Bioengineering and Biomedical research.

L/R 305. Engineering Principles of Human Physiology. (A)

Prerequisite(s): MATH 241, Junior Standing.

Analysis of cellular and systems-level human physiology with an emphasis on clinical applications. Particular emphasis is on mechanisms of function in the neural and cardiovascular systems.

310. Bioengineering Lab IV. (B)

Corequisite(s): BE 350.

Final semester of a two year sequence designed to integrate real world experiences into various Bioengineering and Bioengineering Science courses. It is required for only BSE majors. It is intended for the spring semester of the Junior year.

L/R 324. Chemical Basis of

Bioengineering II. (A) Prerequisite(s): PHYS 140, 141 or 150, 151, MATH 240, CHEM 101, 102, Junior standing.

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): CHEM 102, Junior Standing or permission of the instructor.

This course will serve as an introduction of soft condensed matter to students with background in chemistry, physics and material science. It covers general aspects of chemistry, structures, properties and applications of soft materials (polymers, colloids, liquid crystals, amphiphiles, gels and biomaterials).

L/R 350. Transport Processes in Living Systems. (B)

Prerequisite(s): MATH 241 or equivalent, PHYS 140 or 150, Junior Standing.

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) This course is for BE majors ONLY, with preference given to BSE students, Junior and Senior Standing.

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 provides an introduction to the quantitative methods used in characterizing and engineering biomolecular properties and cellular behavior, focusing primarily on receptor-mediated phenomena. The thermodynamics and kinetics of protein/ligand binding are covered, with an emphasis on experimental techniques for measuring molecular parameters such as equilibrium affinities, kinetic rate constants, and diffusion coefficients. Approaches for probing and altering these molecular properties of proteins are also described, including site-directed mutagenesis, directed evolution, rational design, and covalent modification. Equilibrium, kinetic, and transport models are used to elucidate the relationships between the aforementioned molecular parameters and cellular processes such as ligand/receptor binding and trafficking, cell adhesion and motility, signal transduction, and gene regulation.

441. Engineering Microbial Systems. (C) Prerequisite(s): Biol 121, Biol 202, BE 209, BE 210 or permission of the instructor.

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.

L/R 444. (BE 555) Nanoscale Systems Biology. (C) Prerequisite(s): Background in Biology, Chemistry or Engineering with coursework in thermodynamics or permission of the instructor.

From single molecule studies to single cell manipulations, the broad field of cell and molecular biology is becoming increasingly quantitative and increasingly a matter of systems simplification and analysis. The elaboration of various stresses on cellular structures, influences of interaction pathways and convolutions of incessant thermal motions will be discussed via lectures and laboratory demonstration. Topics will range from, but are not limited to, protein folding/forced unfolding to biomolecule associations, cell and membrane mechanics, and cell motility, drawing from very recent examples in the literature. Frequent hands-on exposure to modern methods in the field will be a significant element of the course in the

laboratory. Skills in analytical and professional presentations, papers and laboratory work will be developed.

445. Engineering and Biological Principles in Cancer. (C)

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.

450. (BE 550) Hemodynamics. (A)

Prerequisite(s): BE 350 or equivalent, or permission of the instructor.

Development of concepts about the operation of the mammalian cardiovascular system as conceived in the years 198 (by Galenus), 1628 (by Harvey), and 1998 (at Penn by A. Noordergraaf).

455. (MEAM455, MEAM544) Continuum Biomechanics. (A)

Prerequisite(s): MATH 241.

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 hands-on experimental and computational laboratory experiences.

470. Medical Devices. (C)

Prerequisite(s): Junior or Senior standing in Bioengineering, or permission of the instructor.

This course discusses the design, development, and evaluation of medical devices. Emphasis is placed on the process of matching technological opportunities to medical needs. Medical devices are analyzed from three viewpoints: technology driven applications, competing technologies, and disease-related technology clusters.

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) Molecular Imaging. (C) Prerequisite(s): BIOL 215 or BE 305 or permission of the instructor.

This course will provide a comprehensive survey of modern medical imaging modalities with an emphasis on the emerging field of molecular imaging. The basic principles of X-ray, computed tomography, nuclear imaging, magnetic resonance imaging, and optical tomography will be reviewed. The emphasis of the course, however, will focus on the concept of 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.

486. Signal Analysis and Processing. (C) Prerequisite(s): BE 301.

This course takes off where BE301 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.

490. Research in Bioengineering. (C) Prerequisite(s): Junior/Senior Standing.

An intensive independent study experience on an engineering or biological science problem related to BE. 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. Research in Biomedical Science. (C) Prerequisite(s): Junior or Senior Standing.

Second semester of a year-long project.

495. Senior Design Project. (A)

Prerequisite(s): BE Senior Standing.

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; a project brief, interim reports, a final report, and a presentation are required. Also emphasized are report writing, scheduling, project risk assessment, multidisciplinary environments and ethics.

496. Senior Design Project. (B)

Prerequisite(s): BE Senior Standing.

Second semester of a year-long design project.

497. Senior Thesis in Biomedical Science. (A)

Prerequisite(s): Senior Standing in Applied Science Biomedical Science Program (BAS students only).

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): Senior Standing in Applied Science Biomedical Science Program (BAS students only).

Second semester of a year-long project.

502. From Biomedical Science to the Marketplace. (C)

Prerequisite(s): Graduate students or Senior standing in Bioengineering, 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.

505. Quantitative Human Physiology. (C)

Prerequisite(s): BE 305.

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 through 241; BE 350, BE 324 as pre-or corequisites.

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.

513. Cell Biology. (A)

Prerequisite(s): Graduate Standing or permission of the instructor.

This course serves as an introduction to quantitative aspects of cell and molecular biology. The course will cover several case studies in which quantitative approaches have led to new insights into biological phenomena. Subjects will include gene expression, gene networks, developmental biology, chemotaxis, signaling, and some basic genomics, among other topics.

515. Bioengineering Case Studies. (C)

Prerequisite(s): Graduate standing. Undergraduates can enroll with approval 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 is taught partly as a seminar, with lectures by departmental and invited outside experts and student presentations in addition to lectures by the instructor.

517. (ESE 517) Optical Imaging. (C)

Prerequisite(s): ESE 310 and ESE 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.

L/R 518. Optical Microscopy. (C)

Prerequisite(s): MATH 240 OR ENM 510 or equivalent, or permission of the Instructor.

This course discusses the fundamental concepts of optics and microscopy, with emphasis on applications in biomedical imaging. Lectures will be supplemented by lab experiments. We will survey advanced modern techniques including superresolution microscopy.

520. Computational Neuroscience and Neuroengineering. (M)

Finkel. Computational modeling and simulation of the structure and function of brain circuits. A short survey of the major ideas and techniques in the neural network literature. Particular emphasis on models of hippocampus, basal ganglia and visual cortex. A series of lab exercises introduces techniques of neural simulation.

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 209/210/310). Some basic neuroscience background (e.g. BIOL 215, BE 305, BE 520, 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 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.

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. 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.

539. (ESE 539) Neural Networks, Chaos, and Dynamics: Theory and Application. (C)

Physiology and anatomy of living neurons and neural networks; Brain organization; Elements of nonlinear dynamics, the driven pendulum as paradigm for complexity, synchronicity, bifurcation, self-organization and chaos; Iterative maps on the interval, period-doubling route to chaos, universality and the Feigenbaum constant, Lyapunov exponents, entropy and information; Geometric characterization of attractors; Fractals and the Mandelbrot set; Neuron dynamics: from Hodgkin-Huxley to integrate and fire, bifurcation neuron; Artificial neural networks and connectionist models, Hopfield (attractor-type) networks, energy functions, convergence theorems, storage capacity, associative memory, pattern classification, pattern completion and error correction, the Morita network; Stochastic networks, simulated annealing and the Boltzmann machine, solution of optimization problems, hardware implementations of neural networks; the problem of learning, algorithmic approaches: Perception learning, back-propagation, Kohonen's self-organizing maps and other networks; Coupled-map lattices; Selected applications including financial markets.

L/R 540. (BE 440, CBE 540) Biomolecular and Cellular Engineering. (C)

This course provides an introduction to the quantitative methods used in characterizing and engineering biomolecular properties and cellular behavior, focusing primarily on receptor-mediated phenomena. The thermodynamics and kinetics of protein/ligand binding are covered, with an emphasis on experimental techniques for measuring molecular parameters such as equilibrium affinities, kinetic rate constants, and diffusion coefficients. Approaches for probing and altering these molecular properties of proteins are also described, including site-directed mutagenesis, directed evolution, rational design, and

covalent modification. Equilibrium, kinetic, and transport models are used to elucidate the relationships between the aforementioned molecular parameters and cellular processes such as ligand/receptor binding and trafficking, cell adhesion and motility, signal transduction, and gene regulation.

546. Fundamental Techniques of Imaging I. (C)

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.

547. Fundamental Techniques of Imaging 2. (C)

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.

550. (BE 450) Hemodynamics. (A) Prerequisite(s): BE 350 or equivalent, or permission of the instructor.

Development of concepts about the operation of the mammalian cardiovascular system as conceived in the years 198 (by Galenus), 1628 (by Harvey), and 1998 (at Penn by A. Noordergraaf). Example topics include muscle structure and mechanical properties; the single band structure of the two ventricles; electrical stimulation; Frank's mechanism; and mathematical description of the heart as a pump.

L/R 552. (CBE 552) Cellular Engineering. (C) Prerequisite(s): Math through 241; BE 350, BE 324 as pre- or corequisites. Molecular & cellular biology. The goal of this course is to introduce students 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.

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. While there is an extensive body of literature discussing the state of the art of tissue engineering, the majority of this literature is descriptive and does little to address the principles that govern the success or failure of an engineering tissue. This course explores principles of tissue engineering, drawing upon diverse fields such as developmental biology, immunology, 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.

554. (CBE 554) Engineering Biotechnology. (M)

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 molecule studies to single cell manipulations, the broad field of cell and molecular biology is becoming increasingly quantitative and increasingly a matter of systems simplification and analysis. The elaboration of various stresses on cellular structures, influences of interaction pathways and convolutions of incessant thermal motions will be discussed via lectures and laboratory demonstration. Topics will range from, but are not limited to, protein folding/forced unfolding to

biomolecule associations, cell and membrane mechanics, and cell motility, drawing from very recent examples in the literature. Frequent hands-on exposure to modern methods in the field will be a significant element of the course in the laboratory. Skills in analytical and professional presentations, papers and laboratory work will be developed.

556. Mechanical Forces: Cells/Tissue. (M)

This course will explore the biological effects of mechanical forces at the molecular, cellular and tissue level in specific tissues (blood vessels, cartilage, bone, brain, lung, and skeletal and cardiac muscle). The importance of physical forces in the health, disease, development, remodeling and injury of these tissues will be highlighted. An understanding of these specific systems will provide a foundation for discussions of the molecular basis of mechanotransduction, mechanically induced trauma, as well as the manipulation of the mechanical environment in biotechnology and tissue engineering applications. Throughout the course, the use of engineering principles and methods to understand and model mechanically induced biological phenomena will be stressed.

L/R 557. (CBE 582) From Cells to Tissue: Engineering Structure and Function. (C) Faculty. 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 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.

L/R 562. (CBE 562) Drug Discovery & Development. (C)

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.

L/R 567. (AMCS567, BMB 580) Mathematical Computation Methods for Modeling Biological Systems. (C)

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.

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)

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) Molecular Imaging. (C) Prerequisite(s): BIOL 215 or BE 305 or permission of the instructor.

This course will provide a comprehensive survey of modern medical imaging modalities with an emphasis on the emerging field of molecular imaging. The basic principles of X-ray, computed tomography, nuclear imaging, magnetic resonance imaging, and optical tomography will be reviewed. The emphasis of the course, however, will focus on the concept of 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 contest 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)

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)

612. Materials Affecting Cell and Molecular Function. (M)

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.

619. (BMB 604) Statistical Mechanics. (M) Prerequisite(s): CBE 618 or equivalent.

A modern introduction to statistical mechanics with biophysical applications. Theory of ensembles. Noninteracting systems. Liquid theory. Phase transitions and critical phenomena Nonequilibrium systems. Applications to reaction kinetics, polymers and membranes.

630. (EE 630) Elements of Neural Computation, Complexity and Learning. (M) Prerequisite(s): A semester course in probability or equivalent exposure to probability (e.g. ESE 530).

Non-linear elements and networks: linear and polynomial threshold elements, sigmoidal units, radial basis functions. Finite (Boolean) problems: acyclic networks; Fourier analysis and efficient computation; projection pursuit; low frequency functions. Network capacity: Feedforward networks; Vapnik-Chervnenkis dimension. Learning theory: Valiant's learning model; the sample complexity of learning. Learning algorithms: Perception training, gradient descent algorithms, stochastic approximation. Learning complexity: the intractability of learning; model selection.

640. (CAMB703) The Extracellular Matrix. (C)

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. (M)

655. (MSE 655) Advanced Topics in Biomaterials. (M) Prerequisite(s): BE 512 and MSE 506 or permission of instructor.

The effect of nearly inert and bioactive materials on surrounding tissues. Mechanisms of bone tissue growth enhancement with bioactive ceramics. Elasticity and strength of porous coated and ceramic coated implants. Tissue remodeling around coated implants.

L/R 662. (CBE 618, MEAM662) Advanced Molecular Thermodynamics. (C)

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.

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}

010. Understanding Brain Function through Famous Case Studies. Neta Zach.

This course will use famous case studies of patients with a variety of different types of brain damage to begin to understand brain function. Topics to be discussed include the relationship between brain activity and consciousness, the different faculties of the mind and their localization with the brain. Students will explore the diverse explanations that researchers have proposed over decades to the question of how brain activity could generate the complexities of human consciousness. Students will learn why some men think their wives are hats and how a blind man can dodge a bullet, how a psychopathic personality can develop, what are our most primitive fears and how to build a zombie using household appliances.

050. Forensic Neuroscience. Langeleben.

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.

L/L 109. (BIOL109, PSYC109) Introduction to Brain and Behavior. (C) Living World Sector. All classes. Medina and Muzzio. 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.

L/R 217. (PSYC217, VLST217) Visual Neuroscience. (B) Staff. 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 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.

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.

240. Human Chronobiology and Sleep. (M) Dinges. Prerequisite(s): BIBB109. Students may not receive credit for both this course and BIBB 040.

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) Living World Sector. All classes. Thompson-Schill. 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 (formerly 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) 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. (A)

Heerding. Prerequisite(s): BIBB 109.

This lecture course is designed to 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. (B) Prerequisite(s): BIBB 109, Intro Biology and Intro Psychology.

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 (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.

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. (A) Staff.

Prerequisite(s): BIBB 109 Permission of Instructor. Lab Fee: \$100.

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.

350. Developmental Neurobiology. (C) Staff. Prerequisite(s): BIBB 109 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 led by the BBB Director or Associate Director to discuss planning an independent research project, ethical concerns in research and writing a scientific paper. Attendance at the meetings is mandatory. Students wishing to do research in hospitals with investigators who are not standing faculty at Penn should inquire about College 99 at the College Advising Office. Students doing more than one credit of independent study will be required to present a poster at the annual BBB Symposium.

409. Clinical Research in Neuroscience. (C) Stein. Prerequisite(s): BIBB 109, Permission from Instructor.

This is an introduction to evidence-based clinical research in the neurosciences. It concentrates on the design and performance of clinical research, with emphasis on responsibility toward research subjects, data collection, analysis and medical writing. There are weekly, 90 minute lectures, supplemented by participation in an ongoing research project. Small teams of students will gather data, working closely with the clinical research staff in the Department of Neurosurgery. There are also periodic reviews of progress with faculty. At the end of the semester, each team will present its progress. Contribution to successful projects will also result in credit on ensuing publications.

SM 410. Behavioral Medicine: Experimental & Animal Models. (C)

Ulm. Prerequisite(s): BIBB 109.

Fundamentals of Behavioral Medicine concerns itself with the description of ideology, disease and treatment from the perspective of a functional analyses. It is the intent of this course to extend the traditional

structural analysis that traditional medicine provides.

SM 421. Functional Imaging of the Human Brain. (B) Newberg.

Prerequisite(s): BIBB 109.

The ability to utilize different imaging techniques in disciplines such as psychology, psychiatry, neurology, and cognitive neurosciences is a growing field and presents many interesting problems and possibilities. This course is an upper level seminar course for individuals pursuing one of the above mentioned fields and/or premedical course work. The course would provide a detailed overview of functional brain imaging and its potential uses. Issues regarding advantages and disadvantages of different modalities, study design image analysis and interpretation, and how each of these relates to various neurological and psychological phenomena will be discussed. The classes 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) Kreibich. Prerequisite(s): BIBB 109.

This course covers the signs and symptoms of Autism Spectrum Disorder (ASD), such as their lack of language, eye gaze aberrations, deficits in joint attention, avoidance and inadequacies of social interaction, hand flapping, and self stimulating behaviors. We will learn about diagnostic tools, such as the ADOS and ADIR. We will cover the neurobiological changes specific to the brains of autistic children such as in the cerebral cortex white matter amygdala, brainstem, cerebellum and neural communication systems. We will also focus on genes associated with autism, many of which regulate neuronal communication systems. They include NRXN1,NLGN3,NLGN4, SHANK3,CNTNAP2,CHD10 BZRAP1 and MDGA2, DLX1 and DLX2, fragile X, Tuberous Sclerous 1,Neurexin 1 Tuberous Sclerous2, Rubinstein-Taybi Syndrome,

Neurofibromatous 1, and Rett's syndrome. Additionally covered are some of the more popularized issues such as autistic savants, vaccines and mirror neurons. Finally, we will discuss brain plasticity and treatment choices, such as drugs and early behavioral interventions.

SM 431. (PSYC451) Animal Communication. (C) Robert Seyfarth. Prerequisite(s): BIBB231.

Topics vary each semester.

SM 432. (BIOL432, PSYC431) Animal Cognition. (C) Cheney. Prerequisite(s): BBB231.

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.

442. (BIOL442, PSYC421) Neurobiology of Learning and Memory. (M) Abel/Muzzio. 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) Price. Prerequisite(s): 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 473. (PSYC473) Neuroeconomics. (M) 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. Important psychiatric disorders are discussed primarily from the viewpoint of their biological aspects. Emphasis is placed on critical evaluation of research strategies and hypotheses.

SM 481. Behavioral Pharmacology. (B) 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 269 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 (12-20) 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 3.3 or better.

Continuation of BIBB 399 research. Students will be required to present their oral defense and a poster 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 005. Killer Viruses. (A) Gaulton. May not be used in the Biology Major. This course is applicable for all undergraduate students. General biology background preferred but not required.

The goal of this course is two fold: to provide students with an introductory, practical view of biological systems, and to enable students to evaluate the health threat of viruses as natural or terrorist-driven agents in contemporary society. We are all well aware of the recent emergence of multiple viruses as potential threats to the public health: examples include HIV, SARS, and west Nile and Ebola viruses. However, still greater threats may arise by expansion of existing virus, such as smallpox and influenza that we more commonly think of as being either eradicated or harmless. Through this course we will examine the general properties of viruses, our capacity to ward-off common virus infections using the immune response, the general concept of vaccination, the emergence of new virus pathogens, and the capacity of these pathogens to spread within our population based on regional and global culture and finance. The course will utilize oral and written presentations as the main format for interaction and assessment.

SM 011. Humans in a Microbial World. (A) 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. Sniegowski. Prerequisite(s): High school introductory biology would be helpful.

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. (B)

Living World Sector. All classes. Poethig. May not be counted toward the Biology major or minor.

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 ways in which food/plants can cause and cure human disease.

L/L 101. Introduction to Biology A. (A)

Living World Sector. All classes. Staff. (3 hrs. lec., 3 hrs. lab, 1.5 c.u.)

General principles of biology that have been established by studies of microbes, animals, and plants and the viruses of these organisms will be covered. Emphasis will

be on the basic chemistry of life, cell biology, molecular biology, and genetics. The study of developmental pathways and evolutionary trends in life cycles will be explored using plants as model organisms.

Biology Majors and Pre-Medical students should take either BIOL 101 or 121. BIOL 101 is the companion course to BIOL 102, may be taken before or after BIOL 102.

Lab fee \$150.

L/L 102. Introduction to Biology B. (B)

Living World Sector. All classes. Staff. (3 hrs. lec., 3 hrs. lab, 1.5 c.u.)

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.

BIOL 102 is the companion course to BIOL 101, may be taken before or after BIOL 101.

Lab fee \$150.

L/L 109. (BIBB109, PSYC109)

Introduction to Brain and Behavior.

(C) Living World Sector. All classes.

Medina and Muzzio.

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. Familiarity with elementary physics and chemistry may be helpful.

Lab fee \$75.

L/R 121. Introduction to Biology - The Molecular Biology of Life. (C)

Living World Sector. All classes. Staff. Prerequisite(s): Solid high school biology and strong high school chemistry or CHEM 101 taken concurrently. Corequisite(s): BIOL 123 is required.

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. BIOL 121 and 123 must be taken concurrently.

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.

123. Introductory Molecular Biology Laboratory. (C) Bassiri. Corequisite(s): BIOL 121 or credit by exam for BIOL 101 or 121. (3.0 hrs. lab, 0.5 c.u.).

An intensive introductory laboratory course emphasizing how molecular biology has revolutionized our understanding of cell and organism functions. BIOL 121 and 123 must be taken concurrently.

Students may not take both BIOL 101 and 123 for credit.

Lab fee \$150.

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.).

An intensive introductory laboratory course in organismal biology.

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.

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 202. Cellular Biology and Biochemistry. (C)

Schultz/Svitkina/Guo/Gregory.

Prerequisite(s): BIOL 101 and 102, or BIOL 121. Strong high school background in chemistry or CHEM 102 recommended.

An introduction to protein structure, enzyme kinetics, mechanism of enzyme action and allosteric regulation of enzyme activity; introduction to cell structure and function including membrane structure, membrane receptors and signal transduction, motility, and the cell cycle.

L/R 215. Vertebrate Physiology. (A)

Rome/Ren. 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) Animal Behavior. (C) 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.

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. Prerequisite(s): BIOL 101 and 102, or BIOL 121; PHYS 102 or 151 strongly recommended. (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.

Lab fee \$150.

275. (BIOL575) Fundamental Microbiology. (I) Bassiri. Prerequisite(s):

BIOL 101 or 121, BIOL 221 strongly recommended. Only offered through the College of Liberal and Professional Studies.

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.

Combined lecture and lab course. Lab fee \$150.

L/L 306. Histology. (C) Prerequisite(s):

BIOL 101 and 102, or BIOL 121 and 202 preferred. Only offered through the College of Liberal and Professional Studies.

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.

Lab fee \$150.

325. Marine Biology. (J) Petraitis.

Prerequisite(s): BIOL 102 or 121 or permission of instructor.

An introduction to marine biology and oceanography. Topics will include chemical and physical oceanography, a survey of form, function and phylogeny of algae, invertebrates and vertebrates, and an examination of ecological and evolutionary principles as applied to marine organisms and ecosystems.

330. Comparative Vertebrate Anatomy and Evolution. (K) 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. (K) Dunham.

Corequisite(s): BIOL 330 lecture is required. (3 hrs lab., 0.5 c.u.).

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 also register for the lecture course, BIOL 330.

Lab fee \$150.

L/R 354. Developmental Biology. (A)

Wagner J. Prerequisite(s): BIOL 202 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. (A) 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. Microbial Diversity and Pathogenesis Lab. (A) Pohlschroder.

Prerequisite(s): BIOL 375 previously or concurrently. (3 hrs lab., 0.5 c.u.).

Laboratory portion of BIOL 375 Microbial Diversity and Pathogenesis. This course will provide practical, in-depth laboratory experience with isolation, characterization, and the genetics and molecular biology of microorganisms.

Lab fee \$150.

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. (I) Rhoads/Block.

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 also learn how to collect and prepare herbarium specimens. Most of the class time will be spent outdoors.

402. Biochemistry. (B) Rea.

Prerequisite(s): BIOL 202, CHEM 241, the latter of which may be taken concurrently. CHEM 242 is recommended and may also be taken concurrently.

Basic principles of protein characterization, enzyme kinetics and mechanism, membrane structure and function, metabolism and biochemistry of energy, and signal transduction. A problem-solving approach will be employed and emphasis will be placed on the application of quantitative methods to biochemical problems. Each of the five major sections of the course will be concluded with group discussions specifically directed at the solution of numerical problems and the interpretation of experimental results. In order to maximize the opportunities for students to think critically, analytically and creatively, most of the material covered in the course will be tested using take-home examinations. Students will have the option of attending sessions in which the recent original literature will be discussed.

404. Immunobiology. (C) Staff.

Prerequisite(s): BIOL 202 and BIOL 221.

Only offered through the College of Liberal and Professional Studies.

Early development of microbiology, pathology, and immunobiology; molecular

and cellular bases of immune phenomena including: immunity to pathogens, immune diseases, autoimmunity, and hypersensitivity.

SM 406. Molecular Mechanisms of Infectious Disease Biology. (B) Roos.

Prerequisite(s): BIOL 202; 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 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.

414. Advanced Ecology. (H)

Petratis/Casper. 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.

L/R 421. (CAMB421) 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. 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 human genetics impacts almost every aspect of our society, from medicine to law enforcement to how we view ourselves. An ability to understand the basics of genetic 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 and law because of our increasing genetic knowledge. Human genetics is a topic that gets frequent attention in the press. Reports about genes for traits ranging from breast cancer to criminal behavior are constantly in the news. Our society is engaged in a debate about the implications of genetic typing, particularly with the advent of personalized genomics. By the end of this class you should be able to sort fact from fiction and to have a better understanding of the science behind the study of the human genome.

423. Plant Ecology. (M) Casper.

Prerequisite(s): A year of introductory biology or equivalent.

The course consists of both lecture material and hands on research involving questions in plant population or community ecology. Quantitative information from published studies will be discussed and students, working in teams, will summarize and analyze data from class experiments.

425. Biochemistry and Molecular Genetics Superlab. (C) Wagner J.

Prerequisite(s): BIOL 202 or 221 or an equivalent course are recommended.

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.

Lab room \$150.

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. (A) 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.

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/Muzzio.

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.

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 antiinflammatory, 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.

L/L 450. Plant Systematics. (K)

Rhoads/Block. Prerequisite(s): BIOL 101 or 124 or permission of instructor.

Plant Systematics is a study of diversity in the flowering plants emphasizing evolutionary relationships. Learn how DNA sequence data have revolutionized the interpretation of plant evolution by providing direct evidence of phylogenetic relationships. Each class will combine lecture and lab sessions where plant samples will be examined. The course includes a field trip to Bartram's Garden.

Lab fee \$150.

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.

475. Advanced Microbiology. (H)

Pohlschroder/Daldal. Prerequisite(s): BIOL 221 or BIOL 275 or permission of instructor.

Microbiology plays a central role in diverse areas of human life such as infectious disease, ecology, and biotechnology. Following an overview of basic microbiological principles, the course will focus on in-depth discussions of selective cutting edge topics, including emerging technologies in microbiology. In addition to lectures given by experts in the field, students will present scientific papers on selected topics.

SM 477. The Science and Art of Biotechnology. (A) Roth. Prerequisite(s): Either BIOL 202 or 221 or by 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.

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.

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. (CAMB484) Cell Motility and the Cytoskeleton. (A)

Svitkina. Prerequisite(s): BIOL 202.

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 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.

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.

L/R 501. Principles of Biological Science. (L) Waldron/Bergey. Open only to middle school teachers in the MISEP program.

This course will provide a strong background in biology for middle school teachers in the MISEP program. The major topics will be animal and plant biology, cell biology and genetics, and evolution and diversity.

SM 526. (CAMB526) Experimental Principles in Cell and Molecular Biology. (C) Gallagher/Goulian.

The course aims to introduce principles of current experimental techniques used in modern biology. Students will read and discuss papers from the primary literature. Students are expected to have completed at least one course in molecular biology and genetics before taking BIOL 526.

527. (BIOL221, GCB 527) Genetics for Computational Biology. (C)

Bonini/Gallagher/Guild. Prerequisite(s): BIOL 101 or 121. Permission of instructor needed.

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 537. (CIS 635, GCB 537) Advanced Computational Biology. (A)

Staff. Prerequisite(s): BIOL 536 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.

556. Advanced Statistics. (K) Petraitis.

Prerequisite(s): BIOL 446 or equivalent, and permission of instructor.

Advanced statistical methods, including multivariate techniques (in particular discriminant functions, principal components, multiple correlation, and regression) and the design and analysis of experiments.

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}

HEALTH POLICY RESEARCH (HPR)

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 I. (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 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 Quality Improvement and Patient Safety. Jennifer S. Myers and Kathleen 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 interdisciplinary professional course is to provide students with a broad overview of the principles and tools of quality improvement and patient safety in health care. It will provide a foundation for students or practicing clinicians who are interested in quality improvement and patient safety research, administration, or clinical applications to get the full benefit of this course, students should use this course to identify the tools and design methods that they plan to employ

in a real quality improvement or patient safety project in their area of interest.

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 601. Contextual Foundations of Community Health. (L) Dr. Lucy Tuton.

Prerequisite(s): Permission needed from Instructor.

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.

SM 602. Topics in Leadership for Health Policy. Drs. Anthony Rostain and Lucy Tuton.

Prerequisite(s): Permission needed from Instructor.
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. Paul Allison.

Prerequisite(s): Permission needed from Instructor.

This is the first semester of a two-semester sequence. It is essentially an introductory statistics course covering descriptive statistics, probability, random variables, estimation, sampling, hypothesis testing, and confidence intervals. The second semester stresses regression models.

SM 605. Multidisciplinary Perspectives on Health. Dr. David Rubin.

Prerequisite(s): Permission needed from Instructor.

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) Drs. David Asch and 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. Daniel Polsky and Andrew J. Epstein. 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. Timothy Victor. Prerequisite(s): Permission needed from Instructor.

The course deals with the work horse of quantitative research in health policy research--the single outcome, multiple predictor regression model. In this course, 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 concepts, students will spend five weeks covering the major topics in this course using the example of ordinary least squares (OLS) regression. In the second half of this course, students will extend what they have learned to cover more complicated data situations.

SM 609. Research in Progress.

Drs. Katrina Armstrong, David Asch, and Joshua Metlay. Prerequisite(s): Permission needed from Instructor.

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)

Drs. Marsha Gerdes and Sarah Zlotnik. Prerequisite(s): HPR 606; or PUBH 505; or permission of the instructor(s).

Achieving Evidence-Based Health Policy examines how research can influence health policy. Individual sessions will be devoted to topics such as the Nurse-Family Partnership program, health insurance, tobacco use, 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 findings translate (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. Enrollment is limited to 12.

799. Independent Study. Staff.

951. Health Policy Research Thesis I. Staff.

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.

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. Mitch Lewis and Dr. Carolyn Cambor. 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.

503. (MTR 503) The Art of Making Modern Medicine.

Don Baldwin, Fang Chen. Prerequisite(s): Permission from the instructor, must be a BGS student. This course is designed for graduate students who are interested in translational biomedical research and/or the drug discovery/development process. This course is intended to provide an overview of how advancement in basic research is translated into new therapeutic interventions. The impact of "omics" technology on reforming the current drug discovery/development paradigm and its impact on personalized medicine will be discussed. Finally, students will see that drug discovery and development is a collaborative effort that requires strategic and critical thinking, decision-making, effective communication skills and team work.

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.

520. Concepts and Methods in Biostatistics - Basic. (L) Dr.

Phyllis Gimotty.

This course is for BGS students who have not had any formal biostatistics training. The course will start with the basics and cover standard biostatistical methods. Students will analyze data from a class dataset and will present their work at the end of the course.

521. Concepts and Methods in Biostatistics - Intermediate. (L) Dr. Phyllis Gimotty.

This course is for BGS students who have had a formal course in statistics or biostatistics. We will briefly review basic concepts and spend more time on discussing statistical methods. Students will analyze a small dataset of their own and will present their work at the end of the course.

555. Control of Prokaryotic and Eukaryotic Gene Expression. (B) Drs.

Paul Lieberman and Tom Jongens. 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.

599. GTMS Clinical Clerkship.

600. Cell Biology and Biochemistry.

(A) Dr. John Weisel, course director. Theme Directors: Drs. Michael Marks, Mark Lemmon, Kevin Foskett 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.

799. Independent Study.

895. (BE 895) Methods in BE Education.

**BUSINESS AND PUBLIC POLICY
(WH) {BPUB}**

201. (BPUB770) Political Economy of Social Policy. (C) Staff. Prerequisite(s): ECON 1 or equivalent.

This course explores the economics and politics of public policy to provide an analytic structure for considering why, how and with what success/failure government intervenes in a variety of policy areas; the environment, income redistribution, social security, regulation/deregulation. Finally, the course examines the increasing importance of allowing competitive markets to provide publicly funded services, taking advantage of private management approaches to fostering innovation in public management: vouchers (for medical care, education and housing), and contracting with private firms for provision of "public" services.

203. Business in the Global Political Environment. (C) Tobacman/Anagol. Prerequisite(s): ECON 001 or equivalent.

The environment of business has market and non market components. The market component is characterized by the economics of an industry and a firm's position in it. The nonmarket component is broader political, regulatory, legal and civil context in which companies function. In four portions, this course addresses how businesses interact with political and regulatory institutions, the law, and the public. The first portion analyzes the economic rationale for legislation and regulation in the presence of market failures. The second portion examines the messier realities of "political economy" and the actual making of laws and regulations by imperfect politicians and regulators. Third, the course addresses more squarely the ways that firms and managers can and do shape their nonmarket environments, as well as tools to help managers think through related nonmarket decisions. In the fourth portion we will cover topics in financial regulation. Successful business leadership requires strategic thinking not only about market factors, but also about political, regulatory, public and other nonmarket factors.

204. (BPUB704, BPUB960) Financing and Managing Government. (B) Gelber, A. Prerequisite(s): BPUB 250, ECON 101 OR EQUIVALENT.

Financing and Managing Government: This course studies the role of public policy in 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. The course is divided into four parts. After an overview of the tools of public finance, we study public goods and externalities. Next, we move to studying social insurance and income maintenance. The course concludes with a segment on multi-government public finance, studying the interactions of local, state and national government in a federal system. Given government regulations, cost benefit evaluations are critical for many private sector activities. This course will explore cost-benefit analysis and the costs and benefits of major public tax and spending policies.

206. (BPUB772, REAL206, REAL772, REAL972) Urban Public Policy and Private Economic Development. (C) Pack, J. Prerequisite(s): Microeconomics.

This course considers the pervasive interactions between real estate developers and government. Governments influence real estate development in many ways: through zoning laws, taxes, public expenditures, impact fees, infrastructure, building codes, environmental regulations, to name just a few. Private real estate developers are the prime movers in determining urban development patterns. Thus, we will consider how private development is influenced by, and influences, government regulation, the government policies listed above and how governments influence and respond to private activity.

As a "case study" of this interaction between government and real estate developers and markets, we will consider one of the major policy interventions currently being advocated, adopted, and considered by governments throughout the country - growth controls or smart growth to deal with the alleged problem of urban sprawl. To this end, we will consider what is meant by urban sprawl, why it is considered a problem - by whom - why growth controls are considered a solution to the problem, the possible effects of growth controls on various groups, the views of developers about both urban sprawl and growth controls. Several guest lecturers from the private, not-for-profit, and public sectors are scheduled to make presentations.

210. (BPUB710) Firms, Markets and Public Policy. SEIM, KATJA.

This course develops a formal approach to the study of industrial organization: it analyzes the behavior of firms, the structure

of markets, and the role of public policy in protecting the interests of consumers and ensuring market competition. The first goal of the course is to develop the basic intuition for pricing and other forms of strategic behavior on the part of firms when faced with complex patterns of consumer demand and strategic competitors. The second goal is to use the theoretical insights to analyze the economic underpinnings of select antitrust cases and public policy design.

212. (LGST212, PPE 212) Economic Analysis of Law. (C) Asher. Prerequisite(s): ECON 1.

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.

230. (FNCE230, REAL230) Urban Fiscal Policy. (A) Inman. Prerequisite(s): Introductory Economics, 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.

236. (FNCE236, REAL236) International Housing Comparisons. (B) Wachter. Prerequisite(s): None.

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. (BPUB950) Managerial Economics. (C) Seim. Prerequisite(s): ECON 001, AP credit or the equivalent; MATH 103, AP credit or the equivalent.

This course introduces students to "managerial economics," the application of microeconomic theory to management problems. Microeconomic theory is a remarkably useful body of ideas for understanding and analyzing human behavior in a variety of contexts. Our goal in this course is to get you to internalize this body of theory well enough so that you can analyze management problems. While this is a "tools course", we will be mindful of applied business problems throughout the course. After presenting the competitive model we will dwell on other market structures more like those encountered by typical firms (monopoly, oligopoly, monopolistic competition). We will spend some time on microeconomic lessons on the development and use of market power, as well as strategic interaction among firms. Finally, we will spend some time on the theory of market failure.

261. (BPUB761, BPUB961, ESE 567, OPIM261, OPIM761) Risk Analysis and Environmental Management. (M) Kunreuther. Prerequisite(s): None, but microeconomics 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.

288. (BPUB788, BPUB988) International Industrial Development Strategies. (C) Pack, H. Prerequisite(s): Wharton Managerial Economics or an undergraduate intermediate microeconomics course.

The course analyzes the problems of emerging markets. The course considers the industrialization strategies they have chosen and the recent financial and macroeconomic problems they have encountered. Particular emphasis will be given to the recent problems of Latin American and Asian countries that experienced rapid growth for considerable periods only to encounter major reversals in the last half of the 1990s. The implications of this experience for the private and public sectors will be considered in detail. The role of foreign aid, the World Bank and the International Monetary Fund in dealing with crises in developing countries will be explored in detail.

289. Nations, Politics, and Markets. (C) Pack, H. Prerequisite(s): Econ 2 or its equivalent, Finance 102.

This course is designed for students who are interested in pursuing an international career and for those who plan to work for industrial and financial corporations that operate in emerging markets. The course will deal with the economic and political problems of macroeconomic adjustment, corruption, the transition economies, and international financial transactions. All of these topics will be illustrated with in-depth studies of economies in Africa, Asia, Latin America, the Middle East, Eastern Europe, and China.

704. (BPUB204) Financing Government. (B) Gelber, A. Prerequisite(s): Basic understanding of microeconomics. This course has two exams and three problem sets.

Financing Government: 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. The course is divided into six parts. After an overview of the tools of public finance, we study public goods and externalities. Next, we move to studying social insurance and income maintenance. We then turn to a framework for tax analysis. The next component studies the U.S. revenue system in particular. The course concludes with a

segment on multi-government public finance, studying the interactions of local, state, and national government in a federal system.

710. (BPUB210) Firms, Markets and Public Policy. SEIM, KATJA.

This course develops a formal approach to the study of industrial organization: it analyzes the behavior of firms, the structure of markets, and the role of public policy in protecting the interests of consumers and ensuring market competition. The first goal of the course is to develop the basic intuition for pricing and other forms of strategic behavior on the part of firms when faced with complex patterns of consumer demand and strategic competitors. The second goal is to use the theoretical insights to analyze the economic underpinnings of select antitrust cases and public policy design.

720. Behavioral Economics and Prediction and Betting Markets. (B) Wolfers. Prerequisite(s): None. This is a quarter course.

This class considers an intriguing and growing set of non-traditional markets, including trading (or gambling) on the outcome of sporting events, elections, political risks, corporate outcomes, public policy and economic statistics. We will explore these markets, drawing on insights from economics and psychology, and highlighting the parallels between these markets and other existing markets. We will examine the potential uses of these markets in the business and public policy domains. Importantly, the success of these markets depends on whether these markets yield efficient forecasts, which in turn depends on factors such as market design, and the biases exhibited by individual traders. We then turn to discussing recent advances in behavioral economics and attempt to apply psychologically-grounded theories of information processing to a particular set of prediction markets: sports betting. Assessing potentially profitable trading strategies with a critical eye, we will discuss not only investment opportunities, but what these findings reveal about both human psychology and the operation of markets.

761. (BPUB261, BPUB961, ESE 567, OPIM261, OPIM761) Risk Analysis and Environmental Management. (M) 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 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.

770. (BPUB201) The Political Economy of the Public Sector. (C)

Janet Pack; Betsy Stevenson.

Prerequisite(s): A basic understanding of microeconomics. Lectures; there is a midterm and final exam.

This introductory course explores the economics and politics of public policy to examine why, how and with what success/failure government intervenes in a variety of areas: the environment, income redistribution, social security, regulation. The course also examines the growing importance of allowing competitive markets to provide publicly funded services, taking advantage of private management approaches to fostering innovation in public management: vouchers (for medical care, education and housing), and contracting with private firms for provision of "public" services. Although not current events course many of these issues will incorporate discussion of the issues in the context of a new presidential administration, in an unusual economic environment.

772. (BPUB206, REAL206, REAL772, REAL972) Urban Public Policy and Private Economic Development. (B)

Pack, J. Prerequisite(s): Microeconomics. Lectures; there is a midterm and final exam.

This course considers the pervasive interactions between real estate developers and government. Governments influence real estate development in many ways: through zoning laws, taxes, public expenditures, impact fees, infrastructure, building codes, environmental regulations, to name just a few. Much of the time in the course is spent understanding the effect on residential and commercial real estate development of these government interventions.

As a "case study" of this interaction between government and real estate developers and markets, we will consider one of the major policy interventions currently being advocated, adopted, and considered by governments throughout the country - growth controls or smart growth to deal with the alleged problem of urban sprawl. To this end, we will consider what

is meant by urban sprawl, why it is considered a problem - by whom - why growth controls are considered a solution to the problem, the possible effects of growth controls on various groups, the views of developers about both urban sprawl and growth controls. Several guest lecturers from the private, not-for-profit, and public sectors are scheduled to make presentations.

773. (FNCE730, REAL730) Urban Fiscal Policy. (A) Inman. Prerequisite(s): MGEC 621, FNCE 601. Lectures; there is a midterm 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.

788. (BPUB288, BPUB988) International Industrial Development Strategies. (C) Pack, H. Prerequisite(s): Wharton Managerial Economics or an undergraduate intermediate microeconomics course. Lectures; two exams and one paper.

The course analyzes the problems of emerging markets. The course considers the industrialization strategies they have chosen and the recent financial and macroeconomic problems they have encountered. Particular emphasis will be given to the recent problems of Latin American and Asian countries that experienced rapid growth for considerable periods only to encounter major reversals in the last half of the 1990s. The implications of this experience for the private and public sectors will be considered in detail. The role of foreign aid, the World Bank and the International Monetary Fund in dealing with crises in developing countries will be explored in detail.

789. Nations, Politics, and Markets. (C) Pack, H. Prerequisite(s): FNCE 602.

Lectures; two exams and one paper.

This course is designed for students who are interested in pursuing an international career and for those who plan to work for industrial and financial corporations that operate in

emerging markets. The course will deal with the economic and political problems of macroeconomic adjustment, corruption, the transition economies, and international financial transactions. All of these topics will be illustrated with in-depth studies of economies in Africa, Asia, Latin America, the Middle East, Eastern Europe, and China.

SM 900. Research Seminar. (F)

Waldfoegel. Prerequisite(s): None.

Permission of instructor required.

After doctoral students complete their coursework they typically learn how to do research in two ways, by watching others present research (see BPUB 962, which gives course credit for participating in the Wharton Applied Economics Seminar), and by preparing and presenting their own research. This course is meant to provide a venue where Wharton doctoral students whose work has an applied economic flavor can present their research as it progresses. We will meet weekly, on Thursdays at noon for student research presentations. The course provides a venue for moving research forward, including both papers assigned for other classes and research leading toward a dissertation. This course aims to bring students a hands-on understanding of the research process itself, and the course is appropriate for all doctoral students with applied microeconomic interests who have completed at least one year of their doctoral program. This one-credit course meets Thursdays 12-1:20. Our first (organizational) meeting is the first Thursday of the semester. We will determine our meeting frequency based on enrollment and the timing of student presentations. Our expectations of students' research presentations vary with students' progress in their respective programs.

911. Empirical Public Policy. (B)

White. 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.

The course is participatory in nature. Students are required to prepare research proposals and to complete an empirical research paper that can develop into (part of) a dissertation.

931. Numerical Methods in Eco. (C)

951. Political Economy. (A) 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. (BPUB261, BPUB761, OPIM261, OPIM761) Risk Analysis and Environmental Management. (M)

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. Applied Economics Seminar. (F) Waldfogel. 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.

987. Regulatory Policy. (C)

Seim/Waldfogel. Prerequisite(s): Doctoral level economics (e.g. ECON 701, 703 or ECON 680, 682). Corequisite(s): This course acquaints students with topics in applied industrial economics that are most relevant to business school doctoral students. The course aims to provide both methodological training in some of the approaches of contemporary empirical work, as well as topical depth in a variety of areas. Topics covered include, but are not limited to, entry modeling, product selection, concentration and product targeting, distributional effects of market allocation, endogenous sunk costs and market structure, information and competition, the challenges of selling information goods, historical lock-in, and innovation.

988. (BPUB288, BPUB788) International Industrial Development Strategies. (C) Pack, H. Prerequisite(s): MGEC 621.

The course analyzes the problems of emerging markets. The course considers the industrialization strategies they have chosen and the recent financial and macroeconomic problems they have encountered. Particular emphasis will be given to the recent problems of Latin American and Asian countries that experienced rapid growth for considerable periods only to encounter major reversals in the last half of the 1990s. The implications of this experience for the private and public sectors will be considered in detail. The role of foreign aid, the World Bank and the International Monetary Fund in dealing with crises in developing countries will be explored in detail.

CELL AND MOLECULAR BIOLOGY (MD) {CAMB}

L/R 421. (BIOL421, BIOL528)

Molecular Genetics. (A) Weinberg, E. Prerequisite(s): Intermediate level course in Genetics/Molecular Biology (equivalent to Biol 221). BGS PhD students only in the CAMB 421 section. All others must register with BIOL 421.

A detailed analysis of gene structure and expression in both prokaryotic and eukaryotic organisms. 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.

431. (BIOL431) GENOME SCIENCES AND GENO.

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 will investigate epigenetic phenomena: heritable alternative states of gene activity that do not result from altered nucleotide sequence. Recent findings suggest an important role of these phenomena in normal development, as well as in oncogenesis. Many, but not all,

epigenetic phenomena are based on the fact that in the organism DNA is organized into a higher order structure, the chromatin. We will therefore first discuss the implications of chromatin for gene activity. We will then investigate epigenetic phenomena such as DNA methylation, genomic imprinting, RNA interference, silencing, and co-suppression. This course is a combination of lecture and discussion using current scientific literature.

SM 485. (BIOL485) The RNA World: A Functional and Computational Analysis. (B)

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, 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 is designed for advanced biology students who have taken BIOL 202 or equivalent. It is also open to graduate students.

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 mechanism 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 one in-class exam during the semester (30%), a final paper (30%), and class participation (40%, including paper presentations).

510. (IMUN510) Immunology for CAMB Students. (B)

Y. Chen, A. Wells. Prerequisite(s): BIOM 600 or instructor permit. Priority given to students in the MVP & GTV programs of CAMB. CAMB students only.

The purpose of this course is to give 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 disease 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 IMMUN 506 (Immune Mechanisms). It may also be used as an elective by other CAMB students 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; 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 and autoimmunity. The course is comprised of two 1.5-hour lectures per week. 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 and in-class exams.

511. Principles of Development. (B)

M. Mullins. 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: fertilization and cleavage, pattern formation, gastrulation, germ layer formation, tissue specification, morphogenesis, tissue differentiation, organogenesis, stem cell biology, and developmental evolution. The use of modern molecular biology, genetics,

and embryological manipulations will be discussed in the context of the analysis of developmental mechanisms.

512. Cancer Biology and Genetics.

(B) John Lynch, Eric Witze, Andy Minn. Prerequisite(s): BIOM600 or course director permission. Non-CAMB students must contact the course director prior to registration. Students are permitted to audit this class for non-credit with the permission of the course director.

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 513. (GCB 513) Evolution in

Cancer. (A) Dr. Carlo Maley and Dr. Lauren Merlo. Prerequisite(s): Permission of the instructor. Preference is given to students who have completed CAMB 512 and medical students.

Cancers evolve by mutation and natural selection. This is the basis for both why we get cancer and why it is so hard to cure. We will survey the cancer literature through the lens of evolutionary and ecological theory and review how that theory does and does not apply to cancer biology. This seminar is restricted to graduate students.

This course is a graduate seminar course with both student and faculty presentations and discussions.

SM 518. Current Topics in Ion

Channels. (C) Deutsch, C. Prerequisite(s): Basic knowledge of ion channels, Cell 600 or equivalent.

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. In addition, the student will make one formal presentation, also graded by a faculty member. A final grade would be based on all three 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): Permission of instructor.

The course aims to introduce principles of current experimental techniques used in modern biology.

SM 530. The cell cycle and cancer. (A)

Diehl, Alan; McMahan, S; Kushner, J. Prerequisite(s): Prerequisite of CAMB 512 and/or BIOM 600 or equivalent graduate level advanced cell biology course. Anyone without BIOM600 or equivalent must obtain instructor permission.

This seminar course will focus on molecular and biochemical events that regulate cell cycle transitions and their relevance to human cancer. Topics will include control of the G1/S, G2/M transitions and S-phase initiation/progression. Participants will

gain an understanding of the specific roles played by cyclins, cdk's, and their inhibitors. The regulation of the cell cycle by tumor suppressor genes such as p16, Rb and p53, and by oncogenes such as cyclin D, cdc25A, MDM2, and c-myc, will also be explored. Where appropriate, the focus will be on understanding regulation of cell cycle control through transcriptional control of gene expression, protein-protein interactions, posttranslational modifications, (eg. phosphorylation), or regulation of protein stability, (eg. via ubiquitin-targeted degradation). Although achieving an improved understanding of mammalian cancer is a goal of the course, much of our knowledge of the cell cycle derives from work done in more genetically tractable organisms such as yeast, drosophila, and xenopus. Therefore a great deal of emphasis will be placed on studies performed in these model systems.

532. (PHRM532) Human Physiology.

(A) Kevin Foskett. 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 not open to undergraduate students.

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. As well as providing a basis of integrative physiology for students in fields such as 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)

A. Gitler, T. Lamitina. Prerequisite(s): CAMB 605 or CAMB 542 or permission of the instructor. Priority for enrollment will be given to CAMB graduate students. PENN undergraduates must obtain permission from instructors to enroll. Class not open to Master 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 Systems. (B)

Poethig. Prerequisite(s): A college-level introductory course in genetics / molecular biology.

The genetics of different organisms (mouse, *Drosophila*, *C.elegans*, *Arabidopsis*, etc.) will be considered with the various techniques employed to study the action of genes in these organisms.

SM 542. (PHRM542) Topics in Molecular Medicine. (A)

Section 401: Stanger, Greenberg. Section 402: M. Atchison, N. Mason.

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. Seminar in Medical Virology: HIV Pathogenesis. (J)

D. Weissman, R. Collman. Prerequisite(s): Strong background in cell biology, immunology or virology fulfilled by 1st yr CAMB (previous BGS courses); CD - Module 1 of med school curriculum; very strong UG background. 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 two-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)

Susan Ross and Jianxin You. 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)

Farrell, 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 spring 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. 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 yeast, 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) Developmental Neuroscience. (B)

G. Bashaw. Prerequisite(s): Background in introductory biology (molecular and cellular biology recommended.).

The developmental neuroscience course opens with a brief summary of classical experimental embryology and key developmental concepts. Topics covered in the course include: vertebrate and invertebrate pattern formation; neural cell determination; growth cone guidance; synapse formation and plasticity; programmed cell death; neural growth factors; special sense organ development.

Each week includes two lectures and a small group discussion in which one or two important papers are analyzed in detail. Each student must write three short grant-style reports (approximately 2 pages each). No exams are given.

SM 601. Advanced Virology Seminar. (B) Krummenacher, C. 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) Catherine Lee May.

Topics and course instructors vary yearly. The goal of this course is to provide students with an opportunity to present and discuss significant research papers in the field of cell and molecular biology in small group settings. Multiple sections are taught by faculty from the different programs within the Graduate Group. Required course for CAMB PhD Students. Other BGS students are eligible if space is permitting.

SM 608. Regulation of Eukaryotic Gene Transcription. (A) D. Epstein, J. Zhou, S. Liebhaber. Prerequisite(s): BIOM 555 (or equivalent) and permission of instructor. Exceptions for MD/PhD students. CAMB students will receive priority.

An advanced seminar course emphasizing the molecular biology and molecular genetics of transcription 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., Emilio Emini, Ph.D., Jean Boyer, Ph.D. Prerequisite(s): Biology, biochemistry, or immunology courses at the advanced college level.

Vaccination is 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. Molecular Basis of Gene Therapy. (A) James Wilson, M.D, Ph.D. Prerequisite(s): Background in biochemistry, cell biology, and molecular biology. If student is not currently enrolled in BGS or a PhD program s/he must request special permission. Please send an email with transcripts, (undergrad and graduate) along with a letter explaining why you are interested in taking the course to Dr. James M. Wilson (wilsonjm@mail.med.upenn.edu).

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". Offered fall semester.

SM 630. Topics in Human Genetics and Disease. (H) N. Spinner, 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. M. Chou. 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. Masters will go on waiting list.

This course, "Cell control by signal transduction pathways", will examine how various signal transduction mechanisms influence cell functions including replication, growth, transcription, translation and intracellular trafficking. The primary signal transduction pathways to be examined include those mediate by Notch, TGF- β , TNF- α , Ras, and Rho. We will also discuss intracellular signaling in response to DNA damage and explore in depth some of the key classes of enzymes involved in transmitting signals including kinases and phosphatases.

In the first half of the course, invited faculty members will pick 2 relatively recent papers from their field that aren't necessarily definitive, but are interesting and could lead to new potential questions/areas for future investigation. 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 signal transduction 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 is that the course will lead students to think more about experimental design and interpretation rather than re-iteration of the biology they have learned as undergraduates.

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.

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 638. Advanced Seminar in Cell Death and Survival. (H) X. Yang, W. El-Deiry, B. Keith. Prerequisite(s): BIOM 600. Instructor permit needed for anyone who has not taken BIOM600.

The objective of this seminar course is to familiarize students with the pathways of cell death and cell survival in mammalian species as well as other organisms. The course has a strong emphasis on cancer and clinical applications of basic signaling. Specific areas that are covered include 1) the history of apoptosis research leading to the

Nobel Prize in Medicine in 2002, 2) the structure, biochemical modifications and interactions that regulate death signaling in the cell intrinsic and extrinsic pathways, and 3) in vivo models that demonstrate physiological relevance. Additional emphasis is placed on understanding cell survival pathways including negative regulators of cell death and cross-talk with tumor suppressor and oncogene survival pathways.

An effort is made each semester to include emerging topics including autophagy, ER stress signaling pathways, and the impact of micro-RNAs, as well as the tumor microenvironment on cell survival and cancer. There is a strong interest in therapeutic applications and future directions that are always part of the discussions and later in the course become the main focus. Students are expected to read and to participate in the discussion of all assigned papers, and students are responsible for presenting the papers and leading discussions on a rotating basis. In addition students prepare a News & Views type of report on an additional topic of interest.

SM 650. Maintenance of Genome Integrity. (B) E. Brown, B. Johnson, and C. Bassing. Prerequisite(s): Previous completion of CAMB 530 or equivalent introduction to cell cycle and DNA damage response regulation is recommended but not required. All BGS students are eligible to register for this course. However, if the class is over-registered, priority will be given to Cell and Molecular Biology Graduate Group and Cancer Biology students.

DNA damage checkpoint and repair genes are important for maintaining genome integrity and suppressing cancer and aging. These processes function as part of a complex interconnected network of DNA recognition and processing, checkpoint signaling cascades and DNA repair. To study this emerging research area, students in CAMB 650 critically evaluate key research findings published in the last five years. In addition to providing an advanced understanding of DNA damage checkpoints, DNA repair, and the connections of these processes with cancer and aging, this course is designed to allow students to gain experience in critiquing scientific literature both independently and through group discussion.

Course work is primarily based on a round table discussion format. Two primary research papers are assigned weekly. These papers are accompanied by a short take-home problem set (approximately 6 questions) to guide

students through key aspects of the research and to stimulate discussion in the following class. These problem sets and participation in class discussions make up 80% of the final grade. In the final two weeks of the course, each student will propose a future research topic in the field of DNA damage responses, cancer and aging. Initially, student proposal ideas will be explored in short "chalk talk" formats to seek advice and critiques from fellow students. In the second week, students will give a 15-minute oral presentation of their research proposal, describing the biological question to be addressed and how to best approach it experimentally. This proposal and participation in chalk talk discussions will comprise 20% of the final grade. Please note that the length of this course and the scheduling of assignments are designed to accommodate the preliminary examination requirements for second year students.

SM 691. Advanced Topics in Cell Biology & Physiology. (J) Holzbaur. Prerequisite(s): BIOM 600 or a similar survey course in cell biology. Permission needed for all non-CAMB students. Permission needed for all non-CAMB students.

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) protein trafficking through cellular pathways, and (3) cytoskeletal dynamics and molecular motors. 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. Birnbaum, R. Assoian, M. Lemmon, G. Koretzky. 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.

An in-depth consideration of the role of signal transduction in cell biology. 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. Each week will consider a different aspect of cell signaling and will be guided by a faculty expert. 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. Course open only to second year CAMB graduate students. If space permits, will open up to non-CAMB BGS graduate group students.

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 and participation, not on the quality of the writing itself.

SM 696. Parasitology Research. (B) D. Greenbaum. 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 16 students.

698. Elective Tutorials in Cell Biology. (A) Burkhardt, Janis.

Prerequisite(s): Cell 600 or an alternative senior undergraduate, graduate, or professional school course in Cell Biology.

This tutorial course is designed to provide students with an in-depth knowledge of a specific topic in cell biology through directed readings with a faculty member. 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 another topic of interest.

SM 700. Topics in Microbiology. (B) S. Cherry. Prerequisite(s): One of the MVP Pathogen classes (Virology, Parasitology, or Bacteriology).

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. (A) J. Kissil, S. Ryeom. Prerequisite(s):

First year CAMB core courses must be completed. Course is for 2nd year graduate students and beyond.

Course Content: This 12-week course is designed for second (and up) year graduate students interested in learning about the tumor microenvironment. The course will cover formal presentations and constructive criticism of scientific data. Presenters will be given an article in the field of tumor microenvironment from cutting-edge literature to present according to specified guidelines. The goals of this course are to learn about topics in the tumor microenvironment, train for clear and concise oral presentation, and develop critical thinking, professional composure, and debate skills.

Course Design: The course will be divided into 4 blocks covering broad topic areas. At the beginning of each block, faculty members will present a 1 hour didactic lecture and overview of the topic. For the following weeks, students will spend an hour presenting an assigned paper on a specific topic covered and leading the discussion on the paper.

Evaluation: Students will be evaluation on their participation in discussion sections (50%) and their presentations (50%). Students will be given feedback immediately after their presentations and at the end of the second block on their in-class participation. Topics Covered: I. Stroma (Weeks 1-4)-Tumor/stromal interactions; Fibroblasts/pericytes; Extracellular matrix/proteases; Regulation of Metastasis. II. Angiogenesis (Weeks 5-7)-Hypoxia; Angiogenesis regulators; Endothelial cell biology (endothelial progenitors). III. Immune Surveillance (Weeks 8-10)-Innate immunity; Adaptive immunity; Organ-specific microenvironments. IV. Therapeutic targets in the

microenvironment (Weeks 11-12)-Immunotherapy; Anti-angiogenic therapy.

SM 702. (BMB 650) Current Biochem. Topics. (C)

703. (BE 640) The ECM, adhesion receptors, and translational biomechanics. (J) R. Assoian, 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.

SM 752. (GCB 752) Genomics. (B) Riethman, Cheung.

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 set of cellular instructions encoded in the DNA of specific organisms, including dozens of bacterial species, the yeast *Saccharomyces cerevisiae*, the nematode *C. elegans*, and the fruit fly *Drosophila melanogaster*.

The goals of the course are to 1) introduce the basic principles involved in mapping and sequencing genomes, 2) familiarize the students with new instrumentation, informatics 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 specific research.

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.

L/R 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)

This course will provide students with an introduction to analysis of processes used in the chemical and pharmaceutical industries. Emphasis will be placed on the development of flow sheets and material balances for chemical processes. Students will also be introduced to modern process simulation software.

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) Holleran. Prerequisite(s): CBE 230.

Thermodynamics and its applications to chemical processes; forms of energy and their interconversion; phase and chemical equilibria; heat engines and thermal cycles.

297. Study Abroad. (C)

L/R 350. Fluid Mechanics. (A) Holleran. Prerequisite(s): CBE 231.

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 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. (ESE 360) 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 Process Design. (A) Prerequisite(s): CBE 371.

Process synthesis, steady-state simulation, second-law analysis heat integration, cost estimation and profitability analysis, plant-wide controllability assessment.

L/L 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).

This course focuses on synthesis, characterization, microstructure, rheology, and structure-property relationships of polymers, polymer directed composites and their applications in biotechnology. Topical coverage includes: polymer synthesis and functionalization; polymerization kinetics; structure of glassy, crystalline, and rubbery polymers; thermodynamics of polymer solutions and blends, and crystallization; liquid crystallinity, microphase separation in block copolymers; polymer directed self-assembly of inorganic materials; biological applications of polymeric materials. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, molecular templating of sol-gel growth using block copolymers as templates; structure-property of conducting and optically active polymers; polymer degradation in drug delivery; cell adhesion on polymer surface in tissue engineering.

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. Process System Design Projects. (B) Prerequisite(s): CBE 400.

Design of a chemical process based on recent advances in chemical engineering technology. Weekly design meetings with faculty advisor and industrial consultants. Comprehensive design report and formal oral presentation.

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.

479. Biotechnology and Biochemical Engineering. (A) Prerequisite(s):

Junior/Senior Standing in Engineering.

An overview of several important aspects of modern biotechnology from a chemical engineering perspective: DNA, enzymes and other biomolecules, cell growth and metabolism, cellular and enzymatic reactors, bioseparation techniques, molecular genetics, and biotransport processes.

L/L 480. Laboratory in Biotechnology and Genetic Engineering. (B)

Prerequisite(s): CBE 479 or Permission of the Instructor.

Laboratory methods in biochemical and genetic engineering. Molecular cloning techniques. DNA amplification and sequencing techniques. Culture of microbial cells. Recovery and purification of a microbial product enzyme. Measurement of enzyme activity.

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)

This course focuses on synthesis, characterization, microstructure, rheology, and structure-property relationships of polymers, polymer directed composites and

their applications in biotechnology. Topical coverage includes: polymer synthesis and functionalization; polymerization kinetics; structure of glassy, crystalline, and rubbery polymers; thermodynamics of polymer solutions and blends, and crystallization; liquid crystallinity, microphase separation in block copolymers; polymer directed self-assembly of inorganic materials; biological applications of polymeric materials. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, molecular templating of sol-gel growth using block copolymers as templates; structure-property of conducting and optically active polymers; polymer degradation in drug delivery; cell adhesion on polymer surface in tissue engineering.

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.

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 provides an introduction to the quantitative methods used in characterizing and engineering biomolecular properties and cellular behavior, focusing primarily on receptor-mediated phenomena. The thermodynamics and kinetics of protein/ligand binding are covered, with an emphasis on experimental techniques for measuring molecular parameters such as equilibrium affinities, kinetic rate constants, and diffusion coefficients. Approaches for probing and altering these molecular properties of proteins are also described, including site-directed mutagenesis, directed evolution, rational design, and covalent modification. Equilibrium, kinetic, and transport models are used to elucidate the relationships between the aforementioned molecular parameters and cellular processes such as ligand/receptor binding and trafficking, cell adhesion and motility, signal transduction, and gene regulation.

543. (ESE 560) 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 process 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 molecule studies to single cell manipulations, the broad field of cell and molecular biology is becoming increasingly quantitative and increasingly a matter of systems simplification and analysis. The elaboration of various stresses on cellular structures, influences of interaction pathways and convolutions of incessant thermal motions will be discussed via lectures and laboratory demonstration. Topics will range from, but are not limited to, protein folding/forced unfolding to biomolecule associations, cell and membrane mechanics, and cell motility, drawing from very recent examples in the literature. Frequent hands-on exposure to modern methods in the field will be a significant element of the course in the laboratory. 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)

A survey of modern topics in cell and molecular biology and biomedicine from the perspective of soft matter science and engineering. The soft matter tools 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.

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.

L/R 562. (BE 562) Drug Discovery and Development. (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.

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 - formulatin, process, packaging, and analytical.

564. Drug Delivery. (C)

In this course, students will learn about drug distribution throughout the body by diffusion and transport in the blood, pharmacokinetics of drug distribution in body compartments, particulate systems for drug delivery, biodegradable polymers for drug delivery, gene delivery systems, transdermal patches, nanotherapeutics, and other novel drug delivery systems. In addition to the lectures and homework assignments, the students will read current journal articles and prepare a case study in teams on a new drug using literature sources.

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, DNA amplification, culture of microbial cells and mammalian cells, inducible promoters, recovery and purification of a microbial product, luciferase assay, use of fluorescence immunostaining and image analysis, 96-well plate and 384-well plate assays, and western blotting. The course includes pre-lab lectures that review the scientific basis for the lab techniques. In addition to performing the labs and writing lab reports, the students will read current articles from journals and write a report on a new

development or technique from the literature

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)

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}****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.

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.

100. Fundamentals of Chemistry. (C)

This course serves as a preliminary to Chemistry 101 and will focus on providing a solid introduction to those concepts; ideas that are necessary for Chemistry 101. There is a strong emphasis on problem-solving that is fundamental to all physical science. Topics will include: introduction to fundamental chemical ideas and their application to chemical reactions, stoichiometry and ideal gases. Also, an overview of the periodic table and classical ideas of chemical bonding using Lewis structures. Topics from mathematics and physics that are necessary to chemical problem-solving will also be included as

needed. This course is especially recommended for those who feel that their pre-college exposure to chemistry warrants a more structured transition to Chemistry 101.

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.

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)

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. (C) Prerequisite(s): CHEM 241.

Continuation of CHEM 241.

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. For safety reasons students will not be permitted to wear contact lenses in the laboratory.

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. Experimental Organic Chemistry II. (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 compounds. Infrared, ultraviolet, and nuclear magnetic resonance spectroscopy. Lectures cover the theoretical basis and applications of modern spectroscopic methods. For safety reasons students will not be permitted to wear contact lenses in the laboratory.

251. Principles of Biological Chemistry. (C) Prerequisite(s): CHEM 102. Corequisite(s): CHEM 241.

Fundamentals of biological chemistry, including the structure of biological macromolecules and their mechanism of action, intermediary metabolism, and the chemical basis of information transfer.

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.

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 alkylidyne 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 metallochemistry 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.

700. (BMB 700) Selected Topics in Chemistry. (C)

May be repeated for credit and may be taken for multiple course unit credit if more than one topic is offered in a term.

802. Chem Teaching Methods. (L)**900. Chem Teaching Methods.**

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, 10h. CHEM 451 or permission of instructor required.

Independent research projects in the laboratories of individual faculty members. A list of possible research supervisors is available in the Biochemistry office (357 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 061. (FNAR061, VLST061) Video I. (C) Buck/Van Cleve/Reynolds/Mau.

This course provides students with the introductory skills and concepts needed to create short works using digital video technologies. 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.

SM 062. (FNAR062) Video II. (C) Buck/Reynolds. Prerequisite(s): CINE 061.

Video II offers opportunities to further explore the role of sound, editing and screen aesthetics. Through a series of three video projects and a variety of technical exercises, students will refine their ability to articulate more complex and creative projects in digital cinema. In addition, advanced level production and post-production equipment is introduced in this course.

SM 063. (FNAR063, FNAR663) Documentary Video. (C) Heriza. Prerequisite(s): CINE 061.

A digital video course stressing concept development and the exploration of contemporary aesthetics of the digital realm, specifically in relation to the documentary form. Building on camera, sound and editing skills acquired in Film/Video I and II, students will produce a portfolio of short videos and one longer project over the course of the semester. Set assignments continue to investigate the formal qualities of image-making, the grammar of the moving image and advanced sound production issues within the documentary context.

SM 065. (FNAR065, FNAR665) Cinema Production. (C) Mosley.

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.

103. (ARTH107, COML116, ENGL095) Introduction to Film Theory. (B) Beckman.

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 105. (RELS105) Religion and Film. (M) 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.

115. (COML114, NELC115) Study of An Author. (M) Staff.

This topic course explores aspects of a Cinema author 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 116. (ENGL116) Screenwriting. (C) Kathy DeMarco Van Cleve.

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.

SM 125. (COML127, GSWS125, RUSS125) Adultery Novel. (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. (RUSS164, SLAV164) Russian and East European Film from the October Revolution to World War II. (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. (RUSS165, SLAV165) 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.

SM 201. (ARTH290, COML201, ENGL291) 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.

SM 202. (ARTH292, COML292, ENGL292) Topics in Film Practice. (M) Katz, Corrigan, Decherney, Beckman.

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. (COMM240) Introduction to Film, Form, and Context. (C) Messaris.

This course will trace 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 will be applied to films drawn from different times and countries in order to consider the cinema as a cultural construction.

204. (COMM262) Visual Communication. (C) Messaris.

Examination of the structure and effects of visual media (film, television, advertising, and other kinds of pictures).

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.

220. (EALC125) Chinese Cinema. (B) Staff.

This topic course explores aspects of Chinese 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 225. (THAR273, THAR275) Topics in Theater and 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) Arts & Letters Sector. All Classes. Flannery.

241. (COMM241) Feature-Length Motion Picture Production Laboratory I. (C) Messaris.

Prerequisite(s): COMM140/CINE203 and/or COMM262/CINE204. This course gives students the opportunity to participate in the ¶ production of a feature-length fiction film. Students engage in all ¶ aspects of production, including: screenplay writing, production ¶ design, cinematography, production sound, acting, and directing. The ¶ course is intended as a follow-up to COMM 140, Film Forms and ¶ Contexts, and COMM 262, Visual Communication. Students who have not ¶ taken either of those courses should consult with the instructor ¶ before enrolling. COMM 241 is followed by COMM 242. Students may ¶ enroll in either or both.

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 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.

SM 295. (COML295, ENGL266, ENGL295) 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. (AFRC303, ARTH301) Cinema and Other Arts. (C) Beckman.

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 340. (COML382, ITAL380) Topics in Italian Cinema and Culture. (M) Staff.

Modern Italy has added to the traditional belle arti of painting, sculpture and architecture new fields like fashion, industrial design and film. "Made in Italy" has come to stand all over the world for quality workmanship and fine design. Yet this same country has been involved in the last hundred years in two terrible world wars, a brutal fascist dictatorship, violence both political and criminal and a flood of emigration. In this course we will review that history, its triumphs and disasters, by combining film and written texts. Both media are equally important and ought to enrich each other. The weekly film is part of that work and you will be expected to do the assigned reading as well. This course will be open to seniors and juniors, and sophomores (with special permission).

L/R 352. (COML241, GRMN256, RELS236) 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 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."

SM 384. (SPAN384) Spanish Lit/Film. (M)

SM 392. (ARTH392, COML391, ENGL292, 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 462. (COMM462) Visual Communication and Social Advocacy. (M) Messaris. Prerequisite(s): COMM 262 / CINE 262.

The course explores the use of video and other visual media for social causes. Students choose their own area of interest, conduct background research, design and produce videos, and post them on-line.

The course uses a seminar format, and class size is limited to fifteen people.

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 550. (ARTH550, COML552, ENGL592, 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 592. (ARTH590, COML592, ENGL592) 20th Century Lit & Theory. (M)

599. Independent Study. (C)

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) Topics in 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) Topics In Film Studies. (M) Staff.

Topic varies.

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

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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}

402. (CPLN502) Urb & Reg Economics.

423. (CPLN623) Housing in Developing Countries.

442. (CPLN642) Downtown Development. (A)

450. (CPLN550) Intro to Trans Planning. (A)

SM 467. (URBS467) Global Cities 21st Cent. (B)

L/R 500. (URBS440) Introduction to City Planning: Past, Present and Future. (A) Birch.

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.

L/L 501. Quantitative Planning Analysis Methods. (D) Weinberger.

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.

L/L 502. (CPLN402) Urban and Regional Economics. (D)

Angelides/Wolf Powers.

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.

L/L 503. (MUSA503) Modeling Geographical Objects. (A) Tomlin.

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. Hack.

Introduction to the fundamentals of site planning. Includes student presentations of location-specific projects.

505. Statistical Modeling for Planners. Landis.

CPLN 505 will use planning and policy data and applications to introduce city planning graduate students to a variety of popular, accessible, and useful techniques of statistical data analysis. Starting with a quick review of difference of (sample) means tests, CPLN 505 will progress through measures of association (including chi-squared and proportional-reduction-in-error measures); non-parametric tests for comparing ordinal responses; analysis of variance tests for comparing mean responses across multiple categories; bi-variate and multi-variate regression modeling for identifying statistical correlations among interval data; the use of dummy variables and non-linear transformations; the use of logistical and probabilistic regression (e.g., logit and probit) to correlate interval data with categorical data; operationalizing measures of spatial autocorrelation; the use of path analysis to identify and test causal relationships; and regression modeling with time-series data. Class sessions will involve a mixture of lecture and in-class statistical modeling. Students will make extensive use of SPSS software. CPLN 505 is one of three courses that meets the departments "Methods Breadth" requirement.

SM 506. Negotiation and Conflict Resolution. (B) Sokoloff.

This course builds on approaches to interpersonal negotiation to learn perspectives and methods for working through problems and challenges. In the first part of the course students develop a foundation based on understanding basic principles of bargaining and negotiation from two perspectives - information based and principal based bargaining - and then move to focus on concepts, theories and practices that are concerned with building consensus and finding common ground. This latter notion, "common ground" refers to the values, beliefs, concerns or perspectives that people hold in common. At the same time, just holding values in common is not sufficient to guarantee people will act on those values, etc. in the same, or even similar ways. Thus, we will look at how to move from talk to productive action.

507. Urban Design Methods. (A)

Larice.

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.

Overview of the constitutional and legal principles framing planning and urban development.

L/R 510. Urban and Planning Theory. (A) Larice. Prerequisite(s): CPLN 500.

Exploration of ways planning arguments are shaped within a varied array of urban and regional images and representational modes.

520. (CPLN333) Introduction to Community and Economic Development. (B) Wolf-Powers.

Cities across the United States are being revitalized today with the help of professionals, entrepreneurs, community-based groups, and individual households to the social and cultural amenities that urban centers offer. Yet poverty and inequality remain serious problems, and they find spatial manifestation in distant inner-ring suburban neighborhoods. Planners and activists interested in reinvigoration face a variety of opportunities and challenges as they grapple with affordability for old and new inhabitants, confront the implications of increased diversity, and respond to imperatives to build local wealth, develop human capital, connect residents to metropolitan economies and housing markets. Community organizing taking on new roles in this context, even as their traditional functions in commercial revitalization grow more complex and contested.

SM 528. (URBS428) Research Seminar 21st Century Urbanism. (B) Staff.

530. Introduction to Land Use Planning. (A) Daniels.

Overview of the methods and tools for managing land use and shaping the built environment. Explores principles of successful plan creation emanating from theory and case studies.

531. Introduction to Environmental Planning & Policy. (A) Daniels.

Overview of national programs for protecting the environment, managing natural resource areas, preserving biodiversity, and remediating brownfields, in an overall framework based on sustainability. covers basic principles of geology, hydrology, limnology, and climatology, Oregon's Land Use Transportation Air Quality (LUTRAQ) connection, environmental impact assessment, environmental justices.

540. (URBS540) Introduction to Property Development. (A) Landis.

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.

SM 545. (SOCI453, URBS453, URBS543) Metropolitan Growth and Urban Poverty. (B) Nowak.

See URBS 453.

L/R 550. (CPLN450) Introduction to Transportation Planning. (A)

Weinberger.

Exploration of the technological and design aspects of urban transportation systems including discussion of land use patterns, facilities operations, congestion, and environmental issues. Highlights current policy debates revolving around mobility issues, federal and state legislation, and metropolitan organization responsibilities.

SM 560. (URBS360) 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.

L/R 600. Planning Problems Workshop. (B) Hack.

Applicaton of planning skills to problems experienced by selected neighborhoods. Students work in teams to develop solutions. Juried presentation required.

601. Independent Study. (C) Faculty.

SM 620. Techniques of Urban Economic Development. (B)

Wolf-Powers.

An examination of public, private and non-profit methods of promoting economic development in cities and regions. Topics to be covered include revenue strategies including use of industrial development bonds, tax increment financing, tax abatements/incentives; administrative efforts including creation of economic development corporations and special development districts and other approaches designed to encourage growth and prosperity in urban areas.

621. (URBS416) Metropolitan Food Systems. 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.

623. (CPLN423) Housing in Developing Countries. (B) Hoek-Smit.

Exploration of human settlement planning in transitional and developing economies. Includes review of the theoretical framework of economic development and development planning.

L/L 624. (URBS524) Workforce Development and Metro Labor Markets. Wolf-Powers.

Examines metropolitan labor markets through two lenses: the growing discussion of the importance of "knowledge work" to regional economic competitiveness and the persistent challenges of unemployment, underemployment and working poverty. Coursework helps students translate research on labor markets and workforce development into usable knowledge for economic and community development practice.

625. (GAFL569, URBS451) Housing & Com Dev Policy. Staff.

Overview of regional/metropolitan analysis and forecasting. Covers cohort survival and input/output techniques, employment and residential location models, and the role of transportation in determining spatial patterns.

631. (ENVS645) Planning for Land Conservation. (B) Daniels.

An introduction to the tools and methods for preserving private lands. Emphasis is on land preservation in growth management strategies.

632. (LARP741) Modeling Geographic Space. (A) 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.

L/L 633. (CPLN333, URBS633) Urban and Regional Economics. (D)

Landis/Wolf-Powers.

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.

641. Progressive Development. (B) Landis. Prerequisite(s): CPLN 540.

Using a case study approach, this course will teach students how to plan, develop, and finance a variety of progressive real estate development forms including affordable, senior, and workforce housing; transit-oriented development; urban mixed-use development; green and LEED certified office, retail, and housing projects; sustainable master-planned communities; and public-private partnerships.

642. (CPLN442, GAFL642) Downtown Development. (A) Levy.

City Planning 642 will take a brief look back at the first major period of federal intervention in cities between the 1930s and the 1960s to see what lessons are relevant to today's efforts to revitalize downtowns. The course will provide an overview of the changing role of the downtowns, how and why they have evolved, diversified and been redeveloped and how they are repositioning themselves in a new regional and global context. There will be a focus particularly on the role of business improvement districts in the United States, Canada and a few international cities, how they relate to municipal government and redevelopment efforts, the types of services they provide, and the possibility that their roles could be transformed and expanded in a renewed federal era.

650. Transportation Planning Methods. (B) Weinberger.

Transportation methods is a survey course exploring the 'how to' of regional travel and demand forecasting; bus service and operations planning, station access planning, traffic calming and a host of other topics in transportation planning.

651. Infrastructure Planning and Finance. (A) Hsu.

Intensive study of infrastructure planning in urban regions, focusing on technological and institutional innovations. Covers unit cost and cost-benefit analyses, public-private financing scenarios, and interregional infrastructure strategies.

SM 652. High Speed Rail Seminar. (B) Yaro.

This seminar will investigate strategies that the federal government can employ to jumpstart development of a High Speed Rail (HSR) network for the United States. While virtually all of our European and Asian competitors have already built or are now building their own HSR systems, the US has not pursued a similar strategy until now.

654. Urban Transit Systems and Technology. (A) Hacker.

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 in the service of operations and capital planning also will be emphasized throughout the semester. The class is structured 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.

658. Urban Markets and Residential Development. (B) Glen. Prerequisite(s): CPLN 623 or CPLN 680.

This class will explore the history of disinvestment in inner-city neighborhoods and the public sector's response to the challenge of re-building those communities with a particular emphasis on affordable housing programs and policies - and how those initiatives have created new urban markets with unique challenges and opportunities for the public, private and

non-profit development sectors. The course will focus on how to develop residential and mixed-use projects, using a variety of public incentives and private financing sources to address market and community objectives.

660. Theory and Principles of Urban Design. (A) Barnett.

An introduction to the theoretical basis for beliefs and practices in city and environmental design, including the relation of the built environment to the natural environment, the organization of groups of buildings, the use and meaning of public places, and the relation of technology to land use and community.

SM 670. (LARP743) The Immigrant City. (A) Vitiello.

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 trans-national 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.

L/L 671. Inner City Housing Markets. (C) Bodek. Corequisite(s): CPLN 552101 - Housing Renovation Lab.

Focus on the theory and practice of revitalizing neighborhoods through the experience of renovating a house in West Philadelphia. Attention to design, finance, and planning aspect of project.

SM 672. (URBS206, URBS506) Public Environment of Cities. (B) Nairn.**675. Land Use and Environmental Modeling.** Landis. Prerequisite(s): Some knowledge of GIS and statistics.

This course will introduce students to various computerized and GIS-based land use and environmental planning models, including: CURBA, SLEUTH, and UrbanSim (land use and urban growth models); Basins (stream and runoff water quality model); CommunityViz and IndexPlanBuilder (Visualization and impact assessment models); and VISUM (transport

model). Requirements: Development of a coupled land use-environmental planning-impact assessment and visualization model in a county or community of each student's choice.

SM 676. (URBS270, URBS670) The Immigrant City. (M) Vitiello.

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 trans-national 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.

677. Land Conservation Finance. (A) Staff.

This course examines how private, non-profit land trusts and state, federal, and local governments can pay for conservation easements and land acquisition in order to protect valuable resources and manage growth. Topics include: purchase of conservation easements and land, taxes, funding referenda, sale of bonds, borrowing funds from banks, fund raising, foundation grants, installment purchase agreements, like-kind exchanges, bargain sales, and purchase and resale of land. The course will involve several case studies. This course can count toward the Certificate in Land Preservation.

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

680. (LARP745) Topics in Digital Media: 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.

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) Barnett.

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) Steinberg.

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 A new Strategy for Transforming Philadelphia Neighborhoods. (B) Kromer.

This studio will take on the task of developing such a strategy and designing related program activities, in consultation with the City's Office of the Managing Director, which has recently been assigned overall responsibility for vacant property issues. The studio will consist of three components. 1. An evaluation of NTI successes and shortcomings, based on a review of public records and real estate data. 2. Research into other models for vacant land reuse currently being planned or implemented in cities such as Youngstown, Newark, Flint, Baltimore and Detroit, in order to identify strengths, limitations, and replication opportunities; and 3. The development of a forward-looking, multiuse, and fundable strategy for land re-use and neighborhood upgrading. Based on an analysis of detailed inventories of vacant land, blighted buildings, and foreclosed properties, the strategy will identify some parcels as best prospects for private redevelopment; others for affordable housing; others for community-based agriculture or green space; and still others for land-banking. The strategy and its components will be documented in a publication that will be submitted to the Managing Director at the end of the semester.

707. Planning Studio. (B) Nairn.

708. Urban Design Methods. (B) Larice.

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.

709. State Planning. (C) Mandelbaum.

730. Urban Sustainability Planning. Hsu.

This course will introduce students to cutting edge ideas and current best practices in the area of urban sustainability policy and implementation. Topics to be covered include urban greening; water and

wastewater conservation; energy conservation; travel reduction; heat island reduction; waste reduction; and climate change mitigation. Examples will be drawn from the developing as well as the developed world; and issues of equity and economic growth/cost will also be considered.

760. Public Realm Studio. (A) Larice.

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.

796. Professional Project. (C) Staff. Capstone project, supervised by a faculty member.

800. Doctoral Seminar. (A) Birch/Landis.

This scholar-oriented seminar explores how academic researchers define researchable questions and craft research designs. Open only to PhD students, the weekly seminar functions as an introduction to the general issues of academic research in the field of City and Regional Planning as well as particular issues associated with interdisciplinary research. Required of all first-year CPLN doctoral students; others working on course requirements are strongly urged to take the seminar.

999. Independent Study and Research. (C) Staff. Ph.D. candidates. Independent study and research under faculty supervision.

CLASSICAL STUDIES (AS) {CLST}

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.

SM 030. Poetry of Vergil. Farrell.

This seminar will explore the poetry of Publius Vergilius Maro, better known as Vergil (or Virgil), whom many regard as the greatest of all Roman poets and who is comparable in importance to poets such as Homer, Dante, and Milton. We will read all of Vergil's works in translation along with a selection of the most important commentary on those works from antiquity to the present day. In addition, we will study the impact of Vergil's poetry on other poets (and vice versa).

L/R 100. (COML108) Greek & Roman Mythology. (C) 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.

102. (ENGL029) Classical Traditions. (M) Wilson. Course requirements will include weekly reading responses, four quizzes, and a final exam.

In this course, we will study what continuities there are between contemporary society and those of ancient Greece and Rome; the ways in which our culture is fundamentally different from theirs; and the reasons why medieval, early modern, and modern people have chosen either to look back to antiquity, or to turn away from it. Is our identity shaped by the Greeks and Romans, or not? And how did we get from their culture to our own? We will survey different strands of the "classical tradition", ranging through literature, history, philosophy, art, science, language and psychology. We will also think about what the terms "classical" and "tradition" might mean.

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.

104. (ANCS101, ARTH105) Ancient World Cultures. (C) 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 111. (ARTH205) 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 Mycenaeans, 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 113. (ANCH113) Introduction to Greek and Roman History. (A) Staff.

SM 115. (ANCH115) Introduction to the Classical World. (M) Staff.

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.

195. (ANCH195, EALC005) Worlds Apart: Cultural Constructions of "East" & "West". (M) Humanities & Social Science Sector. Class of 2010 & beyond. LaFleur/McInerney.

Multiculturalism increasingly characterizes our political, economic, and personal lives. This course will focus on real and perceived differences between the so-called "East" and "West." Taking a case study approach, we shall read and compare literary materials from classical Greece and Rome, a major source of "Western" culture, and Japan, an

"Eastern" society. Through analysis of these texts, we shall explore some of the concepts, values, and myths in terms of how "East" and "West" define themselves and each other: e.g. gender, sexuality, rationality, religion, society, justice, nature, cultural diffusion, work, leisure, life, and death. Readings will include selections from Greco-Roman and Japanese myths, poetry, drama, essays, history, and philosophy. Class format will be lecture with opportunity for questions and discussion. Grading will be based on midterm and final examinations, a short paper, and class participation. No prerequisites.

199. Independent Study. (C) Staff.

Coursework and/or research undertaken independently by the student, supervised by a faculty member.

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.

207. 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 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.

SM 217. Pericean Athens. (B) Murnaghan.

Athens in the 5th century BC witnesses a cultural flowering of extraordinary power and importance for Western culture. In this class we will examine the achievements of Athens in its Golden Age, beginning with the Persian Wars, seminal events that saw the Greeks defeat the numerically superior Persians. In the generation that followed, Athens rapidly transformed the alliance of Greek states dedicated to taking the war back to Persia into an Aegean empire, dominated by the Athenians and their fleet. At the same time, this dramatic in power and prestige was accompanied by the growth of full participatory democracy. We examine the daily working of that democracy, asking how an Athenian was trained for citizenship. What did democracy mean in practice? What did freedom and autonomy mean to a society that relied on slaves and was ruthless in its treatment of its subjects? In order to answer these questions we juxtapose the breathtaking accomplishments of the Athenians, in fields such as philosophy, tragedy, comedy, sculpture and architecture, with the exclusion of women from public life, the torture and abuse of slaves, and the execution of other Greek populations.

We will follow them from the height of their power to defeat at the hands of the Spartans. The picture that emerges is a portrait of a complex people and a complicated culture. Restless, adventurous, sophisticated, crude, pious, the Athenians are a people whose culture has a special significance for us. The ties between us are not casual, but deeply meaningful.

L/R 220. (AAMW620, ARTH220, ARTH620, 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.

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 two great Bronze Age civilizations of the Aegean area, the Minoans of Crete and the Mycenaeans of the Greek mainland, the Homeric world of the "Dark Age" that followed the collapse of the Mycenaean palaces, and the resurgence of Greek prosperity in the eighth century B.C. 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. There are no prerequisites, and these courses need not be taken in a particular order.

240. (COLL004) Scandalous Arts in Ancient and Modern Communities.

(M) Humanities & Social Science Sector. Class of 2010 & beyond. Rosen.

What do the ancient Greek comedian Aristophanes, the Roman satirist Juvenal, Howard Stern and Snoop Doggy Dogg have in common? Many things, in fact; but they are all fundamentally united by an authorial stance that constantly threatens to offend prevailing social norms, whether it be through obscenity, violence or bigotry. 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 243. Authors and Audiences of the Greek and Roman World. (J) Ker.

Was there a stable conception of the "author" and his or her activities within society? What practices were involved in the reading (or hearing) of literature and its interpretation by specific communities? What was a literary work -- what forms did it take, what imaginary and real-world themes did it explore, and what functions could it serve? This course seeks to address these questions with readings from significant works, from archaic Greece to Rome and early Christianity, in an overview of the major (and some minor) authors in the Greek and Roman tradition (such as Homer, Herodotus, Plato, Lucretius, Ovid, , and Augustine). Students will complete regular readings (all in English) and other assignments including: oral presentation, paper, midterm, and final examination.

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 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.

261. (COML246, ENGL229) The Sophists. (C) Copeland.

In this course we will study the Sophists in Antiquity and in their post- classical reception. The teachers, rhetoricians, and philosophers of 5th- century Athens known collectively as the Sophists were controversial in their own time, and they have occupied a controversial place in intellectual and culture ever since. Plato polemicized against them, Aristophanes satirized themmercilessly, Aristotle refuted them, and generations of rhetorical theorists in Greek and Latin attempted to differentiate their art from the supposedly debased model of sophistic rhetoric. Sophistic thought found its way indirectly but powerfully into the Middle Ages and later periods, where it represented both a despised falsification of philosophical argument and a dangerously attractive logic of paradox. Culturally the (spectral) figure of the Sophist served as image of both the familiar and the outsider. As in Antiquity, so in later periods the Sophist came to embody anxieties about persuasive discourse and negation. But in modern period, the Sophists were recovered and "rehabilitated" as a crucial moment in the history of philosophy, and among modern thinkers their contributions have been reevaluated.

In this course we will begin by getting as close as possible to the Sophists through the fragmentary records that remain of their own ideas and arguments, and then we will look at how they were represented philosophically by Plato and Aristotle as well as culturally by Aristophanes. Then we will study their afterlife in later periods, paying special attention to their reception in medieval literature and in modern thought. Course requirements: several short papers, one final research assignment, no final exam.

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 entertainm ent. 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.

270. (AAMW413) Ancient Athletics. (M) Romano.

The art, archaeology and history of athletics in ancient Greece. Among the topics to be included are: famous Greek athletees, female athletees, the ancient Olympic Games and other athletic festivals, ancient athletic facilities and equipment, the excavation of ancient athletic sites and practical athletics.

274. (ARTH274) Introduction to Roman Archaeology. (M) Bowes.

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) Distribution Course in Hist & Tradition. Class of 2009 & prior only. 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.

SM 301. (ARTH301) The World of Late Antiquity. (C) Kuttner. Prerequisite(s):

There are no prerequisites except experience with intermediate to advanced 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. The material can be of especial interest to students in ARH and VisSt, ClSt and ClCiv, RelSt and Jewish St, the undergraduate programs in GSD (Fine Arts, Lsc, HistPres, Archit), Anthro, and hist.

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, Joyce, Derek Walcott, and Louise Glück.

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.

SM 306. (ANCH306) Greece Under Roman Empire. (M) McInerney.

"Greece, the captive, took her savage victor captive" runs the famous line from the Roman poet Horace. Traditionally the complex relationship between Greece and Rome has been seen from the Roman point of view, emphasizing the changes in Roman culture as a result of Rome's contact with the Greeks. This class takes a different approach, considering the impact on Greece. We will use the results of archaeological survey and excavation to chart the economic transformation of Greece, especially in relation to the Roman colony at Corinth. This will involve examining changes in land distribution, the growth of road networks, and the increase in large public works such as theatres, aqueducts and baths. We will also use writers such as Dio Chrysostom and Pausanias to consider the effect on the institutions of the traditional Greek city-state of being incorporated into a single province, Achaia. We will read some of the ancient novels, such as Longus' *Daphnis and Chloe*, as well as the essays of Plutarch. There are many avenues into the past, and the particular richness of our sources for Roman imperial history makes it possible for us to approach Greece from a variety of perspectives.

307. Natural History. (M) Damon.

SM 310. (GAFL510) Ancient and Modern Constitutionmaking. (C) Mulhern.

What actually was it that the Greeks were thinking of when they used the expression *politeia*—an expression which we often translate by 'constitution' but which might be translated also by 'citizenship', 'citizen body', or 'regime'? What do their thoughts suggest, if anything, about prospects for constitutionmaking today? 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 translations. 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, Augustine, and Justinian's codifiers of Roman law. The course traces this ancient tradition through the Middle Ages and the Renaissance and the great thinkers of the Seventeenth Century, following linguistic and other clues that carry one up to Madison and may put the work of the U.S. Constitutional Convention in a somewhat new light; and it continues through Nineteenth Century and Twentieth Century constitutionmaking into today's constitutionmaking efforts in Eastern Europe, Central Asia, the Middle East and North Africa, and Europe itself.

In its 2012 version, the course draws on recent work which suggests that Aristotle's *Politics* was written for an intended audience of people making constitutions and people making laws, either for domestic use or for colonies.

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 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 ("techné", "ars") and methods of instruction (manuals, didactic poetry, regimens, etc.), and will explore specific case studies (such as Socrates, Cicero, Ovid, Quintilian, and Apuleius). Students will complete regular readings (all in English) and other

assignments including: oral presentation, paper, midterm, and final examination.

SM 318. (ANCH318, ARTH301) Augustan Cultural Revolution. (M) Farrell.

In founding an empire, Caesar Augustus claimed to restore the Roman Republic; but in fact he presided over a revolution in a cultural as well as a political sense. This course examines the innovations in intellectual life, social organization, and artistic expression that gave form to imperial ideology during its earliest phase.

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, Plutarch, Sallust, Suetonius, and, of course, Caesar himself.

SM 350. Greek and Roman Universe. (M) Farrell.

This course traces the history of how the ancient Greeks and Romans thought about the physical universe. We will begin by considering early mythical conceptions and then take account of how philosophical and scientific investigation, geographical exploration, expanding political horizons, and large-scale cultural change affected knowledge of perception of the earth and the cosmos throughout antiquity and into the early middle ages.

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.

SM 360. (COML354, ENGL229) The Epic Tradition. (M) Copeland. Benjamin Franklin Seminar.

Ancient epic and its post-classical reception in European traditions of epic, romance, and other genres. Texts and approaches may vary from year to year.

Among Arthurian romances we will read at least one by the French poet Chrétien de Troyes, as well as the English "Sir Gawain and the Green Knight" and selections from Malory's "Morte Darthur". All readings will be in modern English. Course requirements will consist of one short paper and one longer (research-based) paper (which will be presented in two stages, draft and final version).

SM 361. (ENGL229) Romance in Pagan Antiquity. (C)

Romance in Pagan Antiquity.

SM 371. (GREK401, HSOC353) Greek & Roman 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 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 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.

SM 396. (COML383, ENGL394) History of Literary Criticism. (M)

Copeland. Benjamin Franklin Seminar.

This is a course on the history of literary criticism, a survey of major theories of literature, poetics, and ideas about what literary texts should do from ancient Greece to examples of modern European and American thought. The course will give special attention to early periods: Greek and Roman antiquity, especially Plato and Aristotle; the medieval period (including St. Augustine, Dante, and Boccaccio), and the early modern period (where we will concentrate on English writers such as Philip Sidney and Ben Johnson). We'll move into modern and 20th century by looking at the literary (or "art") theories of some major philosophers, artists, and poets: Kant, Wordsworth, Marx and Engels, Matthew Arnold, and the painter William Morris, T.S. Eliot, and the philosopher Walter Benjamin. We'll end with a very few samples of current literary theory.

398. Honors Thesis. (C) Staff.

This course is taken in the spring of the senior year by students admitted to the honors thesis program for the Classical Studies major. For policies see the Classical Studies department website.

399. Independent Study. (C) Staff.

This course is taken by students doing independent work with a faculty advisor. Students admitted to the honors thesis program typically enroll in this course in the fall of the senior year, followed by CLST 398 in the spring. For policies see the Classical Studies department website.

L/R 402. Post-Baccalaureate Individualized Studies in Greek. (D)
Staff. Corequisite(s): CLST 403.

Advanced individualized study in Greek for students enrolled in the Post-Baccalaureate Program in Classical Studies. Permission of the instructor required.

L/R 403. Post-Baccalaureate Individualized Studies in Latin. (D)
Staff. Corequisite(s): CLST 402.

Advanced individualized study in Latin for students enrolled in the Post-Baccalaureate Program in Classical Studies. Permission of the instructor required.

SM 418. (COML510, 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.

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.

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. (A)
Staff.

Introductory graduate proseminar on the study of the ancient Greco-Roman world, for students in the Classical Studies and Ancient History Ph.D. programs. This course encourages and enables students to define and question the boundaries of their discipline, and to explore multiple methods of analyzing antiquity. We will investigate big topics -- such as History, Space, Language, Ritual, Status, Gender and Performance -- from a range of alternate perspectives (considering, for example, how material culture, philology and history might intersect, and might not). A major goal of the course will be to encourage students, at the outset of their scholarly careers, to understand the recursive loop between theory and practice. Requirements will include short writing assignments (around 5pp.), spaced throughout the semester. The course is graded as Satisfactory/ Not Satisfactory.

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

UNIVERSITY COURSE REGISTER

Greek verse in class; the grade will be based on classwork and a final paper.

SM 509. (ANCH509) Advanced Readings in Greek and Latin. (A) Staff.

SM 510. (AAMW510) Topography of Athens. (M) Staff.

Layout and monuments of Athens from the Bronze Age into the time of Roman Empire.

SM 515. (AAMW515) GIS Applications in Archaeology. (M) Staff.

An introduction to the procedures and uses of GIS in modern archaeological field and laboratory work. The course will introduce the student to computerized GIS, discuss the philosophy and theory of its use, as well as the analytical potential of its utilization. Archaeological case studies will be presented. Open to graduate students. Undergraduates with permission.

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 525. (AAMW525, ARTH525) Aegean Bronze Age. (M) Betancourt.

An examination of a selected problem in the Greek Bronze Age, focusing on the Minoan, Mycenaean, and Cycladic cultures. Lectures by the instructor and reports by the students will examine a series of interrelated topics. Topic varies.

SM 526. (AAMW526, ARTH526) 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. The course is required of, and designed for, new AAMW graduate students, though other graduate students or advanced undergraduate students may participate with the permission of the instructor. For AAMW students, this course is paired with a required Museum internship to be carried out as a separate course in the following semester.

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. (ENGL525) Chaucer's Classicisms. (M) Copeland.

This course takes Chaucer's uses of antiquity as a point of entry into questions about the ancient lineages of medieval literary and intellectual culture. The coverage of Chaucer's writings in relation to classical and late classical authors will be quite substantial. We will survey the medieval textual histories of Virgil, Ovid, Horace, Statius, and Boethius as they materialize in specific Chaucerian sites, including: "Troilus and Criseyde", "Knight's Tale". "Legend of Good Women", "House of Fame" (and perhaps one other dream poem), "Boece", and Nun's Priests' Tale". These texts are sites for opening broader inquiries about the uses of antiquity in the Middle Ages: medieval transformations of ancient theories of narrative, of allegory and allegoresis, and of hermeneutics, translation, and invention; medieval receptions of ancient pedagogical discourses (including how classical authors were used in medieval schooling) and reconfigurations of ancient systems of knowledge; and medieval assimilations of ancient intellectual currents (Platonisms, scientific

epistemologies, theories of language and signification). To these ends we will also look at various late classical expositors who mediated many of these problems to the Middle Ages, including Fulgentius, Martianus Capella, Macrobius, Priscian, and St. Augustine.

This seminar will be designed to address the interests of two constituencies: classicists who want to know more about the medieval fortunes of ancient traditions; and medievalists and early modernists, for whose ongoing research the long diachronic structure of this course can offer a good foundation. The course is designed to accommodate the particular expertise that classicists can bring to study of post-classical literary history. For non-classicists considering the course, knowledge of Latin isn't a requirement, but it is certainly helpful. Readings of Chaucer will be in Middle English. Course texts will include The Riverside Chaucer, Loeb editions of Horace and Boethius, a photocopied packet of primary and secondary readings, and possibly some paperback English translations of late classical sources (e. g. Macrobius). Requirements will consist of one research paper and (depending on size of the class) one or two brief discussion presentations.

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.

L/R 621. (AAMW621, ARTH221, ARTH621) Hellenistic and Roman Art and Artifact. (B) 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 from pottery, silverware and jewelry to textiles and ornamental furniture). We start with the Hellenistic cosmopolitan culture of the Greek kingdoms and their neighbors, and the late Etruscan and Republican Italy; next we map Roman art and art industry as developed around the capital city Rome, further adapted to unify the Empire's many peoples from Britain to the Middle East. That means the nature of the intercultural

exchange is consistently an issue. 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 people's art writing too. Diverse approaches introduce art historical aims and methods, and their relationships to archaeology, anthropology and other disciplines--and also to modern kinds of museums, not least our own University Museum of Archaeology and Anthropology.

No prerequisites. Of interest also to students of classical, middle-eastern, visual and religious studies, anthropology, history, communications and the programs of GSD.

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 701. (ENGL701) Piers Plowman. (M) Copeland.

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. The cultural lens of *Piers Plowman* takes in a fascinating range of social and historical categories, including the political (political organization, rebellion, state formation, labor, law, reforms); language (Latin and vernacular, literacy, mixing of dialect, registers, rhetorical modalities, and genres); religion (orthodoxy and heterodoxy, piety, apocalypticism, spiritual "literacies") geography (from pilgrimage to fantasy to agricultural labor); intellectual histories; and the very status of textuality itself.

In considering these problems we will read a variety of *Piers* intertexts, including selections from penitential manuals, Lollard sermons and trial records, treatises on translation, rebel broadsides, radical knock-off versions of *Piers Plowman* such as *Piers the Plowman's Creed* and *Mum and Sothsegger*, and selections from better known works such as *The Book of Margery Kempe* and *Chaucers Parliament of Fowls*.

We will also make use of earlier Latin and continental materials (in English translation) that illuminate the intellectual traditions on which *Piers Plowman* draws. Requirements will include two oral presentations and a final paper. Students outside of medieval studies, and outside of English literary studies, are warmly encouraged to take this class, as *Piers* is truly a nexus of intellectual and cultural histories. It is also a very moving text about work, poverty, and social action.

SM 702. (AAMW702, ANCH702) Greek Sanctuaries. (M) White.

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 728. (AAMW728, ARTH728) Roman Architecture & Topography. (M) Haselberger.

An intensive exploration of Rome's urban topography during the Late Republican and Imperial periods. Using primarily monumental and archaeological sources, and also including ancient texts, the goal will be to visually reconstruct a limited area of one's choice. The nearly completed *Lexicon Topographicum Urbis Romae* (4 volumes, so far) serves as the basic reference work. We will also receive first-hand information on methods and progress of the current publication project *Mapping Augustan Rome*, as it is developing in cooperation with the Corinth Computer Lab under Dr. David Romano, University Museum. - Of interest for students of art history, architecture, archaeology, and Classics. Knowledge of Latin and some familiarity with Rome will be a plus, but are not required.

SM 735. (JWST735, RELS735) Papyrology. (F) Staff.

Selected topics from current research interests relating to early Judaism and early Christianity.

999. Independent Study and Research. (C) Staff. Prerequisite(s): Permission of Graduate Chair and instructor required.
For doctoral candidates.

GREEK (GREK)

015. Elementary Modern Greek I. (M) Staff. Offered through Penn Language Center.

Study of Modern Greek language, designed for students with no knowledge of Modern Greek. Basic oral expression, listening comprehension, and elementary reading and writing.

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.

An 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) Staff. 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 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) Staff.

This course is intended to help Heritage Speakers or students with prior knowledge of conversational modern Greek or even Ancient Greek that would not fit into the beginners or intermediate classes. We review grammar as a whole, read original text, songs, video and other media and increase vocabulary and fluency in modern Greek language. Content of text is mostly informative about Greece, like culture, history, society etc., Expectation from students is to properly use the language, provide written work on various subject and make conversation in class. For finals we have presentations on topics related to the material covered in class.

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): GREK 102 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) Staff. Prerequisite(s): GREK 203 or equivalent.

This course is an introduction to reading Greek poetry, with an emphasis on the characteristics that differentiate the grammar, diction, and sentence structure of poetry from that of prose. The readings are primarily from Homer.

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. Topics in Greek Literature. (M) Murnaghan. Prerequisite(s): Reading knowledge of Greek or permission of instructor.

TBA

399. Supervised Study in Greek Literature. (C) Staff.

This course is taken by students doing independent work with a faculty advisor. Students admitted to the honors thesis program, and focusing primarily on Greek literature, typically enroll in this course in the fall of the senior year, followed by CLST 398 in the spring. For policies see the Classical Studies department website.

SM 401. (CLST371) Greek for Advanced Students. (M) Staff.

For graduate students in other departments needing individualized study in Greek literature.

SM 409. (PHIL403, PHIL406, PHIL409) Readings in Greek Literature. (M)

Staff. Prerequisite(s): A 100- or 200- level course or equivalent. The cross-listing with Philosophy is not always applicable.

An advanced reading and discussion seminar on varying subjects in Greek literature: authors, genres or topics. Focus will vary each semester, and the course may be repeated for credit.

SM 480. Advanced Readings. (M)

Staff. Prerequisite(s): A 100- or 200- level course or equivalent.

For the needs of advanced undergraduates and graduate students.

SM 503. Historical Grammar of Greek. (M)

Ringe. Prerequisite(s): A fluent reading knowledge of 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 530. Selected Readings. (M)

Staff. For the needs of graduate students and advanced undergraduates.

SM 540. Advanced Greek Survey. (M)

Staff.

A survey of Greek literary prose from Herodotus to Lucian, with attention to the development of prose genres, the forms of authority claimed by prose authors, the relationship of spoken and written prose forms, and the ways in which prose was defined in relation to poetry.

SM 541. Advanced Poetry Survey. (M)

Staff.

A survey of ancient Greek poetry from the narrative and lyric genres of the archaic period to the emergence of drama in classical Athens, and beyond.

SM 601. (ANCH603) Graduate Greek Prose: The Ancient Novel. (M)

Wilson. We will read all of the extant Greek and Roman novels in translation, and each week, a good chunk in the original. Alongside our reading of the texts themselves, we will read recent critical and theoretical essays to get a sense of current state of criticism on these texts, and to open up theoretical questions about how to read the novel -- including issues about the history of sexuality, genre, and intertextuality. Requirements will include class participation, two presentations (one on an article or chapter in a language other than English, and one on a theoretical issue), plus a final seminar paper. Graduate students from other groups (such as English or Comp. Lit.) are very welcome to take the class. Those without Greek and/or Latin can do all readings in translation, but will be

required to do some extra reading each week.

SM 602. (COML606, ENGL705) Graduate Greek Poetry. (M)

Staff. Reading and discussion of authors and texts to be announced. May be repeated for credit.

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)

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

SM 612. Plato's Symposium and Phaedrus. (M)

Kahn. A close reading and analysis of Plato's two major dialogues on love.

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 305. Introduction to Advanced Latin Literature. (A) Ker. Prerequisite(s): Completion of Latin 204 or Latin 212 with a grade of B or higher, a score of 650 on the Latin Placement Exam or SAT-II, an AP score of 4 or 5, or permission of the instructor and the undergraduate chair.

An introduction to the advanced study of Latin, with continuous readings in selected authors combined with review of language and literary history. The course is intended as a preparation for Latin 309. By the end of the course students will have an extensive knowledge of Latin and its literature, will be versatile and independent readers, will have a good working knowledge of the resources available for analyzing and writing about Latin texts, and will be familiar with different interpretive approaches. Note: Unlike Latin 309, this course can only be taken once.

SM 309. Topics in Latin Literature. (M) Staff. 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.

Fall 2012 Topic: Caesar and Lucan both produced literary treatments of the first phase of the civil war that finally destroyed the Roman Republic, the contest between Caesar and Pompey for supremacy at Rome. This phase ended at the battle of Pharsalus in August of 48 BCE. Caesar wrote his narrative shortly after the war's end and before its effects were fully felt, Lucan wrote his epic poem roughly a century later from the perspective of the principate established in its essentials by Caesar's heir, Augustus. Although the narratives cover the same events, the two authors' literary

and political aims, as well as their historical contexts, produced wildly divergent stories. We will read them in tandem. In Latin we will cover substantial portions of the three books of Caesar's Civil War and the ten books of Lucan's. We will read the entirety of both works in English.

399. Supervised Study in Latin Literature. (C) Staff.

This course is taken by students doing independent work with a faculty advisor. Students admitted to the honors theses program, and focusing primarily on Latin literature, typically enroll in this course in the fall of the senior year, followed by CLST 398 in the spring. For policies see the Classical Studies department website.

401. Latin for Advanced Students. (C) Staff.

For graduate students in other departments needing individualized study in Latin literature.

SM 409. Readings in Latin Literature. (M) Staff.

An advanced reading and discussion seminar on varying subjects in Latin literature: authors, genres or topics. Focus will vary each semester, and the course may be repeated for credit.

SM 503. Historical Grammar of Latin. (M) Ringe/Cardona. Prerequisite(s): A fluent reading knowledge of Latin.

Investigation of the grammar of Classical Latin from the viewpoint of historical linguistics. The course will offer historical explanations for numerous structural peculiarities of the Latin language and anomalies of Latin grammar, touch on the relationship of Latin with other languages, and incidentally introduce the student to some basic concepts of language analysis likely to be useful in teaching Latin and learning other languages.

SM 540. Advanced Prose Survey. (M) Ker.

This course will use a series of selected readings in Latin prose to construct a tentative literary history, or set of histories. We will look at individual works in their own right, attending to language, form, and context (author, genre, milieu, etc.). We will consider some of the theoretical approaches to literary interpretation that have proven successful with specific works, as well as some broader questions around the construction of a Latin literary history. Assignments will include presentation, midterm, short paper, and final exam.

SM 541. Advanced Poetry Survey. (M) Ker.

This course will use a series of selected readings in Latin poetry to construct a tentative literary history, or set of histories. We will look at individual works in their own right, attending to language, form, and context (author, genre, milieu, etc.). We will consider some of the theoretical approaches to literary interpretation that have proven successful with specific works. And we will consider some broader questions around the construction of a Latin literary history. Assignments will include presentation, midterm, short paper, and final exam.

SM 601. Graduate Latin Prose. (M) Staff.

Readings and discussion of authors and texts to be announced. May be repeated for credit.

SM 602. (COML600) Graduate Latin Poetry. (M) Staff.

Reading and discussion of authors and texts to be announced. May be repeated for credit.

The course will focus on selections from Vergil's three major and securely attested works with emphasis on the Aeneid. Particular concerns will include Vergil's use of Greek sources and models; ancient exegesis of Vergil's works.

SM 609. (ANCH535, ANCH535) Problems in Ancient History. (A) Grey.

A separate topic is offered in either the history of Ancient Near East, Greece or Rome.

SM 619. Progress and Decline. (M) Ker.

In this seminar we will scrutinize the theories of cultural progress and decline that are manifested in one way or another in Latin literature and Roman culture, whether as explicit themes or as implicit background. Under this category we may include such areas as primitivism, the history of technology, antiquarianism, ethnography, cycles, myths of the ages, genealogies, moralizing discourse -- in short, any form of narrative that shapes the representation of cultural "development". Our approach will entail, first, looking at influential ancient models of culture history (Kulturgeschichte) from both the Roman and Greek traditions, not to mention some influential (and possibly constraining) modern paradigms of progress and decline; and alternative tropes of "metahistory". The focus, will be a series of case studies that includes Lucretius, Sallust, Horace, Seneca, and

Tacitus. In addition to these case studies, which we will address as a group, members of the seminar will present and write on one

or more cases of their own choosing, whether in Latin literature or in Roman history more broadly construed.

999. Independent Study. (C) Staff.

For doctoral candidates.

**COGNITIVE SCIENCE
(AS) {COGS}**

001. (CIS 140, LING105, PHIL044, PSYC107) 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.

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 West 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).

COMMUNICATIONS (AN) {COMM}

SM 105. (ANTH130) Spiritual Communication. (M) Jackson. Freshman Seminar.

Spirit Photography. Seances. Exorcisms. Divine intervention. Prayer. What do these genres have in common? Each one is (differently) predicated on assumptions about human conversations/connections with spirits, deities, and/or demons. This class will examine the culturally specific ways in which human beings theorize and operationalize their capacity (and longing) to speak with sentient beings from other realms. How do societies organize the project of communication with seemingly disembodied (and sometimes quite decidedly non-human) subjects? How have advances in media technologies (for instance, photography, telegraphy, film) served as mechanisms for re-imagining potential links between human speakers and otherworldly interlocutors? The class also tries to examine some of what the story of 19th century spiritualism and early 20th century mass media technology might tell us about the field of Communication Studies and its points of convergence with (and divergence from) the discipline of Anthropology.

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. (B) Society Sector. All classes. Staff.

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.

210. Quantitative Research Methods in Communication. (A) Bleakley/Staff.

This course is a general overview of the important components of social research. The first third of the semester presents a conceptual basis for assessing research quality based on the four "types of validity." We also cover 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 last third of the semester focuses more on descriptive and inferential statistics, measures of association for categorical and continuous variables, and the language of data analysis. For these classes, we make use of SMALL STATA, a PC program useful for learning statistics. Most modules are illustrated through class exercises based on published articles. This course fulfills the undergraduate quantitative requirement.

SM 220. Qualitative Research Methods in Communication. (M) Staff.

This class teaches students the logics, ethics, and techniques of qualitative research in communication. The class will cover a range of qualitative strategies with which to approach contemporary and historical questions in communication, including textual analysis, archival research, online studies, individual and group interviews, and participant observation. Students will consider the nature of evidence and evaluation when working with qualitative data, learning to analyze findings and to present their original work in written and spoken contexts. Throughout the semester students will design their own independent project and undertake a pilot study of that project.

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 2008.

230. Advertising and Society. (M)
Turow.

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. (CINE203) Film Forms and Contexts. (M) 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.

262. (CINE204) Visual Communication. (C) Messaris.

Examination of the structure and effects of visual media (film, television, advertising, and other kinds of pictures).

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).

SM 281. (ENGL281) Race Films: Spike Lee and his Interlocutors. (C)
Tilet/Jackson.

This course requires students to think critically about historical and contemporary cinematic representations of race, class, gender, sexuality, and turban landscape. The class will examine various Spike Lee films for their aestheticization of broader social and cultural phenomena as well as their engagement with larger theoretical and political concerns. Students with a background in literary theory, visual studies, anthropology, film, Africana studies and communication are especially encouraged to enroll.

SM 290. Special Topics in Comm. (M)
Goldman.

An examination of how Americans think and feel about gays and lesbians, homosexuality, and gay rights. Topics include over time trends in public opinion, the changing nature of media portrayals and public debate, and the impact of mass media on attitudes toward gays and support for gay rights.

SM 309. Washington Politics and the Media. (L) Felzenberg.

This course is designed to enhance students' understanding of the role the media plays influencing the course of public policy in the nation's capital. It will provide students with opportunities to assess major issues, currently in the news, from multiple perspectives (those of Congress, the President, interest groups, the old and new media, lobbyists, political consultants and others). They will explore the emergence of multiple "narratives" the media uses to frame policy debates, how these are formed, and how they change over time. Readings and class discussions will be supplemented by appearances by guests who have had participated in important ongoing and past policy debates."

SM 320. (ANTH320, URBS321) Urban Ethnography: Documenting The City of Brotherly Love. (M) 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 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. 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 mass communication. Major topics may include but are not limited to sexual expression, violence, hate speech, traitorous and subversive speech, non-verbal expression, artistic expression, privacy.

SM 323. Contemporary Politics, Policy and Journalism. (B) Hunt.

"Contemporary Politics, Policy and Journalism" is 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. We will focus each week on specific topics and areas of post-Watergate journalism as enumerated below. In weeks we do not have guest lecturers, the first half of class will concern the assigned readings and the second half of class will talk about current press coverage of national events over the prior week. In addition to assigned readings, students are required to stay informed about major national news stories and to follow coverage of them in the national media outlets. An important objective of this course is to afford 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, people who work in the "media environment" created by the national press.

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.

350. Non-Verbal Communication. (M) Cappella.

Human non-verbal behavior as the basis of communication between persons. Non-verbal behaviors include aspects of the voice, the face and eyes, body position, posture and gesture, and space, territory and touch which are presumed to have social meaning. The course considers the individual and social factors affecting the production of such behavior, and the effects of such behaviors on others. The origins and cross-cultural similarities of nonverbal behavior are also considered.

362. Visual Communication Lab. (M) Messaris. Prerequisite(s): COMM 262.

Follow-up to Comm 262, Visual Communication. The laboratory provides an opportunity for students to explore through actual media production many of the conceptual principles and research findings discussed in Comm 262 and other communication courses. Permission of instructor required for enrollment.

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 375. (PSCI334) Communications and Emergency Response. (C) Felzenberg.

A series of unforeseen and unprecedented emergencies in recent years have posed steep challenges to private businesses, non-profit institutions, and local, state and federal government. Terrorist attacks, natural disasters, hurricanes, financial collapse and other crises have posed unique communications and policy challenges to people in positions of authority. Increasingly, they have had to implement plans, make announcements, and order evacuations, often on short notice. They have also had to devise makeshift and permanent mechanisms that have minimized damage and enhanced security.

This course will review cases of successful and unsuccessful responses those in authority displayed in such instances. It will also examine how able policy makers used the increased attention and sense of urgency various unforeseen crises created to enact policies that enhanced the public safety and national security. On occasion, guests, who have had been on the front lines in emergency situations will appear in class to enhance students' appreciation of the the challenges th

On occasion, guests, who have had been on the front lines in emergency situations will appear in class to enhance students' appreciation of the challenges they faced and to share their ideas as to how other unanticipated events might best be handled. Readings will focus on case studies of historical and contemporary emergency situations and how policy makers addressed them.

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 390. Special Topics in Communication- Non Profit Communication Strategy. (M)

The success of a nonprofit organization as defined by its efforts to fulfill its mission is tied directly 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 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 398. Special Topics in Communication. (D) Staff.

SM 402. Arab Uprisings: Local and Global Representations. (M)

This course explores the Arab uprisings as abattleground 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 403. (PSCI410) Comparative Political Communication. (M) 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 question the forces that shape media institutions and how different political and social institutions shape individual-level communication effects. The course is designed to provide a greater understanding of comparative political communication theories, as well as to develop social science reasoning and methodology. Readings, class discussions, and assignments move back and forth between theories, empirical evidence, and public policies. The readings include research from Europe, Asia, Africa, the Middle East, Latin America, and North America though Europe receives somewhat more attention due to the richness of comparative data and research for that region.

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 412. (ANTH412) Spiritual Communication. (C) Jackson.

Spirit Photography. Seances. Exorcisms. Divine intervention. Prayer. What do these genres have in common? Each one is (differently) predicated on assumptions about human conversations/connections with spirits, deities, and/or demons. This class will examine the culturally specific ways in which human beings theorize and operationalize their capacity (and longing) to speak with sentient beings from other realms. How do societies organize the project of communication with seemingly disembodied (and sometimes quite decidedly non-human) subjects? How have advances in media technologies (for instance, photography, telegraphy, film) served as mechanisms for re-imagining potential links between human speakers and otherworldly interlocutors? The class also tries to examine some of what the story of 19th century spiritualism and early 20th century mass media technology might tell us about the field of Communication Studies and its points of convergence with (and divergence from) the discipline of Anthropology.

Potential readings: John Durham Peters, *Speaking into the Air: A History of the Idea of Communication*; Russ Castronovo, *Necro Citizenship: Death, Eroticism, and the Public Sphere in the*

Nineteenth-Century United States; Carolyn Marvin, *When Old Technologies Were New: Thinking About Electric Communication in the Late Nineteenth Century*; James Frazer, *The Golden Bough: A Study in Magic and Religion*; Matthew Engelke, *A Problem of Presence: Beyond Scripture in an African Church*.

SM 413. The Role of Public Opinion in Leadership Decisions. (C) Hart.

This course endeavors to explore the myriad uses of public opinion in leadership and decision making. In it, we will examine what public opinion research is, how it is conducted, and how it is subsequently utilized in a wide range of contexts, both public and private. We will use numerous actual case studies involving public opinion in political campaigns, constituency organizing, crisis management, and a variety of other contexts to provide an inside view of how opinion research is actually conducted and used. We will consider such questions as: How does an incumbent politician formulate strategy and successfully communicate message in the midst of a dirty his or her message in the midst of a dirty politics/decidedly anti-incumbent Senatorial campaign? What would you do if you were Governor and your roads and highways needed improvements, but the public opposed a new gas tax? If you were a CEO of a large company and you had safety concerns about some of your products, how would you balance your corporate image and reputation against the independence from government influence?

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 422. (ANTH423) Televised Redemption. (M) Jackson.

This course examines some of the ways in which religious groups mobilize media technologies and respond to the inescapable ubiquity of mass mediation. Students will try to determine how such mass mediation helps to build/reconfigure transnational communities of spiritual belief and practice. The course focuses on various forms of Christianity, Judaism, and Islam (especially, but not exclusively, in their African-American incarnations) in an effort to assess how their practitioners deploy media technology to disseminate (and as part of) their religious/spiritual cosmologies. For example, we will look at (i) Christianity and televangelism, (ii) Muslim self-representations in film and broadcast radio/television, and (iii) Jewish (including "Black Hebrew") uses of cable access programs, self-produced DVDs/CDs, and the Internet. We will try to ascertain how new media technologies recalibrate traditional religious practices and potentially reconfigure theological and Diasporic communities.

SM 426. Communication and the Bible. (C) Katz and Pearl.

Babel, espionage, leadership, bureaucracy, persuasion, consulting, speech acts, time-budgeting, proselytizing: is the Bible a text in communication? The course will analyze selected biblical passages as well as consider questions of form, including the Bible as bestseller, preaching, teaching and reception; problems of translation; and biblical influence on popular culture.

SM 433. (PSCI415) Communication and Democratization. (M) Moehler.

Prerequisite(s): Benjamin Franklin Scholars' Course.

This course explores the role of communication in theories of political change and democratic development. It addresses the questions: What are the major hypotheses about the relationship between communication and regime type? How have our hypotheses about communication evolved over time in response to changes in prominent development theories, policy trends, technical developments, and empirical evidence? What kinds of media threaten or enhance authoritarian control? How might the communication strategies of activists facilitate revolution and democratization? How have the media and citizen engagement been employed to enhance good governance? To what extent are democracy and media assistance

programs supported by theory and empirical evidence? The course is designed to provide a greater understanding of the relationship between communication and democratization, as well as to develop social science reasoning and methodology. The readings, class discussions, and assignments focus on developing countries in Africa, the Middle East, Asia, Latin America, Eastern Europe, and the former Soviet Union.

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. (CINE462) Digital Media Lab. (M) Messaris. Prerequisite(s): COMM 262.

"The course explores the use of video and other visual media for social causes. Students choose their own area of interest, conduct background research, design and produce videos, and post them on-line. The course uses a seminar format, and class size is limited to fifteen people."

SM 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, 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 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 486. Digital Adv & Soc. (M) Turow.

This course will explore the history, structure, and social implications of the contemporary digital advertising system, focusing especially on the United States. Students will read trade magazines, industry reports and books. Class work will include an examination and a research paper.

SM 490. Special Topics in Comm. (M)

SM 491. Communication Internship. (D) Staff.

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)

495. COMPS Capstone Thesis. (D)

Staff. Prerequisite(s): Written proposal approved by both thesis supervisor and major chair.

Offered for credit in the senior year, the capstone thesis is the project goal for all Communication & Public Service Program participants. Students choose the topic of the capstone thesis from a range of public policy/public service issues. Research may involve funded travel to selected archives or fieldwork sites. For students graduating with a 3.5 cumulative GPA, the capstone project may be designated as a senior honors thesis in public service.

499. Senior Honors Thesis. (D) Staff.

Prerequisite(s): Written proposal approved by both thesis supervisor and major chair.

The senior honors thesis provides a capstone intellectual experience for students who have demonstrated academic achievement of a superior level. Students should consult with and arrange for a supervisor from the standing faculty no later than the middle of the term that precedes the honors thesis. Students must file a designated form, approved and signed by the supervising faculty member and the Associate Dean for Undergraduate Studies, which includes a topic proposal. This form must be received by the Undergraduate Office no later than the last day of classes in the semester that precedes the thesis.

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.

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.

524. Introduction to Statistical Analysis. (C) Hennessy.

This course is designed for students with no previous statistical experience or past courses. It starts with descriptive statistics, graphs, and plots, covers probability and confidence intervals, and ends up with bivariate regression and measures of association for tables. The course is "hands-on" using Stata, a personal computer program.

SM 525. Politics and the Media. (M) Delli Carpini & Jamieson.

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 policy, political rhetoric, 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.

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 542. (ANTH542, 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 semester course. In the first part, students complete a series 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.

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. (CINE504) Fundamentals of Visual Communication. (B) Messaris.

Fulfills ASC Culture or Influence Distribution.

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 communication 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. 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 622. (COML797) Communicating Memory. (M) Marvin/Zelizer.

This course considers the theoretical and empirical literature concerning the construction of social memory in relation to media products and processes. Students will undertake individual research projects investigating memory constructions in professional media routines and through ritual processes of group maintenance.

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.

SM 624. Applied Regression Analysis. (M) Hennessy.

This course focuses on the use of regression analysis and other related statistical methods that are appropriate when experimental control is low or nonexistent. The main purposes of the course are: to convey complete familiarity with regression techniques to enable students to understand the application of regression in communication research literature, to be able to apply these procedures at the most advanced level properly in their own research, to be able to diagnose when violations of regression assumptions are present in data and correct for these conditions, and to lay the foundations for more advanced studies in categorical data analysis (e.g. binary and multinomial logit and probit) and structural equations modeling (SEM). The course assumes knowledge of introductory statistics through summary statistics, confidence intervals, t-tests, F tests, scatter diagrams, and the logic of statistical association. The course begins with a detailed review of bivariate regression. Students can use either STATA or SPSS to analyze artificial and actual data sets and we also use detailed examples from AMOS and Mplus.

SM 628. (SOC1629) Sociology of Mass Communications. (A) Wright.

Mass communications viewed from sociological perspective. An examination

of the sociology of the communicator, audience, content, effects, communication as a social process, linkage between personal and mass communication.

SM 632. Conceptualizing Media Effects. (C) Katz.

The course is a critical review of the major theories of mass communication extracting from each its conception of the audience, the text, and especially the nature of effect. Conceptions of effect are shown to range from short-run change of opinion and attitudes ("what to think") to proposals that the media offer tools "with which to think" (gratifications research; cultural studies), "when to think" (diffusion research), "what to think about" (agenda setting), "how to think" (technological theories), "what not to think" (critical theories), "what to feel" (psychoanalytic theories), and "with whom to think" (sociological theories). Students study the key texts of each theoretical approach, and reappraise the field in the light of new concepts and new evidence.

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 642. Diffusion of Innovation. (M) Katz.

How things (and ideas) spread, with special reference to the linkages between media and interpersonal networks Classic writings (Tarde, Sorokin, Simmel) on diffusion processes will be reviewed in the light of contemporary research. A variety of case studies originating in different disciplines will be compared.

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 662. Research in Visual Communication. (M) Messaris.

Prerequisite(s): COMM 562 or permission of instructor.

Research on the structure and effects of visual media. Movies, video, the web, photography, etc., as objects of analysis and as research tools. Students design and carry out their own projects.

SM 666. Communication and Taboo. (C) Marvin.

Taboo considered as refusing various possibilities for cultural communication and practice. How the forbidden is conveyed, consented to, imposed or challenged by situated participants. Topics may include taboo aspects of identity, politics, speech, art, religion, food and bodily practice. Students may choose from a variety of topics for individual investigation.

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.

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 703. (LAW 914, PSCI703) International Communication: Power and Flow. (C) Price, M./Katz.

This course will address old and new patterns of communications flow across

national and societal borders, taking account of media technologies, mutual perceptions, rhetorical forms, and the balance of power and influence in a globalizing world.

SM 704. Canonix Texts. (C) Katz.

Canonix Texts in Media Research: Are there any? Should there be? How about these? Reading for this course centers on 13 essays, each of which nominates a text for "canonization." This course will deal with (1) the original texts and their critiques, (2) the schools which the texts represent, and (3) the debate over canonizing texts in social science.

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 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 workshopping 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. (M) 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 evaluation 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 730. Public Space. (M) Katz/Marvin.

The object of this course is (1) to identify public spaces, physical and virtual-- past, present, and future; (2) to review the terms of admission and participation in the public sphere, (3) to consider the nature of interaction and influence within these spaces; (4) to relate such participation (and non- participation) to the media of communication; (5) to explore the policy implications of public spaces for participatory democracy.

SM 740. (AFRC640, ANTH640) Race, Diaspora & Critique. (E) Jackson.

Prerequisite(s): COMM 522 or equivalent, or permission of instructor.

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 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 encourage 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 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.

UNIVERSITY COURSE REGISTER

SM 762. Visual Communication Seminar. Messaris.

Implementation of persuasion theories in the design and creation of advertising for social causes.

SM 766. Symbolic Aspects of Communication. (M) Marvin.

Topics in symbolic communication at the macro-cultural level. Past topics have addressed nationalism, bodies and texts as

distinctive but interacting symbolic modes within non-traditional cultures, ritual symbolism. These or other topics may be offered. Check with instructor.

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 800. Dir Readings in Theory. (M)

995. Dissertation. (C) Staff.

Doctoral 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.

**COMPARATIVE
LITERATURE AND
LITERARY THEORY
(AS) {COML}**

SM 003. (GRMN003) Censored! A History of Book Censorship. (M)

Wiggins. 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).

005. (SAST004) India's Literature: Love, War, Wisdom, Humor. (M) 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. Selecting for discussion only a few representative works in translation from pre-modern India (ranging from the earliest Sanskrit and Tamil texts, through to the mediaval literatures of South Asia's regional Languages (Kannada, Gujarati, Bengali, Marathi, Telegu, Panjabi, Malayalam, Oriya etc) and up to the Hindavi romance traditions of the 16th century, the course will also broadly investigate the processes of masterpiece - making in South Asia, both through the lens of indigenous aesthetic formulations as well as from diverse contemporary perspectives of literary analysis. In doing so, the goal will be to come to some understanding of the immensely rich and complicated networks of language, literary form and the cultural life that have historically informed and continues to inform the production of literature of South Asia. Our semester covers seminal genres that also serve as the organizing principles for the course: the hymn, the lyric, the epic, the gnomic, the

dramatic, the political, the prosaic, the tragic and the comedic. No background in South Asia studies or South Asian languages is required.

SM 016. (CINE015, ENGL015) Topics in Literature. (M) Staff. Freshman seminar.

021. (CLST321, 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.

031. (ENGL031) 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.

053. (AFST053, GSWS053, MUSC053, 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 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.

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 057. (JWST151, NELC156, RELS027) Great Books of Judaism. (A) Arts & Letters Sector. All Classes. Stern.

The study of four paradigmatic classic Jewish texts so as to introduce students to the literature of classic Judaism. Each text will be studied historically--"excavated" for its sources and roots--and holistically, as a canonical document in Jewish tradition. While each text will inevitably raise its own set of issues, we will deal throughout the semester with two basic questions: What makes a "Jewish" text? And how do these texts represent different aspects of Jewish identity? All readings will be in translation.

059. (ENGL059) Modernisms and Modernities. (M) Staff.

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.

SM 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 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 the course.

065. (AFST065, ENGL065) The 20th-Century 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 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.

077. (ENGL077, SAST124) Literature and Empire. (M) Staff.

Since the sixteenth century English has been, among other things, an imperial

language, and ideas about empire and imperialism have shaped not only many of English literature's central texts but also the development of English literary study as a discipline. This course is an introduction to the way imperial contact and changing ideas about empire and decolonization have shaped literature in English from the sixteenth to the twentieth centuries. We will consider historical and cultural materials to offer contexts for literary production of texts from the sixteenth to the twentieth centuries. The course also will serve as a comprehensive introduction to the way literary and cultural representations of Europe have been influenced by changing ideas about empire and imperialism. Different versions of the course will vary in the historical and cultural material they cover as they offer a context for literary production.

SM 080. (ITAL080) Intro to Italian Cinema: From Neorealism to the Nineties. (A) Arts & Letters Sector. All Classes. Kirkham.

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.

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, Cherrë 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) 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.

096. (ENGL096, GSWS096) Theories of Gender and Sexuality. (M)

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

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, Cherrë Moraga, Donna Haraway, Gayatri Spivak, Diana Fuss, Rosemary Hennessy, Chandra Tadpole Mohanty, and Susan Stryker.

L/R 100. (ENGL100, GSWS102) Introduction to Literature and Literatures. (C) Arts & Letters Sector. All Classes. Todorov.

This course introduces students to the study of comparative literature as a rigorous intellectual discipline. There are no prerequisites, and this class has been designed for students who are considering majors in related fields and those who seek a broader, theoretically rooted understanding of reading and enjoying literature. Our readings will include both literary and theoretical texts; we will be reading novels, essays, poems, and plays that come from a range of periods and of literary traditions.

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.

104. (CINE104, 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. The topic may be "Gender and Sexuality," or "Queer Theory/Queer History."

SM 107. (GSWS100, ITAL100) Topics: Freshman Seminars. (C) Staff.

This is a topics course. Topics vary each year.

L/R 108. (CLST100) Greek and Roman Myth. (M) Arts & Letters Sector. All Classes. Struck.

An introduction to classical mythology through close analysis of selected texts. Topics include: the definition of myth; its social, political, and religious contexts; the variety of methodologies available for its study (e.g. comparative anthropology, structuralism, psychoanalysis); the literary development of myths, divine and heroic; the Roman adaptation of Greek myths; and the relationship of myth to historical, philosophical, and scientific modes of thought. No prior background is required. Students come to the study of mythology from a variety of disciplines. This course should be particularly useful to those interested in literature, the fine arts, anthropology, folklore, and religion.

110. (ENGL087, HIST246, THAR110, URBS212) Theatre, History, Culture I. (C) Arts & Letters Sector. All Classes. Schlatter. 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.

114. (CINE115, NELC115, RELS144) Youth Culture in Iran. (M) Atwood.

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 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.

This is a nontraditional "poetry immersion" workshop. It will be structured around a series of writing experiments, intensive readings, art gallery visits, and production of individual chapbooks or web sites for each participant, and performance of participants' works. There will also be some visits from visiting poets. The emphasis in the workshop will be on new and innovative approaches to composition and form, including digital, sound, and performance, rather than on works emphasizing narrative or story telling.

Permission of the instructor is required. Send a brief email stating why you wish to attend the workshop (writing samples not required).

116. (ARTH107, CINE103, 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. (CINE111, RUSS111) Iranian Cinema: Gender, Politics, Religion. (M) Staff.

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.

119. (ENGL103) Middle Eastern Cinema: Law and Society. (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.

125. (ENGL103, FOLK125, NELC180) 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. (ENGL102, GRMN242) Fantastic & Uncanny in Literature. (A) Arts & Letters Sector. All Classes. Weissberg.

What is the "Fantastic"? And how can we describe the "Uncanny"? The course will examine these questions, and investigate the historical background of our understanding of "phantasy," as well as our concepts of the "fantastic" and "uncanny" in literature. Our discussions will be based on a reading of Sigmund Freud's essay on the uncanny, a choice of Friedrich Schlegel's and Novalis' aphorisms, and Romantic narratives by Ludwig Tieck, E.T.A. Hoffman, Edgar Allan Poe, Nathaniel Hawthorne, and others. All of the texts will be available in English/in English translation, and no knowledge of a foreign language is required.

SM 127. (CINE125, GSWS125, RUSS125) The Adultery Novel In and Out of Russia. (C) Arts & Letters Sector. All Classes. Staff. All readings and discussions in English.

The object of the course is to analyze a series of 19C and 20C novels (and a few short stories) about adultery. Our reading will teach us about novelistic traditions of the period in question and about the relationship of Russian literature to the European models to which it responded. The course begins with a novel not about families falling apart, but about families coming together - Jane Austen's *Pride and Prejudice*. We then will turn to what is arguably the most well-known adultery novel ever written, Flaubert's *Madame Bovary*. Following this, we investigate a series of Russian revisions of the same thematic territory that range from "great literature" to pulp fiction, including

Tolstoy's *Anna Karenina* and other works by Tolstoy, Chekhov, Leskov and Nagrodskaja. As something of an epilogue to the course, we will read Milan Kundera's backward glance at this same tradition in nineteenth-century writing, *The Unbearable Lightness of Being*. In our coursework we will apply various critical approaches in order to place adultery into its social and cultural context, including: sociological descriptions of modernity, Marxist examinations of family as a social and economic institution, Freudian/Psychoanalytic interpretations of family life and transgressive sexuality, Feminist work on the construction of gender.

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 150. (ENGL105, HIST149, RUSS193) War and Representation in Russia, Europe and the U.S. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

Representations of war are created for as many reasons as wars are fought: to legitimate armed conflict, 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. We will pursue an investigation of these images of conflict and bloodshed in the larger context of the history of military technology, social life, and communications media over the last two centuries. Students will be expected to write two papers, take part in a group presentation on an assigned topic, and take a final exam. The goal of the course will be to gain knowledge of literary history in social and historical context, and to acquire critical skills for analysis of rhetoric and visual representations.

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.

167. (CLST167, ENGL029) Ancient Novel. (C) Staff.

The ancient Greek and Roman novels include some of the most enjoyable and interliterary works from antiquity. Ignored by ancient critics, they were often dismissed by classical scholars as mere popular entertainment. But these narratives had an influence on the later development of the novel, and in their sophistication and playfulness, seem peculiarly modern -- or even postmodern. They are an important source for any understanding of ancient culture and society. We will discuss the social, religious and philosophical contexts for the ancient novel and think about the relationship of the novel to other ancient genres, such as history and epic. Texts to be read may include Lucian's parodical science fiction story about a journey to the moon; Longus' 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.

186. (CINE221, EALC186) Screening Modern Korea: Korean Film and Culture. (M) Staff. All films with English subtitles.

Is Korean cinema experiencing a "renaissance" in the 21st century? We will take the recent surge of success behind Korean cinema as a way to explore our object of study: Korea and the cinema. We situate Korean cinema in broader (and at times narrow) cultural, social, and aesthetic contexts to investigate transnational media production and circulation, globalization, consumer culture, commercialization,

Hollywoodization, and construction of national, ethnic, gender identities, etc. The course focuses on the works of prominent filmmakers of Korea's past and present, such as Shin Sangok, Im Kwontae, Kim Kiduk, and Lee Ch'angdong, as well as paying special attention to genres of Korean film such as the melodrama, slapstick comedy, and erotica. No prerequisites. All films with English subtitles.

187. (EALC017, GSWS187) Possessing Women. (M) Chance.

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 a 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 the property of men--and what happens when women inhabit the bodies of other women via spirit possession. Readings will draw on the Japanese traditions, 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.

SM 191. Classics of the Western World I. (C) Arts & Letters Sector. All Classes. Staff.

This course will approach selected classic works of Western culture up to the Middle Ages with two purposes in mind. First, we will try to see how our notions of authority, agency, will and history have been shaped by these texts, in particular by epic and tragedy; further, we will consider how such concepts in turn have been complicated by the author's recognition of the power of desire and shifting definitions of gender and identity. Second, we will look at how we identify a "classic" in our culture, and will try to understand what sort of work it does for us. Texts to be read will include: Homer's *ILIAD* and *ODYSSEY*; Euripides' *BACCHAE*; Sophocles' *OEDIPUS THE KING*; Aeschylus' *PROMETHEUS BOUND*; Aristophanes' *FROGS*; Virgil's *AENEID*; *THE CONFESSIONS OF ST AUGUSTINE*, and Dante's *DIVINE*

COMEDY. All works will be read in translation.

SM 192. Classics of the Western World II. (C) Staff.

This class provides a survey of works drawn from the Western literary canon from the Renaissance to the 20th century. Work may be drawn in part from the following authors: Montaigne, Shakespeare, Webster, Moliere, Milton, Behn, Laclous, Rousseau, Sterne, the Romantic poets, Austen, Dickens, Bronte, Wilde, Woolf and Joyce.

193. (ENGL099, FOLK241) Great Story Collections. (M) Arts & Letters Sector. All Classes. Staff.

The Great Story Collections moves backwards in time from Chaucer's *CANTERBURY TALES* and Boccaccio's *DECAMERON* through the 1001 NIGHTS and Persian mystical story collections to the Indian *PANCHATANTRA*, exploring the development of the literary story collection and its connections with oral narrative traditions of the present and the past.

197. (RUSS197) Madness and Madmen in Russian Culture. (M)

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

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, CINE201, ENGL291) Topics Film History. (M) Corrigan, Decherney, Katz, Beckman.

This is a topics course. Please check each semester for the topic.

SM 203. (COLL228, ITAL203) Introduction to Italian Literature and Culture. (B) 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 205. (JWST213, NELC383, RELS203) The Religious Other. (M)
Fishman.

This course explores attitudes toward monotheists of other faiths, and claims made about these "religious others" -- their bodies, habits and beliefs -- in real and imagined encounters between Jews, Christians and Muslims in the Middle Ages. Primary source readings from law, theology, literature, art and polemics. Attention will be paid to myths about the other, inter-group violence, converts and cases of cross-cultural influence both conscious and unconscious.

212. (NELC201) Modern Middle Eastern Literature in Translation. (B)
Arts & Letters Sector. All Classes. Gold.

This course is team-taught by four professors with specialities in Arabic, Hebrew, Persian and Turkish literatures; all four attend all the sessions of the course. The course deals with the modern literature within each tradition and focuses on poetry, the short story and the novel (among which have been in recent year: Al-Tayyib Salih's SEASON OF MIGRATION TO THE NORTH, Yehoshua's THE LOVER, Hedyat's THE BLIND OWL, and Kemal's MEMET MY HAWK). The readings are all in English. The course is conducted in a seminar format. Students are expected to participate in classroom discussion of the materials assigned for each session, and evaluation is partially based on the quality of that participation. A short paper is assigned on the poetry and the short stories, and there is a final examination.

SM 213. (RELS218, RUSS213) Saints and Devils in Russian Literature. (M)
Arts & Letters Sector. All Classes.
Verkholtantsev.

Despite the title, Russian 213 is not simply about saints and devils in Russian culture. Our primary goal is to trace cultural continuity and understand the dependence of the 19th and 20th century Russian literature and art on cultural paradigms and categories of pre-modern Russia. In Russia, where culture and conscience had been nourished by Eastern Orthodoxy and Indo-European paganism, the 19th-century search for spirituality was invariably connected with Orthodoxy and religious pursuits. The interest in Russian history kindled a fascination with medieval Russian literary and artistic productions. Writers and artists turned for inspiration to medieval themes and genres. In "Saints and Devils," we will examine the literary images of the holy and the demonic in works from various periods and we will learn about the historic trends that have filled Russia's national

character with religious and supernatural spirit. All readings and films are in English and include such authors as Pushkin, Gogol, Dostoevsky, Tolstoy, Leskov, Bulgakov, and Nabokov, as well as films by Tarkovsky and Eisenstein.

SM 214. (CINE240, ITAL213) Contemporary Italy through Film. (M)
Staff.

This is a topics course; topics vary from year to year.

215. (NELC233) Arabic Literary History. (A) Allen.

This course provides a survey of the genres and major figures in Arabic literary history from the 6th century up to the present day. Selected works are read in translation; poetry is discussed first, then belles-lettrist prose. Selected suras from the Qur'an are read as the centerpiece of the course. Each set of texts are 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. (COLL225, GRMN216) Intro to Literature. (B) Arts & Letters Sector. All Classes. Staff. Prerequisite(s): GRMN 215 or the equivalent.

Develops students' basic skills of literary interpretation. Exposure to various reading techniques (e.g. close reading, reading for plot, etc.) and to literary terminology and its application. Readings will include selections from prose, drama and lyric poetry.

SM 218. (COLL221, FREN221) 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, FREN222) 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. French 222 has as its theme the Individual and Society. Students who have taken 221 may also take French 222 for credit.

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. 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 lecture, discussion, short writing assignments, and two in-class tests.

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.

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. (CINE232, COLL223, LALS240, SPAN223) Perspectives in Latin American Literature. (C) Staff.

This is a topics course. The topics vary from year to year.

228. (HEBR250, JWST256, RELS220) Studies in Hebrew Bible. (C) Staff.

Prerequisite(s): HEBR 154 or the equivalent.

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.

229. (DTCH230, GRMN230) The Novel in 19th Century Dutch and European Literature. (M) Staff.

This course explores how the novel as a genre functioned in 19th Century Europe, in a period when newborn nations (e.g. Belgium and the Netherlands) and newborn classes (bourgeoisie, hired labour classes) had to find or construct new identities in the wake of recent developments on the political plane and other recent revolutions (in particular the French and the Industrial one), which had led to large upheavals in traditional society.

SM 230. (CLST330, ENGL231) Topics in Renaissance Studies. (M) Staff.

This course explores an aspect of renaissance literature intensively; specific topics will vary from year to year.

231. (GRMN245) Literature and Culture in Central Europe. (M) Staff.

It is difficult to imagine a current century without the remarkable contributions of Central European culture. Central Europe is the birthplace of Freud and psychoanalysis, Schoenberg and twelve-tone composition, Kafka, Kraus, and Musil. It is also a combustible world theater for raging conflicts among political ideologies, nationalisms, and world views.

This course examines the many legacies of Central Europe to the present. Through literature, cinema, and other arts, it explores a unique history that extends from the Habsburg and Ottoman empires, through two world wars, to communism and beyond. Readings are in English and include representative works from Albanian, Austrian, Bosnian, Czech, Hungarian, and Polish fiction.

232. (GRMN234) Literature and Revolution. (L) Wiggin.

Common parlance proclaims the pen mightier than the sword. Peaceniks demand books not bombs. The tools of literacy are usually considered to be in opposition to the tools of war. But are they? Our seminar troubles this binary as we consider literature across space and time as an agent of social change at its most radical: revolution. Central to the class are the varied and creative answers to the long question about how to write a progressive literature. Is the concept of a revolutionary literature useful today? We begin by turning to the legacy of Plato's banishment of poets from the good state as well as Aristotle's spirited defense of poets. Writers and readings may also include: pamphlets by Martin Luther, essays by Thomas Paine and Friedrich Schiller; Buechner's drama *Woyzeck*, Marx and Engels' *Communist Manifesto*, Trotsky's *Literature and Revolution*, Mariano Azuela's novel of the Mexican Revolution, *The Underdogs*, plays by Bert Brecht (*Mother Courage and Her Children*), and others.

SM 233. (GRMN233) Censored!. (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) Kirkham. Freshman Seminar.

The masterpiece of Italian literature read in the context of Dante's cultural milieu (the Aristotelian cosmos, contemporary politics, medieval intellectual ideals, the esthetic of order, symbolism, allegory, numerology and his literary heritage from Virgil to the early Italian vernacular poets. Illustrated manuscripts and the visual tradition of the poem will be shown in slide presentations. Lecture/discussion format.

235. (HIST219, RUSS234, 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.

understanding of the region and its people.

236. (HIST333, RUSS240) Napoleonic Era and Tolstoy. (M) Holquist/Vinitzsky. 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: Forms and Interpretation. (M) Staff.

An examination of the history and forms of the fairy tale (Marchen) as an oral narrative genre and as a literary construction. Topics covered include the history of collecting folktales in Europe and the United States; the issue of "authenticity" of the tales; and the importance of studying context and artistic performance in storytelling events. Issues of gender and sexuality in fairy tales--and of religious and supernatural beliefs evidenced in the tales will be a focus of the class. We will also discuss fairy tales as children's literature; illustrators of fairy tales from Arthur Rackham to Wanda Gag and Maurice Sendak; and the uses of images and plots from fairy tales in popular culture (including Disney's films) and in tourism, advertising, and marketing.

L/R 241. (CINE352, GRMN256, RELS236) The Devil's Pact in Literature, Music and Film. (A) Arts & Letters Sector. All Classes. Staff. All readings and discussions in English.

For centuries the pact with the devil has signified humankind's to surpass the limits of human knowledge and power. From the reformation puppet play 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.

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. One religious tradition will be emphasized each time the course is taught.

L/R 245. (CINE112, ENGL102, GSWS102) 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. This course is designed for the General Requirement.

246. (CLST261) The Sophists. (C) Copeland.

In this course we will study the Sophists in Antiquity and in their post- classical

reception. The teachers, rhetoricians, and philosophers of 5th- century Athens known collectively as the Sophists were controversial in their own time, and they have occupied a controversial place in intellectual and culture ever since. Plato polemicized against them, Aristophanes satirized themmercilessly, Aristotle refuted them, and generations of rhetorical theorists in Greek and Latin attempted to differentiate their art from the supposedly debased model of sophistic rhetoric. Sophistic thought found its way indirectly but powerfully into the Middle Ages and later periods, where it represented both a despised falsification of philosophical argument and a dangerously attractive logic of paradox. Culturally the (spectral) figure of the Sophist served as image of both the familiar and the outsider. As in Antiquity, so in later periods the Sophist came to embody anxieties about persuasive discourse and negation. But in modern period, the Sophists were recovered and "rehabilitated" as a crucial moment in the history of philosophy, and among modern thinkers their contributions have been reevaluated.

SM 248. (AFRC385, ASAM202, ENGL259, GRMN249, GSWS285) Topics in Modernism. (C) Staff. This is a topics course.

An exploration of literary modernism which may include novel, poetry, criticism, drama and film. Topics may include "Culture of the 60's," "Race in American Literature and Film," "Madness and Modernism," or "Modernist Heroes."

SM 249. (CINE250, ENGL251, GSWS250) Topics in 19h Century Literature. (C) Staff.

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

SM 252. (LALS252, SPAN250) Spanish Literature in Translation. (B) Arts & Letters Sector. All Classes. Staff. This is a topics course. The topic may be "Latin American Travel Narratives or "Caribbean Writers in the U.S."

L/R 253. (ENGL240, GRMN253, GSWS252, HSOC253, STSC253) Freud. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Weissberg.

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.

L/R 254. (GRMN244, URBS244) Metropolis: Culture of the City. (C) Arts & Letters Sector. All Classes. MacLeod.

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.

255. (GRMN255) Mann, Hesse, Kafka. (C) Arts & Letters Sector. All Classes. Jarosinski.

Based on considerations of the cultural tradition and the intellectual currents of the twentieth century, the course presents a survey of the achievements of Mann, Hesse, and Kafka. The extensive study of representative works focuses on the problems of the artist in the modern age.

SM 257. (JWST153, NELC158, NELC458, RELS223) Jewish Literature in the Middle Ages. (C) Stern.

Readings in medieval Hebrew literature, with special attention to poetry, narrative, and the interpretation of the Bible, and to the varieties of Jewish experience that these literary works touch upon. All reading in translation.

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 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.

SM 261. (ENGL255, GSWS255) Topics in 19th C. Novel. (C) Staff.

This course explores an aspect of the 19th-century novel intensively; specific course topics will vary from year to year.

SM 262. (GSWS260) Advanced 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.

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.

264. (CLST141, THAR141) Ancient Theatre. (C) Staff.

This course will introduce you to the "roots" of the western dramatic tradition by surveying a number of well-known tragedies and comedies from Greco-Roman antiquity. Although the syllabus varies slightly from year to year, students can expect to read such influential works as Sophocles' "Oedipus Rex" and Aristophanes' "Clouds." In addition to reading the plays themselves, students will gain insight into the reception of dramatic performances in the ancient world. Individual authors and works will be presented within their historical contexts and we will attend to matters such as staging of drama, the evolution of theatrical performance, and interpretation of ancient drama as social and/or political commentary.

SM 265. (ENGL276, THAR140) Topics In Theatre History. (B) Staff.

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 266. (COLL227, HEBR259, HEBR559, JWST259) Introduction to Modern Hebrew Literature. (M) Arts & Letters Sector. All Classes. Gold.

Prerequisite(s): Near-advanced or advanced knowledge of Hebrew. The content of this course changes from year to year; and, therefore, students may take it for credit more than once. Please see departmental web page for each semester's offering.

This course is designed as a first course in Hebrew and Israeli literatures in their original forms: no re-written or reworked texts will be presented. It aims to introduce major literary works, genres and figures. Texts and discussions will be in Hebrew. Depending on the semester's focus, fiction, poetry or other forms of expression will be discussed. Personal, social, and political issues that find expression in the culture will also be examined. This course is meant to provide methods for literary interpretation through close reading of these texts, and thus falls under the umbrella of the College's "Literatures of the World" course. Past topics include: "Poem, Song, Nation;" "Israeli Drama," "The Israeli Short Story;" "Postmodernist Israeli Writing;" and "Literature and Identity in Israel."

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.

269. (CINE250, 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. (CINE250, 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. (CINE261, ENGL261) 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.

275. (COML574, DTCH275, GRMN275, GRMN575) The Graphic Novel. (C) Staff.

In this course, we will focus on the medium of the graphic novel. First, we will look at its literary history (medieval illuminated manuscripts, Hogarth, Goya, Toepfer, leading us into the 20th and 21th century). Next, we will investigate how graphic novels or comics work, studying them as hybrid word-and-image forms in which two narrative tracks--one verbal and one visual--create a "double vision" genre. We will pay special attention to the material comics are made of (words, images, color,...as well as typical formats) but also to its grammar: the panels (frames), gutters (the empty spaces between the panels) and spatial construction of the page, and aspects such as pace. The differences between the European, American and Asian (especially Japanese) traditions will form a central focus throughout the entire course, with special attention being paid to one of the key

countries in the European BD (bande dessinée) tradition, to wit Belgium, which even has a national museum and a biennial festival dedicated to this "9th Art".

SM 280. (CINE240, HIST322, ITAL204, ITAL322) Italian Cinema. (M) Kirkham.

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.

282. (CINE329, ENGL279, JWST102, JWST279, NELC159) Modern Hebrew Literature and Culture in Translation: Voices of Israel in Film and Literature. (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 screenings. The content of this course changes from year to year, and therefore, students may take it for credit more than once.

This course will listen and respond to previously unheard Israeli literary and cinematic expressions of "others," such as new immigrants, women, Arabs, gays, orthodox Jews, first and second generations of Holocaust survivors, and those of Middle Eastern descent. Their varied voices, which deviate from the central narrative, were allowed to be heard in Israeli culture only in the late 20th century with the debates over Postmodernist attitudes and practices. The Zionist super-narrative dominated Israeli literature and film at its inception. Authors and directors were predominantly Israeli-born (or educated), Ashkenazi (of European descent) males who tackled the nationalistic, territory-based aspirations of the people. Now that the "periphery" has

invaded the "center," a cacophony of voices, a kaleidoscope of images, replaces the mainstream ideological search for a Zionist utopia. We will analyze this phenomenon through the different languages of film, prose and poetry, and examine how postmodernist and subversive writers and directors use symbol and metaphor, color and light, close-up and flashback to capture an outsider's experience.

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) Staff.

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 America 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) Topics Literary Theory. (M) Staff.

This course explores an aspect of literary theory intensively; specific course topics vary from year to year.

SM 292. (ARTH292, CINE202, CINE292, ENGL292) Special Topics Film Studies. (M) Katz, Corrigan, Decherney, Beckman.

This topic course explores aspects of Film Practice intensively. Specific course topics vary from year to year.

SM 295. (CINE295, 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, ENGL229) Classical Background. (M) Staff.

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.

SM 300. (CINE340, HIST322, ITAL300) Topics in Italian History, Literature, and Culture. (M) Staff. This is a topics course. Topics will vary from year to year.

SM 310. (GSWS310, ITAL310) The Medieval Reader. (M) Kirkham.

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 and contrast it with our own assumptions about reading. Lectures/discussion in English.

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 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. (ENGL223, ENGL323, 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.

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 Guber, Kolodny, Marx, Benjamin, and Freud.

353. (COML505, NELC434) Arabic Literature and Literary Theory. (A) Allen.

This course takes a number of different areas of Literary Theory and, on the basis of research completed and in progress in both

Arabic and Western languages, applies some of the ideas to texts from the Arabic literary tradition. Among these areas are: Evaluation and Interpretation, Structuralism, Metrics, Genre Theory, Narratology, and Orality.

354. (CLST360, ENGL221, GSWS223) The Epic Tradition. (C) Copeland. Benjamin Franklin Seminar.

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 Homer, reading good portions of the "Iliad" and the "Odyssey", and then see how Homeric themes are reprised in Virgil's narrative of travel, conquest, and empire, the "Aeneid". We will then look at St. Augustine's "Confessions", which has some claim to being considered an "epic" of spiritual discovery, and consider how Augustine reflects back upon his classical narrative sources. From there we will move to one medieval epic of warfare, conquest, and empire, the "Song of Roland", which emerges from the same kind of oral poetic culture that produced the ancient Homeric epics. 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 355. (ENGL359) Topics in Modernism. (C) 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.

357. (ANTH226, FOLK229) Myth in Ancient and Modern 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. (CINE359, COLL227, HEBR359, JWST359, JWST556) Seminar Modern Hebrew Literature: The Representation of the City. (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 focuses on the artistic ways in which the city, be it Jerusalem, Haifa or Tiberias, is represented in Israeli literature. The emotional and physical connection between the writer and his/her place of dwelling is transformed in the literary work. The depiction of the city in prose and poetry reflects the inner world as well as ideological and political conflicts. The city may become a locus for national expression, of gender identification, or even of pure aesthetic enchantment. We will analyze how, through her portrayals of the Carmel Mountain and the Haifa bay, Yehudit Katzir expresses the complex bond with her mother; how Tel Aviv's streets enable Dahlia Ravikovitch and Meir Wieseltier to examine questions of loyalty; how the Jerusalem of A.B. Yehoshua and Yehuda Amichai reflect their loves and hatreds.

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.

362. (ANTH360, FOLK360, RELS316) Native American Folklore. (M) Staff.

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.

L/R 372. (CINE382, FREN382) Italian and Anglo-American Fiction. (M) Staff.

This is a topics course. The titles may be "Italian and Anglo-American Criticism," "Horror Cinema," "Arcades Project," or "Crime Cinema."

SM 378. (AFRC293, ENGL293, GSWS226) Topics in Literature and Society. (M) Staff.

This is a topics course. The titles may include "Vampires: The Undead," "Political Theatre," "Writing Down Under," "Diaspora Culture," or "Caribbean Literature."

SM 380. (JWST255, NELC250, NELC550, RELS224) The Bible in Translation. (C) Staff.

Study of the Book of Genesis as a literary and religious work, in the light of modern scholarship, archaeology, and comparative literature of religion.

SM 381. (CINE345, FREN380) Literature of the Twentieth Century. (M) Staff.

This course, the theme of which changes from semester to semester, provides an introduction to important trends in twentieth century literature.

SM 382. (CINE340, ITAL380) Italian Literature of the 20th Century. (M) Staff.

Topics vary, covering a range of genres and authors.

SM 383. (CLST396, ENGL394) History of Literary Criticism. (M) Staff.

This course explores an aspect of literary theory intensively; specific course topics vary from year to year.

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) World Literature - Spanish-American Literature. (A) 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 391. (ARTH392, ARTH489, CINE392, 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.

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) Topics History of the Book. (C) Staff.

This is a topics course. The topic for Fall 2011 is "From Gutenberg to Google."

415. (ARTH416) Early Islamic Art and Architecture Until 1250. (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. (ARTH417) 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".

SM 418. (HIST418) Europe Intell 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.'

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.

SM 432. (ARAB432, COLL226) Arabic Belle-Lettres. (A) Allen. Prerequisite(s): Proficiency in ARAB 035.

Readings in Arabic texts taken from a variety of literary genres from all periods. The course aims to improve reading skills and vocabulary by introducing students to extensive passages taken from Arabic literature.

SM 475. Senior Seminar. (C) Staff.

Advanced study of changing topics in comparative literature and literary theory.

498. Honors Thesis. (C)

499. Independent Study. (C)

Supervised study for Seniors.

SM 785. (ARTH785, RUSS785) Seminar in 20th Century Art. (C)

Graduate Courses

SM 501. (CLST511, ENGL600, GRMN534, ROML512, SLAV500) Basic Issues in the History of Literary Theory. (A) Staff.

This course is an introduction to literary and cultural theory and to some of the key problems of questions that animate theoretical discussion among literary scholars today. These include questions about aesthetics and cultural value, about ideology and hegemony, about the patriarchal and colonial bases of Western culture, and about the status of the cultural object, the cultural critic, and cultural theory itself.

SM 503. (ITAL501) Italian Literary Theory. (M) Staff. This is a topics course. One topic may be "History and Language of Italy."

505. (COML353, NELC434) Arabic Literature and Literary Theory. (A) Staff.

This course takes a number of different areas of Literary Theory and, on the basis of research completed and in progress in both Arabic and Western languages, applies some of the ideas to texts from the Arabic literary tradition. Among these areas are: Evaluation and Interpretation, Structuralism, Metrics, Genre Theory, Narratology, and Orality.

SM 506. (CINE500, ENGL461, ENGL492) Topics in Twentieth-Century Literature. (M) Staff.

SM 508. (ITAL562) World Views in Collision: The Counter-Reformation and Scientific Revolution. (M) Kirkham.

The exploration of the radical conflicts that developed in 16th and 17th century Europe when Protestant reformers and scientific discoveries challenged the authority of the Catholic Church. Freedom of thought, heresy, censorship, and Utopian ideals will be discussed with reference to such figures as Machiavelli, Luther, Rabelais, More, Copernicus, and Galileo, who will be studied through their own writings, those of their contemporaries (both enemies and advocates), and in recreations by 20th century playwrights.

SM 520. (ITAL520) Medieval "Autobiography": Augustine to Petrarch. (M) Brownlee.

The course will explore the development of a new authorial subject in 13th- and 14th-century first-person narrative, culminating in Petrarch's *Canzoniere* and *Secretum*. Our central focus will be on the changing status of "confessional" and "conversionary" discourse in terms of selfhood and power. Of particular importance will be radical shifts in the relation between confession and conversion among the various texts in our corpus. We will start with St. Augustine's *Confessions*--the privileged model for medieval confessional narratives, which also serves as the point of departure for the different "autobiographical" stances at issue in our various texts. These will include Abelard's *Historia calamitatum*, Brunetto Latini's *Tesoretto*, Dante's *Vita Nuova*, and Petrarch's *Canzoniere*, read in part as a dialectic between the fragmented and the coherent self. The poetics of the collection will also be considered in this context. We will conclude with Petrarch's *Secretum*, a dramatic dialogue in which St. Augustine (as a character) confesses and attempts to convert (without success) the character Francisus (Petrarch). Taught in English. Can also be taken by qualified undergraduates, with instructor's permission.

SM 521. (GSWS537, ITAL537) Boccaccio. (M) Kirkham.

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 526. (ENGL705, HIST526, SLAV526) In Defiance of Babel: The Quest for a Universal Language. (M) Verkhohantsev.

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.

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 529. (FOLK532, NELC682) Proverb, Riddle, Speech. (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.

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 Free Masonry), 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.

A close reading of the first two parts of Dante's masterpiece, the *INFERNO* and the *PURGATORIE*, which focuses on a series of interrelated problems raised by the poem: authority, representation, history and language. Particular attention will be given to the *COMMEDIA'S* use of Classical and Christian model texts: Virgil's *AENEID*, Ovid's *METAMORPHOSES*, and the Bible.

SM 534. (GSWS534, ITAL534) Woman in Poetry. (M) Kirkham. Prerequisite(s): Reading knowledge of Italian. Conducted in English; undergraduates need permission.

Poetry by women and about women.

SM 535. (RELS535) Varieties of Christianity before Irenaeus. (K) Staff.

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 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. (ENGL537) Renaissance Epic. (M) Staff.

Focusing centrally on Spenser and Milton, the course will also take up continental Renaissance epics and epic theory: Ariosto, Tasso, Tonsard, D'Aubigny. The main emphasis of the course discussion will be on the process of canon-formation, using the privileged status of epic to investigate the interconnections between the social and literary procedures by which an elite list of texts gets constructed.

SM 538. (ENGL531) Renaissance Poetry. (M) Staff.

The aim of this course is to provide opportunities for students to experience at first-hand some of the literary forms, themes and characteristic sensibilities of ancient poetry of Greece, Rome and Israel which provide meaningful contexts for a wide range of English poetry. The topics may be "Sonnets Cycles," or "Passages from Chaucer to Shakespeare."

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. This is a topics course. If the title for the semester is "Readings in Renaissance Romance: Incest, Agency, and Female Authority" the following description and crosslisting apply:

Readings in the work of Shakespeare and other writers of the period. Specific texts vary with instructor.

SM 544. (RELS538) Modern Christian Thinkers. (M) Staff.

Close study of selected texts dealing with the relation between Christian ideas and modern thought.

SM 546. (ENGL538) Major Renaissance Writers. (M) Staff.

This is a monographic course, which may be on Spenser, Milton, or other major figures of the period.

SM 547. (ENGL545) Eighteenth Century Novel. (M) Staff.

A survey of the major novelists of the period, 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.

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. (ENGL550, GSWS550) Romantic Theory and Practice. (M) Staff.

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, CINE550, 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. This is a topics course. One topic may be "Premodern Women Writers."

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) 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, Kermode, Todorov, and Bloom.

SM 557. (CINE556, ENGL556, GSWS556) Topics in 19th C. Literature. (M) Staff.

This is a topics course. The titles may be "Nineteenth Century Fiction: England and Beyond" or "Nineteenth Century Realism and the Occult."

SM 559. (GRMN560) Topics in Philosophy and Literature. (B)

Weissberg.

Topics vary from year to year.

SM 560. (FOLK531, NELC684) Prose Narrative. (A) 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 the minimal units, the historic-geographic method in folktale studies, the folktale in history and the history of folktale research.

SM 564. (ENGL564) Modern British Literature. (M) Staff.

An introduction to British Literary Modernism. Specific emphasis will depend on instructor.

SM 569. (AFRC569, ENGL569, GSWS569) Topics in American Literature. (M) Staff.

This is a topics course. The titles can be "African-American and Chicano Feminism," "Literatures of Jazz," or "Queer and 19th-century American Literature."

SM 570. (ARTH573, CINE515, 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) 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.

574. (COML275, DTCH275, GRMN275, GRMN575) The Graphic Novel. (M)

Staff.

In this course, we will focus on the medium of the graphic novel. First, we will look at its literary history (medieval illuminated manuscripts, Hogarth, Goya, Toepfer, leading us into the 20th and 21st century). Next, we will investigate how graphic novels or comics work, studying them as hybrid word-and-image forms in which two narrative tracks--one verbal and one

visual--create a "double vision" genre. We will pay special attention to the material comics are made of (words, images, color,...as well as typical formats) but also to its grammar: the panels (frames), gutters (the empty spaces between the panels) and spatial construction of the page, and aspects such as pace. The differences between the European, American and Asian (especially Japanese) traditions will form a central focus throughout the entire course, with special attention being paid to one of the key countries in the European BD (bande dessinée) tradition, to wit Belgium, which even has a national museum and a biennial festival dedicated to this "9th Art".

SM 575. (AFRC572, AFST572, ENGL572) Topics in African Literature. (M) Barnard.

This course is concerned with the context, and as aspect of the content and form, of African Literature. It is based on a selection of representative texts written in English, as well as a few in English translation. It involves, first, 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 by the 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.

SM 579. (ARTH584, GRMN579) Winckelmann. (M) MacLeod.

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

SM 580. (JWST525, RELS525) Judaism in the Hellenistic Era. (H) Staff.

An examination of the varieties of Jewish thought current from ca. 300 BCE to ca. 200 CE, and of the ways in which early Christians adapted and/or reacted to this Jewish heritage. Primary course materials include Philo and Josephus, the Dead Sea Scrolls, Paul and the Jewish "Apocrypha and Pseudepigrapha." Online course materials can be accessed through the instructor's homepage.

SM 582. (GRMN580, PHIL480) Topics in Aesthetics. (A) Staff. This is a topics course.

The topics may be "Walter Benjamin," "Aura and Reflection," or "18th Century Aesthetics."

SM 584. (GRMN581, HIST490, JWST490, RELS429) 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 585. (ENGL592) 20th Century Literature and Theory. (M) Staff. This is a topics course. One topic may be "Queer Theory and Histories" or "Chicano/a Studies."

This course treats some aspect of literary and cultural politics in the 20th-Century with emphasis varying by instructor.

SM 586. (ARTH586) Twentieth Century Criticism & Theory. (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. (CINE548, ITAL588) Cinema and the Sister Arts. (M) Kirkham.

Cinema as a pan-generic system constructed of other art forms, including fiction, theater, painting, photography, music and dance.

SM 588. (GSWS591) Modernism. (B) Staff.

This is a topics course. One topic may be "The Idea of the Model in Literature and Art," or "Modernism and the Question of Beauty," or "Excessive Forms: Modernism."

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) Recent Issues in Critical Theory. (M) Staff.

This is a topics course. The titles may be "Post-Modern Criticism," "Media and Cultural Theory," "Writing and Materiality," "Modern Social Imaginaries," or "Freud and His Commentators."

SM 591. (RELS436) Life & Letters of Paul. (J) Staff.

An attempt to understand Paul and his writings, although reference will be made to other canonical and on-canonical traditions about Paul.

SM 592. (ARTH593, CINE591, CINE592, ENGL591, FREN591) Topics in Contemporary Theory. (M) Staff.

This is a topics course. One topic may be "Reading Gilles Deleuze."

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".

SM 593. (ITAL581) Modern and Contemporary Italian Culture. (M) Staff.

Staff.

This is a topics course. One topic may be "Futurism, Classicism, Fascism" or "Philology and History."

SM 594. (ENGL595, SAST620) Post-Colonial Discourse. (M) Staff.

This is a topics course. The topic may be "Asian American Lit," or "Post-Coloniality and Cultural Value" or "Provincializing Europe."

SM 595. (CINE680, FREN680) Studies in 20th Century French Lit. (M) Staff.

This is a topics course. Topics may be "Representing the Social in Modern French Literature" or "Critical Thought from Proust to Tourmier" or "Georges Bataille."

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 598. (PHIL585) Aesthetics: Emotion in the Arts. (M) Guyer.

Undergraduates need permission.

This course will investigate historical and contemporary philosophical views on the role of the emotions in the arts. Do we have genuine emotional responses to works of art - to fiction? paintings? music? If so, what are the conditions under which we do and don't have such emotional responses? When are such responses appropriate? In particular, does an appropriate aesthetic attitude require emotional distance from the object of the artwork? Is it inappropriate to respond emotionally to morally depraved artworks? How do formal devices induce, constrain, and otherwise alter our emotional responses to art? Readings will be drawn from philosophers including Jean-Baptiste Du Bos, David Hume, Edmund Burke, Moses Mendelssohn, Henry Home Lord Kames, Arthur Schopenhauer, Edward Bullough, R.G. Collingwood, Stanley

Cavell, Tamar Szabo Gendler, Richard Moran, Kendall Walton, and others.

SM 600. (LATN602) Graduate Latin Poetry. (M) Staff.

Reading and discussion of authors and texts to be announced.

SM 601. (CLST618, ENGL524) Medieval Education. (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 604. (FREN609) France and Its Others. (M) Staff. This is a topics course. Topics vary from year to year.

SM 605. (ANTH605, FOLK605, MUSC605) Anthropology of Music. (C) Staff.

Worlds of Music/Music Worlds This seminar will require in-depth reading, listening, and writing about a group of musical cultures often included in teaching about "World Music." In other words, this seminar will require students to read a monograph a week, listen closely to related music, and write responsively to this material. We begin with thinking about the musical "exotic" and move onto a series of musical cultures from a wide range of places. The seminar will end with a discussion of the larger music, intellectual, and methodological issues and challenges to thinking about worlds of music/music worlds as a comparative project. Those who imagine they will have to teach a course on "World Music and Cultures" at the undergraduate or graduate level, either sooner or later, will benefit from this class.

SM 606. (ENGL705, GREK602) Ancient Literary Theory. (M) Copeland.

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 609. (GREK609, RELS609) Ancient 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 imbedded 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, Plutarch, Cicero, Artemidorus, and Iamblichus.

SM 610. (SOCI602) Proseminar in Classical Sociology. (D) Staff.

An overview of the German, French and Anglophone traditions in sociological theory. The major focus will be on the works of Marx and Engels, Weber, Simmel, Durkheim, Mead, and DuBois. The works of Nietzsche and Freud will also be considered.

SM 619. (ARTH617) Islamic Civilization and Visual Culture. (M) Holod.

A one-semester survey of Islamic art and architecture which will examine 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 will be available in English translation.

SM 620. (ENGL748, FREN660) Studies in the Eighteenth Century. (A) Staff.

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? Another topic may be "The Enlightenment in Letters," or "Geography and the Novel."

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.

This is a topics course. If the title is "Postmodernism," the following description applies: This course will consist of a series of genre-illuminating novels and major theories of the novel (by Sklovskij, Lukacs, Booth, Bakhtin, Watts, and Frye). The aim is to experience the variety of the genre and its criticism, and to discover the problems posed for the theorist by this anarchic literary type. The special focus will be on the postmodernist novel. Other topics could be "Literature and Mass Culture," "Post-modern Poetry," "Textual Conditions," or "Provincializing Europe."

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) Brownlee. This is a topics course.

The titles may be "Introduction to Medieval Literature" or "The Grail and the Rose."

An introduction to French literature by close reading of key representative works from hagiography, chanson de geste, romance, and lyric. The course will consider the creation and functioning of these new generic forms in the French vernacular. Particular attention will be given to questions of authority, truth, and language.

SM 631. (CLST630, ENGL715, FREN536) Medieval Allegory. (M) Brownlee/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 perspectives on the history and theory of allegory.

Readings will include theoretical perspectives from neoplatonist and early Christian writers, 12th-century poetry and mythography (Alain de Lille, Bernardus Silvestris, William of Conches), examples from later medieval theological writings, and substantial selections from the Roman de la Rose, Dante, Boccaccio, Gower, Langland, and Christine de Pizan.

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) Jarosinski.

A study of modernism and Avant-Garde as concepts in literature, theater, and criticism. It focuses on the crucial developments from Symbolism to Dadaism and Surrealism in their historical context. Readings of representative authors, including Baudelaire, Nietzsche, Joyce, Eliot, Mann, Benjamin, Adorno. The last part is devoted to the juxtaposition of Modernism and Postmodernism.

SM 637. (ENGL735) Shakespeare. (M) Staff. This is a topics course. The topic may be "Shakespeare's History Plays and Renaissance Historiography," "Hamlet in History," "Historical Difference/Sexual Difference."

SM 639. (COMM639, FOLK639) 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 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."

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) 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 651. (FREN650, GRMN651, HIST651) Studies in 17th Century. (C) DeJean.

This is a topics course. One possible topic is "The Royal Machine." 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. "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 652. (FREN652, GSWS652) Early Modern French Women Writers. (M) DeJean.

Topics of discussion will vary from semester to semester. One possible topic is: "The Female Tradition and the Development of the Modern Novel." We will discuss the most important women writers--from Scudery to Lafayette--of the golden age of French women writers. We will be particularly concerned with the ways in which they were responsible for generic innovations and in particular with the ways in which they shaped the development of the modern novel.

SM 653. (ASAM510, CINE793, ENGL797, SAST610) Melodrama and Modernity. (C) Majithia.

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; representations 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 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.

"Modernity and Early Nineteenth-Century French Culture" may be one topic.

SM 670. (ARTH670, GRMN670) German Literary Criticism. (M) Weissberg.

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 course will concentrate on a selection of essays offering diverse theories and

practices of feminist criticism. The discussion will focus on the debate on "essentialism," the notion of the "masquerade" and psychoanalytical criticism, as well as the political implications of feminist scholarship. The following anthologies will be used: Anne C. Herman and Abigail J. Steward (eds.), *THEORIZING FEMINISM*, Naomi Schor and Elizabeth Weed (eds.), *THE ESSENTIAL DIFFERENCE*, and Judith Butler and Joan W. Scott (eds.), *FEMINISTS THEORIZE THE POLITICAL*.

SM 681. (PHIL680) History of Aesthetics. (M) Guyer.

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) de la Campa.

This course begins with an overview of major statements on poetics and literary theory from Plato to the 20th century. We will then study in detail more contemporary theoretical statements with a view to acquiring a broad knowledge of modern literary criticism. Throughout the semester we will attempt to identify topics and issues that are of particular relevance to students working within the Hispanic literary and critical tradition. Among the authors studied will be Plato, Aristotle, Longinus, Dante, Castelvetro, Lessing, Arnold, Taine, Saussure, Barthes, Derrida, de Man, Althusser, Butler and Latour.

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.

This seminar will examine the place of Spain in early modern English culture.

L/R 688. (ARTH687) Twentieth Century Art: 1945-Now. (C) 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.

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) Barnard.

This team-taught course will introduce graduate students to issues in both Anglophone and Francophone African Literature. The course is organized under the following headings: Reclaiming the African Past, Colonial Relationships,

National Consciousness, Gender and Power, Urban Perspectives, Elites and Dictatorships, and, finally, Immigration, Exile, and Metissage. We will discuss novels by both established and emerging writers, including Chinua Achebe, Ngugi Wa Thiong'O, Sembene Ousmane, Buchi Emecheta, Mariama Ba, Henri Lopes, Bessie Head, Amadou Kourouma, Nozipo Maraire, and Zakes Mda. Some films and works in other genres may also be included. Four or five lectures by visiting scholars and/or writers, representing the cutting edge of new research and writing, will be considered as part of the seminar.

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. (ENGL715) 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.

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 read and listening intensive seminar.

SM 720. (MUSC720) Studies in Renaissance Music. (C) Staff.

Seminar on selected topics in the music of the Renaissance.

SM 721. (HIST720) Research Seminar: European History. (M) Staff.

SM 725. (ENGL725) Topics in Chaucer. (M) Wallace.

SM 730. (ENGL730) Sixteenth-Century Cultural Relations. (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 760. (FOLK606) History of Folklore Studies. (A) Ben-Amos.

A survey of the theoretical basis and the historical development of research in international and American folkloristics.

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.

"Modernism and the Philosophy of Egoism", will aim to link the specific historical moment known as "Modernism" to a longer debate hinged around the claims of the individual subject fighting against all repressive systems, claims that were often refused as being either "egoistic" or "anarchistic." From Pascal's critique of the "Ego's self-love" to Max Nordau's wholesale attack in the ideology of "egomania" (in Degeneration), we'll see how the negative space carved for the subject provides an a contrario definition of modernist re-evaluations of the self. Starting from Lacan's rereading of Cartesian subjectivity and Nietzsche's dramatization of the artist as creator of values, we'll focus on Max Stirner's *The Ego and His Own*, seen both as a text-book for later anarchism and as Marx's and Engels's most subtle enemy (in the German Ideology). Stirner leads to Meredith's famous novel, *The Egoist*, whose ethos in its turn underpins the feminist project of a Dora Marsden who

chose to rename the radical magazine the *New Free Woman* as *The Egoist*. We'll read Joyce, Pound and Eliot in the context of the philosophy set forward by *The Egoist*, and then launch into a discussion of "impersonality" (Rimbaud, Mallarme, Eliot) and of "masks" of poetic "heteronyms" (Pessoa, Pound Yeats), and conclude with Beckett's last texts, especially *Not-I*.

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 768. (ENGL768) Ghosts of Modernity. (M) Rabate.

This is a topics course. If the title is "Ghosts of Modernity," the following description applies. The graduate seminar would like to explore the archeology of modernity in order to understand how, despite a desire to break up with the past and to launch the radically new, modernity appears as always haunted by specific ghosts. One of the central issues will turn around the question of the rationality of critical discourse when it is confronted with uncanny objects such as ghosts. From Freudian and Derridian theories to the history of postmodernity (Lyotard), we shall revisit a few monuments of modernist mourning. We shall attempt to apprehend how an experience of loss is as crucial for Surrealism as for Joyce, yet organizes different economies of libidinal investment. The very mourning of form as such will provide a concept with which we can start rethinking the dividing line between modernism proper and postmodernism which begins to assert itself with Beckett, Bernhard, and Michael Palmer. The strong link between mourning and modernity will be shown central to all the movements that have attempted an esthetic revolution.

SM 769. (ENGL769, GSWS769) Feminist Theory. (M) Staff. This is a topics course. The titles may be "Feminist Theory: Queering the Literary: Theories and Fiction" or "Incest and the Problem of Narration." If the latter title, the following description applies.

This seminar will pursue the problems of narration in 20th century accounts of incest. We will be reading novels, testimonials, memoirs, plays, and films that attempt to narrate what some theorists have regarded as the founding taboo of 'civilization' and hence the fundamentally un-narratable

event. The course will focus largely on questions of genre.

**SM 773. (AFRC770, ENGL770)
Afro-American Autobiography. (M)**
Staff.

An advanced seminar in African-American literature and culture.

**776. (LARP770) Topics in Landscape
Architecture. (B)** Staff.

This is a topics course. The topic could be "French Landscape Architecture: Case Studies," "Renaissance Garden Theory," "Picturesque as Modern," or "Lawrence Halprin: Theory, Practice, Context and The Archival Record."

**SM 778. (ENGL778, GSWS778)
Twentieth Century Aesthetics. (M)**
Steiner.

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 787. (ARTH787, ENGL790,
GSWS787) Sem Contemporary Art.
(C)**

**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."

**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)
Perelman.

Topics in poetics will vary in its emphasis depending on the instructor.

**SM 797. (COMM622) Communicating
Memory. (M)** Marvin/Zelizer.

This course considers the theoretical and empirical literature concerning the construction of social memory in relation to media products and processes. Students will undertake individual research projects investigating memory constructions in professional media routines and through ritual processes of group maintenance.

**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 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. Students in SEAS graduate programs such as EE, TCOM, BIOT, MEAM, & MSE, as well as students outside SEAS, such as those in Cell & Molecular Biology (CAMB) and Genomics & Computational Biology (GCB) in the Medical School, as well as graduate students from other disciplines in the University will find this course useful.

L/R 591. Programming Languages and Techniques I. (C)

Introduction to fundamental concepts of programming and computer science. Principles of modern object-oriented programming languages: abstraction, types, polymorphism, encapsulation, and inheritance. Basic algorithmic techniques and informal complexity analysis.

Substantial programming assignments in Java. This course is for MCIT students only.

L/R 592. Mathematical Foundations of Computer Science. (C)

Foundations: Sets, Functions, Summations, and Sequences. Introduction to algorithms. Counting techniques: The pigeonhole principle, permutations and combinations. Discrete probability. Selected topics from Number theory and/or Graph theory.

L/R 593. Introduction to Computer Architecture. (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.

594. Programming Languages and Techniques II. (C) Prerequisite(s): CIT 591 or consent of the instructor.

Basic data structures, including lists, stacks, queues, hash tables, trees, priority queues, and Java Collections. Algorithms, algorithm types, and simple complexity analysis. Development and implementation of program specifications. Software architecture and design methods, including modular program development, correctness arguments, and testing techniques. Concepts illustrated through extensive programming assignments in Java.

L/R 595. Digital System Organization and Design. (C)

This course explores various topics in modern operating systems and computer architecture, including multithreading and synchronization, interprocess communication, memory management (caching, virtual memory, etc.), I/O, and security. We also look at techniques that are used to enhance processor performance at the hardware and software level. You will learn a variety of C and C++ programming techniques that will make you a better IT professional, and will get an understanding of what's happening "under the covers" in modern computer systems.

L/R 596. Theory of Computation. (C)

Prerequisite(s): CIT 592 or equivalent.

Relations. Finite automata, regular languages, regular grammars, and applications. Pushdown automata, trees, context-free grammars, and applications. Turing machines. Introduction to computability and complexity theory.

597. Programming Languages and Techniques III. (C) Prerequisite(s): CIT 591 or equivalent and CIT 594 or equivalent. No prior experience with C# or .NET required.

Advanced object-oriented programming for Linux and Windows web servers, taught hands-on in a lab. Java and/or C# topics may include serialization, synchronization, reflection, advanced I/O, servlets and generic handlers, dependency injection, protecting against SQL injection, XML, Javascript, SOAP and REST web services, database access for web pages, and others. Substantial programming assignments. May be taken by MCIT and CIS graduate students.

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.

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 (with Java, for beginners). (C) This counts as a Formal Reasoning course for College students.

How do you program computers to accomplish tasks? How do you break down a complex task into simpler ones? CIS 110 is a "Java lite" course that covers the fundamentals of object-oriented programming such as objects, classes, state, methods, loops, arrays, inheritance, and recursion using the Java programming language.

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.

140. (COGS001, LING105, PHIL044, PPE 140, PSYC107) 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)

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.

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.

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 examin 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.

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 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.

194. Haskell. (C)

195. iPhone App Development. (C)

196. Ruby on Rails Web Develop.

240. Introduction to Computer Architecture. (A)

Prerequisite(s): CIS 110 or equivalent experience.

You know how to program, but do you know how computers really work? How do millions of transistors come together to form a complete computing system? This bottom-up course begins with transistors and simple computer hardware structures, continues with low-level programming using primitive machine instructions, and finishes with an introduction to all aspects of computer systems architecture and serves as the foundation for subsequent computer systems courses, such as Digital Systems Organization and Design (CIS 371), Computer Operating Systems (CIS 380), and Compilers and Interpreters (CIS 341).

The course will consider the SPARC architecture, boolean logic, number systems, and computer arithmetic; macro assembly language programming and subroutine linkages; the operating system interface and input/output; understanding the output of the C compiler; the use of the C programming language to generate specific assembly language instructions.

L/R 261. Discrete Probability, Stochastic Processes, and Statistical Inference. (B)

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.

277. Introduction to Computer Graphics Techniques. (C)

Prerequisite(s): CIS 120.

This course is focused on programming the essential geometric and mathematical concepts underlying modern computer graphics. Using 2D and 3D implementations, it covers fundamental topics on scene graphs, computational geometry, graphics algorithms, and user interface design. Programming languages introduced include C++, OpenGL, FLTK and Python.

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.

350. Software Design/Engineering. (M) Prerequisite(s): CIS 240.

Large systems versus small programs. Problems of scale. Software life-cycle: design phase, implementation phase, testing, maintenance. Software re-use. Tools/Toolkits/Libraries. Programming as a group activity. Support tools, e.g., SCCS and RCS. Standards. Software readability and structure. Reading code. Style sheets. Software Testing: role in process, test cases, testers. Documentation. Embedded documentation and external documentation.

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. Machine Perception. (M)

Prerequisite(s): MATH 240, PHYS 150 or MEAM 110/147.

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 planetary rovers, robotic pets, medical surgical-assistive devices, and semi-autonomous search-and-rescue vehicles. This introductory-level course presents the fundamental kinematic, dynamic, and computational principles underlying most modern robotic systems. The main topics of the course include: coordinate transformations, manipulator kinematics, mobile-robot kinematics, actuation and sensing, feedback control, vision, motion planning, and learning. The material is reinforced with hands-on lab exercises including basic robot-arm control and the programming of vision-guided mobile robots.

391. Introduction to Artificial Intelligence. (M) Prerequisite(s): CIS 121 and CIS 262.

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 logic, automatic theorem proving, search, knowledge representation and reasoning, natural language processing, probabilistic reasoning, and machine learning. Programming assignments in Python.

398. Quantum Computer and Information Science. (C)

Prerequisite(s): CIS 260, 262 and Math 240.

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.

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).

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) Computer Graphics. (A)

Prerequisite(s): One year programming experience (C, JAVA, C++).

A thorough introduction to computer graphics techniques, covering primarily 3D modeling and image synthesis. Topics cover: geometric transformations, geometric algorithms, software systems (OpenGL), 3D object models (surface and volume), visible surface algorithms, image synthesis, shading and mapping, ray tracing, radiosity,

global illumination, photon mapping, anti-aliasing and compositing.

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 gammers 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-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). CSE 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); substantial mathematical maturity (two additional undergraduate courses in math and theoretical CS). Undergraduate-level coursework in programming languages, compilers, or logic 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 individual programs and whole languages as mathematical objects about 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 and subtyping, foundations of object-oriented programming, and mechanisms supporting information hiding and programming in the large. This course is appropriate as an upper-level undergraduate CIS elective

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.

502. Analysis of Algorithms. (C)

Prerequisite(s): CIT 594 or equivalent.

An investigation of several major algorithms and their uses in areas including list manipulation, sorting, searching, selection and graph manipulation. Efficiency and complexity of algorithms. Complexity Classes.

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): Basic notions of discrete algebra.

Finite automata (deterministic and nondeterministic) regular graphs, regular expressions, regular grammars, (Nerode congruence), the "pumping lemma", closure properties. Context-free languages.

Standard forms: removal of ϵ -rules, chain rules, reduced grammars. Chomsky Normal Form. Context-free languages as fixed points (Ginsburg and Rose's Theorem). Greibach Normal Form (using Rosenkrantz's matrix method). Ogden's Lemma and the "pumping lemma". Pushdown automata (PDA's). Equivalence of PDA's and context-free grammars. Brief sketch of top-down and bottom-up (nondeterministic) parsing. Deterministic PDA's. Closure properties. Partial recursive functions, Turing machines and RAM programs. Primitive recursion. Minimization. Equivalence of the models. Church/Turing's thesis. Acceptable Codings. A Universal RAM program. Undecidability of the halting problem. Recursively enumerable sets (RE sets).

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. (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-Fraisse Theorem and the Trahtenbrot 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.

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. Other topics covered include graphical models, dimensionality reduction, neural networks, and reinforcement learning.

L/R 521. Fundamentals of AI. (C)

Prerequisite(s): Students are expected to have the following background: Basic algorithms, data structures and complexity (dynamic programming, queues, stacks, graphs, big-O, P/NP; Basic probability and statistics (random variables, standard distributions, simple regression); Basic linear algebra (matrices, vectors, norms, inverses); Reasonable programming skills. Modern AI uses a collection of techniques from a number of fields in the design intelligent systems: probability, statistics, logic, operations research, optim and economics, to name a few. This course covers basic modeling and algorithms from these fields underlying current research and highlights their application computer vision, robotics, and natural language processing.

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)

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) Faculty. 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. 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): CIS 120 and CIS 121, or equivalent; one of CIS 371, CIS 501, CIT 593, or equivalent; proficiency in both Java and C.

In this project-based course, students will explore techniques for creating applications for embedded and mobile systems, including model-driven development, testing and verification, software design, networking, and low-level performance tuning and analysis. This course

incorporates topics from the domains of software engineering, compilers, operating systems, and computer architecture, and provides students with the foundation they will need for addressing the concerns of developing real-world embedded systems software.

550. Database and Information Systems. (A) Prerequisite(s): CIT 594 and CIT 592 or equivalent.

Introduction to the theory and practice of data management systems, including databases and data integration. The Entity-Relationship approach as a modeling tool. The relational model, algebra and calculus. Database security and integration. Physical data organization and indexing structures. Query execution and optimization. Updates and integrity: transaction management, concurrency control and recovery techniques. XML and database-backed Web sites.

551. (TCOM551) Computer and Network Security. (B) Prerequisite(s): TCOM 512 or equivalent 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.

553. (TCOM512) 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.

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.

560. (CIS 460) Computer Graphics. (A) Prerequisite(s): One year programming experience (C, JAVA, C++).

A thorough introduction to computer graphics techniques, covering primarily 3D modeling and image synthesis. Topics cover: geometric transformations, 3D object models (surface and volume), visible surface algorithms, image synthesis, shading and mapping, ray tracing, radiosity, global illumination, photon mapping, anti-aliasing and compositing.

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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 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.

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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. Some background in computer graphics is helpful.

Prerequisite(s): Students should have a good knowledge of object-oriented programming (C++) and basic familiarity with linear algebra and physics. Some background in computer graphics is helpful.

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. Physicalbased 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.

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564. Game Design and Development. (C) 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++.

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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.

565. GPU Programming and Architectur. (C) Prerequisite(s): CIS 460/560. CIS 371 or 501 recommended.

This course examines the architecture and programming model of modern graphics processing units (GPUs). The 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. Course topics include the architecture of modern desktop and mobile GPUs; real-time rendering with OpenGL and GLSL; and writing general-purpose, massively-parallel programs on the GPU using CUDA and OpenCL.

568. Game Design Practicum. (C) Prerequisite(s): CIS 462/562, CIS 277 or CIS 460/560. Corequisite(s): CIS 564.

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.

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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.

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)

Prerequisite(s): This course is suited for suited for students from all Engineering backgrounds who have the basic knowledge of linear algebra and programming, and a lot of imagination.

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.

582. (CIS 482) Logic in Computer Science. (C) Prerequisite(s): CIS 260 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 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.

597. Master's Thesis Research. (C)

For master's students studying a specific advanced subject area in computer and information science. Involve 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.

599. Master's Indep Study. (C)**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, 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.

This course emphasizes the review and understanding of current computer graphics, interaction, and virtual environment research techniques and problems. Research-level topics are based on recent ACM SIGGRAPH papers and special effects techniques, through student-led discussions and both oral and visual presentations. A software project is required.

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)

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. Computer and Information Science Topics. (M)

One time course offerings of special interest. Equivalent to a CIS 5XX level course.

800. PhD Special Topics. (C)

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 firstyear 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.

MARKET and SOCIAL SYSTEMS (MKSE)

112. Networked Life. (C)

150. Mkt/Soc Sys on Internet. (C)

212. Scalable and Cloud Computing. (C) Prerequisite(s): CIS 120, 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. Services must scale across thousands of machines, tolerate faults, and support of concurrent requests. Increasingly, the major providers (including Amazon, GoMicrosoft, HP, and IBM) are looking at "hosting" third-party applications in their data centers - forming so-called "cloud computing" services. A significant number of these services also process "streaming" data: geocoding information from cell phones, tweets, streaming video, etc. 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: data partitioning, storage schemes, stream processing, and "mostly shared-nothing" parallel algorithms.

CRIMINOLOGY (AS) {CRIM}

Undergraduate Courses

100. (SOCI233) Criminology. (C)

Society Sector. All classes. Adler, Laufer.

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. Evidence-Based Crime and Justice Policy. (M) Berk.

Statistical techniques and quantitative reasoning are essential tools for properly examining crime and justice policy. Using case studies of highly controversial issues, appropriate statistical techniques and sound quantitative reasoning are addressed. Case studies can include the death penalty, racial profiling, human trafficking, DNA identification, sentencing guidelines, drug testing, war crimes, ballistic analyses from the JFK assassination, and others. The statistical procedures discussed overlap significantly with those covered in an introductory statistics course. Criminology 150 has been approved for the quantitative data analysis requirement (QDA).

200. (SOCI200) 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.

250. Corporate & White Collar Crime. (C) Laufer.

This course offers an exhaustive interdisciplinary examination of criminal conduct in business organizations. First, it provides an overview of federal and state laws addressing corporate and white collar crime will be explored in depth. Next, the course examines leading social science research on corporate deviance and its control. Finally, the course raises some of the many normative and policy questions left largely unaddressed by sociologists, criminologists, and legal scholars.

260. Crime and Human Development. (C) Staff.

From infancy to old age, the risk of people committing crime varies with their overall human development. Explaining and predicting this variation is the central research question in criminology. Tools for understanding the onset of crime, its persistence, intermittency and desistance 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. Students are asked to consider what these research findings imply for major theories of crime and policies for crime prevention.

SM 280. (SOCI380, URBS280) Neighborhood Dynamics of Crime. (B) Staff.

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.

SM 370. (CRIM670, PSYC470) Biosocial Criminology. (A) Raine.

Is there a natural-born killer? What makes a successful psychopath? And is it morally wrong for us to punish those who are biologically-wired for a life of crime? This course argues that answers to these inscrutable questions will ultimately be found in an interdisciplinary perspective that examines the interface between the social, clinical, and neuro-sciences. We will explore new biosocial treatments for violence, and analyze the controversial neuroethical, legal, and philosophical issues surrounding neurocriminology. The course presents perspectives from fields of psychology, neurobiology, sociology, neurochemistry, anthropology, law, neuroanatomy, cinema, public health, neuroendocrinology, criminology forensics, pediatrics, and psychiatry. Only by integrating knowledge from multiple domains will we fully understand, predict, and prevent future criminal behavior.

SM 410. (CRIM610, SOCI410) Research Seminar in Experiments in Restorative Justice. (C) Staff.

Prerequisite(s): Any statistics or research methods courses leading to knowledge of SPSS.

This seminar focuses on examining data from Penn's Jerry Lee Program of Randomized Controlled Trials in Restorative Justice, the largest program of field experiments in the history of criminology. Key questions to be answered by the research program include the effects of restorative conferences on the future crime rates of offenders and victims, on the mental health and medical condition of both, and on the changes over time in these dimensions of the life course of both victims and offenders.

Graduate Courses

SM 600. (SOCI680) Pro-Seminar in Criminology. (A) 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-braking. The criminology of reactions to crime is covered in the second semester pro-seminar in criminal justice, CRIM 601.

SM 601. (SOC1681) Pro-Seminar in Criminal Justice. (B) MacDonald.
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. Evidence-Based Sentencing. (A) Staff.

This course examines the application of social science research to the process of sentencing convicted criminals. The course begins by reviewing the varieties of sentencing systems, emphasizing the range of sentencing guidelines frameworks within the US and Common Law nations. It then describes how these principles work in practice, in the actions and perspectives of prosecution, defense counsel, pre-sentence investigations by probation services, and judicial rulings. The course then considers the research evidence for the relative effectiveness of different kinds of sentencing and rehabilitation programs, with emphasis on direct comparisons of prison versus community-based corrections. The concept of an "evidence-based sentence plan" is then developed, and each student is assigned the task of writing such a plan based on a particular combination of prior criminal record and current offense. Each student will present the plan in a mock courtroom, with direct examination by a defense counsel and cross-examination by a prosecutor.

SM 603. Research Methods/Crime Analysis Project. (B) Staff.

This course provides an overview of social science research methods employed by criminologists in public agencies, with an emphasis on diagnostic and analytic tools, experimental design and quasi-experimental evaluation methods. In lieu of a Masters thesis, M.S. students pursue a semester-long project, using crime analysis and research skills (along with tools such as crime mapping) to address a specific crime problem. Student projects culminate with an oral presentation before the class, as well as submission of a written product.

SM 604. Criminology in Practice. (E) Adler.

This weekly seminar explores how criminal justice professionals can bring research-based approaches into crime-related policy and practice. Current and former government policymakers and criminal justice system practitioners regularly visit the class as guest lecturers and to engage in discussions with students. This is a "capstone" course spread across both semesters and taught by the M.S. Program Director.

605. Criminal Law, Criminal Procedure and Criminology. (B) Laufer.

This course explores both substantive criminal law and constitutional criminal procedure (i.e., the law of the Fourth, Fifth, and Sixth Amendments to the United States Constitution). Substantive criminal law topics include theories of punishment, the foundations of culpability, the basic premises of criminal liability, the elements of crimes, and defenses to criminal liability. Topics in criminal procedure include the laws and rules associated with search and seizure, arrest, interrogation, the exclusion of evidence, and deprivation of counsel. Criminological evidence that supports or raises questions about legal doctrine will be examined.

634. Evidence-Based Crime Prevention. (A) Roman.

This course examines the use of evidence in the practice of crime prevention. Uses include the diagnosis of crime patterns and problems, research on how to rereduce crime, implementation of crime prevention policies, value-added estimates of policy effects, evaluation of cost-effectiveness, and revision of policies,

all integrated into the DRIVER model of evidence-based practice. Primary emphasis is placed on scientific methods and results to date of field tests of the effects of policies intended to prevent crime. Policies are examined in nine field settings: communities, families, schools, labor markets, places, police departments, courts, incarceration, and community supervision. Central methodological issues include research designs and their execution, systematic reviews and meta-analysis, and internal and external validity of program effects.

SM 700. (SOC1700) Advanced Pro-Seminar in Criminology. (A) Staff.

This second year doctoral course is a weekly discussion group designed to help students intergrate 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 dissertatio 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 comprhensive 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) Furstenberg.

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. Some data manipulation will require the use of a statistical computer "package," STATA; but the greater emphasis of the course will be on conceptualization and the ability to manipulate these new ideas both with and without access to statistical software. There is a lecture twice weekly and a mandatory "lab."

L/R 536. (SOCI536) Quantitative Methods in Sociology II. (B) Allison, Kohler. Prerequisite(s): SOCI 535 or permission of instructor.

A course in applied linear modeling. Emphasis on the theory and practice of multiple regression and analysis of variance, with extensions to path analysis and other simultaneous equation methods. Some data manipulation will require the use of a statistical computer "package," STATA" but the greater emphasis of the course will be on conceptualization and the ability to manipulate these new ideas both with and without access to statistical software.

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 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 the theories of labor supply, marriage, human capital and discrimination to evaluate their effects on women and men.

SM 550. (SOCI550) 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 583. (SOCI583) Sociology of Medicine. (C) Bosk.

Health and illness, and medical care, education, and research are examined in a social, cultural and cross-cultural perspective, with special attention to present-day American society. The course is developed around lectures and class discussion.

SM 594. (SOCI594) History of Population. (M) Staff.

The aim of the course is to present a view of how western populations in the past were coping with demographic issues of survival, reproduction, and social organization. The focus of the course will be on demographic mechanisms rather than on methodology; on the transmission of ideas on disease and reproduction rather than on quantitative estimates of mortality and fertility. 1.How do we know: A discussion of sources 2.Mortality: Homeostatic mechanisms 3.Epidemiology, then and now 4.The Mortality transition 5.Family and marriage 6.Pre-industrial fertility control 7.Ideology and technology in family limitation 8.Marital, pre- and extra- 9.The fertility transition

604. (SOCI604) Methodology of Social Research. (B) Staff.

This is a class on methodology used in social research. We shall study the history, logic and design of social research. Several classes will include presentations by other members of the standing faculty. Discussions will be based in part on student

responses to weekly assignments and critiques of published research. Students will discuss their assignments in class. Attendance is mandatory. There will be no grades of Incomplete.

609. (SOCI609) Basic Methods of Demography. (A) Elo, Smith, Preston.

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.

SM 630. (SOCI630) Advanced Special Topics. (C)

SM 633. (SOCI633) Population Processes I. (A) Elo, Ewbank, Kohler, Preston, Soldo.

Population Processes (PP) I is part of a two-course sequence designed to introduce students to the core areas of demography (fertility, mortality, migration, and population aging) and recent developments in the field. PP I is designed as a survey course to introduce students to a broad set of issues in health and mortality, and individual and population aging. The course covers topics in demographic and social perspectives on health and mortality in developed and developing countries and topics in population aging, such as global trends in disease, disability, and aging, biologic and social aspects of aging, and health inequalities at older ages. The course format consists of lectures and class discussions. The two course sequence is required of Ph.D. 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 634. (SOCI634) Population Processes II. (B) Kohler, Smith.

Population Processes (PP) II is a part of a two-course sequence designed to introduce students to the core areas of demography (fertility, mortality, migration, and population aging) and recent developments in the field. PP II focuses on 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. In addition the course covers topics in family demography. The course

format consists of lectures and class discussions. The two course sequence is required of Ph.D. 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 670. (SOC1670) 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 707. (SOC1603, SOC1707) Seminar in Demographic Research. (B) 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 Sociology and Demography.

SM 708. (SOC1708) Seminar: Demographic Research II. (B) Staff.

A second semester of an intensive course in preparing a major independent research paper. This is a required course for second year demography students.

SM 731. (SOC1731) Advanced Demographic Methods. (M) Staff.

This course considers a variety of procedures for measuring and modeling demographic processes. These include increment/decrement tables, generalizations of stable population relations, two-sex models, and indirect estimation procedures.

796. (SOC1796) Demographic, Economic, and Social Interrelations. (C) 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 in Third World countries? In addition to these topics, the course also covers selected methods not included in Dem/Soc 535/536 and 609.

990. Masters Thesis. (C)

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.

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.

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) 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."

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, Arthur Caplan. Prerequisite(s): None.

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.

575. (HCMG250, HCMG850) The Future of the American Health Care System: Health Policy and the Affordable Care Act. (B) Ezekiel Emanuel. Prerequisite(s): None.

Corequisite(s): Students must also register for a recitation section - EITHER BIOE 575 002, BIOE 575 003, or BIOE 575 004.

Each recitation section meets for 1 hour following BIOE 575 001. Course open to graduate students and upper level undergraduates. Freshman and Sophmores 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 worlds 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 of 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. Developing World Research

Ethics. 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

UNIVERSITY COURSE REGISTER

Philosophy of Death and Dying, Genetics and Ethics, Philosophy of Medicine, Pragmatic Bioethics, and Feminism and Bioethics.

SM 601. 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. 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.

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}

ENVIRONMENTAL STUDIES (ENVS)-----Note: Listings for GEOL follow ENVS 999

SM 073. (EDUC545, PHIL073) Topics in Ethics. (M) Meyer, M.

Topics vary each semester.

SM 095. Risk Communication and the Environment. (M) Osterhoudt.

Throughout nature it is evident that life is not risk free. Humans are particularly adept at modifying and shaping our environment, but with each advance in science, technology, and medicine comes an element of risk. Toxicants in our environment such as heavy metals, plastics, pesticides, pharmaceuticals, and air pollutants pose an exposure risk and are hot topics of concern, but the magnitude of their threat is often difficult to understand and communicate. How should these risks be translated from the academic laboratory to the public? What filters shape the way that we perceive risks? This seminar will promote an analysis of the risks we face on a daily basis, and the determinants which shape our willingness to accept some risks while rejecting others. Students will be asked to identify real environmental hazards, and to study how those exposures affect the public. A goal of this seminar is to nurture skills in critical appraisal, and spoken and written communication, which will be important in lifelong advocacy pursuits.

SM 098. The Next Millenium: Would Technology Help Us Resolve the Environmental Dilemma?. (C) Bokreta / Santiago-Aviles.

Over the last century we have witnessed the dominance of man over nature. Technology, our understanding of our environment and our consumption habits have been the principal weapons used in this conquest. Now, at the beginning of a new millenium, questions and concerns about our actions and perceptions are being raised. Can today's technology and new knowledge about our environment and human nature assure our survival? How can we use the next hundred years to reconstruct and restore our future? These are the fundamental questions that the class will investigate. This course will rely on evidence, the use of hypotheses, theories, and logic as well as students' scientific

inquiry and creativity. We will discuss systems, models, simulations, constancy, patterns of change, evolution, and scale.

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.

295. Maritime Science and Technology: Woods Hole Sea Semester. (C) Dmochowski.

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 Dr. Dmochowski 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 Dr. Dmochowski 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. (C) Calabria. Prerequisite(s): ENVS 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. (ENVS640) Ocean-Atmosphere Dynamics and Implications for Future Climate Change. (B) Marinov. Prerequisite(s): ENVS204 (or equivalent) or Physics150 (or equivalent).

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).

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. (C) Staff. 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 ENV5 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 ENV5 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 a 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.

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.

450. Techniques in environmental accounting and system analysis. (C)

Scatena. Prerequisite(s): One year of introductory calculus and statistics, working knowledge of spreadsheet software.

This course covers the development and analysis of environmental budgets and input-output models that are commonly used in earth and environmental science. The first part of the semester will concentrate on the physical laws, systems principles, and analytical tools used in developing and evaluating input-output

models and environmental budgets. In the remainder of the semester, we will develop and analyze hydrologic, energy and nutrient budgets for a variety of systems.

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.

499. Senior Thesis. (F) Giegengack.

Prerequisite(s): ENVS 400-level course (may be taken concurrently). The Environmental Studies major requires 2 semesters of ENVS 499.

The culmination of the Environmental Studies Major. Students write a thesis on a topic which combines their concentration with Environmental Studies. Students work with an advisor in their discipline.

501. (MUSA501) GIS, ArcGIS & NeoGeography. (L)

This distance learning course introduces students to the fundamental techniques for using Geographic Information Systems (GIS) to analyze neighborhood markets. GIS is a computer-based data processing tool used to manage, visualize and analyze spatial information. Using Arc GIS 9.2, this course provides a hands-on experience to create maps, integrate demographic and economic data to conduct analysis within students' field of interest, including

geography, history, archaeology, engineering, real estate, sociology, architecture, and political science/ policy studies. Students will also be introduced to advanced geospatial analysis tools and integrated online mapping environments using NeoGeography. The class will enable students to learn how to address research questions and problems specific to their fields through GIS; the focus throughout will be on professional and research applications of this technology. Students will have virtual lectures and GIS lab support throughout online meetings at least two times per week. One-on-One and small group work sessions will be scheduled as needed. Prior experience with GIS is not required. This is a PC-based program, only.

507. Wetlands. (M) Willig. Offered through LPS - See current timetable.

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.

530. Rocky Mountain Field Geology and Ecology. (L) Giegengack/Bordeaux.

Field work is done in and around Red Lodge, Montana. An additional fee for Room and Board applies. Permission of the Instructor is required for non-MES students. Offered through LPS - See current timetable.

Designed for the MES program (open to non-MES students by permission of the instructor). This is a two-week intensive field course in the geology, natural history, and ecology of the Greater Yellowstone Ecosystem, which comprises a range of environments from the mile-high semi-deserts of intermontane basins to the alpine tundra of the Beartooth Plateau above 12,000 feet. The program is based at the Yellowstone-Bighorn Research Association (YBRA) field station on the northeast flank

of the Beartooth Mountains near Red Lodge, Montana. The course includes day trips from the field station as well as overnight visits to sites within Yellowstone National Park. Pre-trip classes will be held online before the trip to ensure that all students are adequately familiar with basic principles of field-based natural science.

SM 533. Research Methods in Environmental Studies. (M) Kulik.

This course is designed to prepare Master of Environmental Studies students to undertake their Capstone exercises. In this course, we discuss how to identify an appropriate research project, how to design a research plan, and how to prepare a detailed proposal. Each student should enter the course with a preliminary research plan and should have identified an advisor. By the end of the course, each student is expected to have a completed Capstone proposal that has been reviewed and approved by his/her advisor.

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)

Pfefferkorn/Bordeaux/Scatena. Offered through LPS - See current timetable.

A detailed, comprehensive investigation of selected environmental problems. This is the first course taken by students entering the Master of Environmental Studies Program.

604. (ENVS414) Conservation and Land Management. (M) Harper.

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.

610. Regional Field Ecology. (L)

Willig. Offered through LPS - See current timetable. 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.

612. (ENVS412) Economics and the Environment. (M) Handy.

This course provides a comprehensive introduction to basic economic tools and methods, as they are applied to environmental issues -- including pollution control, resource depletion, the global commons, intergenerational equity, and policy decision-making. The course is designed for those with little or no prior economics background; disciplined sceptics are welcome.

SM 613. (ENVS413) Business and the Natural Environment. (B) Heller.

Offered through LPS - See current timetable.

This course explores dramatic changes taking place at the interface of business, society, and the natural environment. Previously, business and environmental interests were believed to be adversarial. Now, some contemporary thinkers are suggesting that environmental capabilities can be a source of competitive advantage for corporations. A recent Harvard Business Review article refers to the sum of these changes as "The Next Industrial Revolution." In this course we will study examples on the cutting edge of these developments. We will look at corporations that are creating a "double bottom line" by strategizing about the ecological impact of their decisions, as well as the economic impact. We will learn about industrial designers who are rethinking everything from tennis shoes to corporate headquarters' buildings with the environment in mind. We will consider new alliances among business, environmental activists and government regulators -- all stakeholders in a sustainable society.

615. Professional Case Studies in Environmental Analysis and Management. (M) Laskowski.

This course is designed for students nearing the end of their MES program. It will provide students with hands-on experience working with local environmental professionals on projects in the Delaware Valley region. Each student will select a project made available by a local public or private agency. Among the tasks that students will perform are data collection and analysis, project planning, and documentation. Each student will prepare a detailed report under the direction of the agency representative that can be the basis for a Capstone project. Those interested in continuing on to the Capstone phase will use the report as the basis for a publishable document to be prepared in conjunction with the participating agency.

SM 616. Managing Environmental Risks in an Uncertain World. (L) Chu.

How do government policy-makers make decisions about potential threats to health and the environment in the face of uncertain scientific information? Using case studies, this course examines how public policy decisions regarding environmental risk are made and how effective those decisions are. The course focuses on the complex interaction of science, economics, politics, laws, and regulations in dealing with

environmental and health risks. The course will begin with a policy overview of the principles and methods used in evaluating human health and environmental risks, 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, economics, public participation, special interests, and politics influence environmental policy decisions. Issues such as special populations (e.g., children, environmental justice, tribes), improved materials management, cost-benefit analysis, and the "precautionary principle" will be discussed in the context of different types of environmental concerns (e.g., pesticides, chemicals, climate change, air pollution, water quality, and land use). Personal, community, corporate, and government roles and responsibilities will also be discussed in the context of societal risk management.

SM 617. Innovative Environmental Management Strategies. (M)

Laskowski. Offered through LPS - See current timetable.

This course will evaluate innovative environmental management strategies used by corporations, governments, the public, and NGOs including approaches such as the concept of pollution prevention, environmental management systems, green buildings, green product design, product labeling, environmental education, the power of information, market-based techniques, and industrial ecology. Some professionals believe that these innovative approaches have the potential to result in more environmental improvement than will be realized by additional regulatory requirements. This course will address which approaches work best and identify critical elements needed to ensure the best approaches to specific problems. Students will be exposed to real-life situations through expert guest lecturers, case studies, and "hands on" projects.

SM 619. Environmental Leadership in Philadelphia. (C) Laskowski.

Philadelphia-area individuals and organizations have provided progressive leadership on many local, national, and international issues. These leaders come from government, business, NGOs, and academia. This course, given over a two week period, provides students with an opportunity to meet with these leaders at their place of employment. These experts will discuss their organization, their environmental priorities, and their thoughts

on career opportunities. Each expert will also provide an in-depth explanation one or two of their progressive, sometimes cutting-edge, approaches to environmental management and science.

SM 620. How to Quantify Sustainable Practices in Business and Manufacturing. (B) Baer.

This course is designed to survey the various sustainability tools currently available to evaluate business performance. We will concentrate on the Triple Bottom line views of sustainability. Emphasis will be on Data driven approaches to Life Cycle Assessment, Environmental Product Declarations, ISO standards, and Green Construction. Special sessions will review the business drivers and market pull for sustainable products and practices. We will focus on US Green Building Council LEED requirements as well as the expectations of retailers for environmental information with regard to consumer packaged goods.

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. Crossing Borders: Policy, Regulatory and Management Issues in Transboundary Environmental Protection. (B) Feldman. Offered through LPS - See Current Timetable.

Transboundary issues arise at the local, regional, supra-national, and global levels. Pollution does not respect political

boundaries; habitats are defined by ecosystems, not by regulation. This course will introduce the difficulties posed by cross-border issues and, using case studies, explore a range of policy, regulatory and management mechanisms employed to address these challenges. Among the topics to be covered include: interstate compacts (e.g. Chesapeake Bay), NAFTA Commission on Environmental Cooperation (e.g. biodiversity in North America), Regional Cooperation (e.g. Baltic Sea, international watercourses), European Union regulation (e.g. Hazardous Waste directives and the Basel Convention), and international conventions (e.g. The Kyoto Protocol on greenhouse gas emissions).

625. Overview of Environmental Justice: Issues, Actions and Visions for the Future. (B) Harris and Thompson. Offered through LPS-See current Timetable.

Many people refer to the Environmental Justice Movement as the most significant social rights movement to occur in this country since the Civil Rights Movement. Communities around the United States have expressed concerns related to the siting, permitting and clean up of hazardous waste sites in minority and low-income areas. Beginning with the protests in Warren County, North Carolina, Environmental Justice has become a most critical and controversial issue in this country. This course will provide an overview of the history, guiding principles, and issues of concern regarding Environmental Justice and will examine the approaches taken by communities, EPA, state and local government over the years to address these concerns. Students will be expected to evaluate and assess the various issues and case studies presented to them in a critical fashion, discuss these case studies, and make recommendations for appropriate action.

SM 627. The Delaware River: An Environmental Case Study. (B)

Collier. Offered through LPS - See current timetable.

The Delaware River and Estuary offer an opportunity to examine efforts to protect the environment in a multi-state, economically and ecologically complex area. This case study will review environmental protection efforts in and around the River, the stressors on the environment, and attempts to balance environmental protection with economic, employment, and other needs. It will address scientific issues, relationships between air and water quality transportation and sprawl issues, the balancing of water quality and water quantity. Students will learn about

the institutions responsible for managing this complex system, and what goals and indicators of progress are used by these organizations. Students will be asked to research, in detail, one or more aspects of the environmental management systems. They will identify the key drivers in determining environmental quality, recommend improvements to the system, and propose a vision for the future.

SM 631. (ENVS431) Current EPA Regulatory Practices and Future Directions. (A) Laskowski.

The regulatory approach continues to be the foundation of environmental protection in the US. This course provides an overview of key environmental laws and regulations, and the processes used to write permits, conduct inspections and take enforcement actions. It is taught mainly from the perspective of the federal government and will also include perspectives from the states, NGOs, and the regulated community. Techniques used to set priorities, ensure fairness, and encourage compliance are included. Current issues in major regulatory programs will be reviewed and future directions will be discussed.

SM 634. Closing the Loop on Climate Change. (C) Chu.

Historical consumption of materials and land resources has resulted in increasing per capita waste and greenhouse gas emissions. This course will explore opportunities to address the challenges of climate change through sustainable closed-loop approaches for materials and land. Alternative views of the drivers of climate changing greenhouse gases and the relative contributions of various sectors of the U.S. economy will be presented. The implications of climate change, economic costs of climate change mitigation and adaptation, rising energy prices, land use, and waste management issues will be discussed. The course will identify policy needs at all levels (international, national, state, and local) as well as practical solutions for greenhouse gas reductions. The course will explore in depth local policies and actions (e.g., recycling efforts and land use planning) that complement national and international efforts (e.g., cap and trade system and carbon tax).

SM 635. Major Global Environmental Problems of Today and How We Must Deal With Them Tomorrow. (B)

Laskowski. Offered through LPS - See current timetable.

Global environmental problems of today are some of the greatest challenges of the new millennium. Almost everyone is in some

way part of the problem and increasingly will be asked to be a part of the solution. The problems that we face today often differ from those of the past because it is sometimes difficult for the international community to agree on the extent, causes, and impacts of the problem and how to allocate responsibility for the resolution of the problem. Governments, businesses and NGOs around the world have recognized the need to take the initiative and address these issues through regulation, voluntary approaches, and cooperation on an international level. How best to manage these problems is the constant challenge. This course will provide an overview of several of the major global environmental problems facing the world today, and how they are connected by common causes, underlying themes and concepts critical to the understanding and management of these issues. It will examine the over-arching concepts of sustainability and globalization as well as frameworks for assessing and managing the issues.

The course will also consider the role of the major players/stakeholders in the situation, including governments, non-government organizations, and private sector individuals/participants, and where appropriate, touch on such issues as intergenerational aspects and the potential long-term irreversibility. With the assistance of regional and national experts, we will address specific problems, such as: human populations and their environmental impact; issues surrounding resources such as food, water, habitats, and energy; global climate change; the ozone layer; and problems of international/environmental terrorism, catastrophes, and disease. Each student will prepare a report and presentation on some aspect of a topic discussed during the term.

637. (ENVS437) Global Water Issues. (A) Laskowski. Offered through LPS - See current timetable.

Water-related illnesses are estimated by some to kill up to 5000 people per day worldwide and many of these casualties are children. This course will explore the causes of this global crisis and what is being done to address the issue. It will provide an overview of international agreements, wastewater and water supply issues, technological advances, political/financial/cultural and other barriers to success, and what students can do to become involved in resolving the issues. Guest lecturers and case studies will provide insights to problems in problem areas around the world. Students will be asked to evaluate specific problems and suggest

improved approaches to improving access to clean water.

SM 638. Global Water Policy and Governance. (A) Laskowski.

At the turn of the 21st century the United Nations established a series of goals to assist developing countries. These Millennium Development Goals [MDG] include targets for water and sanitation: " by the year 2015 to reduce by one half the percent of the world's population that does not have access to safe water and adequate sanitation". This course explores the policies and actions being taken by the world community, the United States, and NGOs to meet these targets. It will also address water governance issues such as financing, community leadership, and capacity building for water/sanitation in developing countries. Two mandatory full-day field trips are included [one to the United Nations in New York City; another to US Government leaders in Washington, DC].

639. (ENVS439) Policy to Practical in Environmental Management: Water Issues. (C) Laskowski. Offered through LPS - See current timetable.

This course explores some of the most challenging national and global water-related topics and includes guest lectures by and trips to meet representatives from several of the leading organizations addressing these these issues. Examples of these topics include meeting the UN Millennium Development Goal of halving the number of people worldwide who do not have adequate drinking water and sanitation; the control of polluted runoff from farms and urban areas; the management of multi-state water pollution programs; and assessment of the impacts of low-level toxics in water. In addition to learning about the environmental issues, students will also visit regional and global experts in such places as the Philadelphia, Washington DC, and New York City. Students must attend two full-day field trips and one afternoon trip.

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, URBS463, URBS663) The Historical, Scientific, & Policy Dimensions of "Brownfields". (M) Keene. Offered through LPS - See current timetable.

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.

644. Wastewater Treatment. (B) Dussert.

This course will focus on all key aspects of municipal wastewater treatment, including 1) the environmental chemistry and biology, 2) worldwide and US environmental policies/regulations, and 3) treatment technologies. Emerging concerns and innovative technologies will be emphasized.

645. (CPLN631) Planning for Land Preservation. (B) Daniels.

An introduction to the tools and methods for preserving private lands by government agencies and private non-profit organizations. Topics include purchase

and donation of development rights (also known as conservation easements), land acquisition, limited development, land swaps, and the preservation of urban greenways, trails, and parks. Preservation examples include: open space and scenic areas, farmland, forestland, battlefields, and natural areas.

SM 647. Urban Ecology. (C) Bathala.

Urban Ecology provides an examination of the ways in which humans and other animals interact in shared and contiguous environments. A focus of the course will be the impact of urbanization on our natural resources. Topics covered include historical and ethical perspectives of wildlife, general ecological principles, biodiversity and endangered species management, eco-tourism and environmental sustainability. Students will be required to keep a weekly journal of current news articles and responses in lieu of a textbook. Additionally, a museum trip or evening lecture series event may be incorporated. Students will have the opportunity to collect data for an Urban Bird Watch project. Laboratory exercises will also be required which demonstrate various ecological measures.

652. God, Gold & Green: Themes and Classics in American Environmental Thought. (C) Blaine. Offered through LPS - See current Timetable.

Through an exploration of enduring themes and classics, this course traces environmental thought in America from the first European settlements to the present. We begin by considering the preconceptions that Europeans brought to the New World and the realities they found when they arrived. We look at the issues raised by the unprecedented industrial and urban expansion of the 19th century and the accompanying westward migration that filled the continent. We examine how the conflict between economic growth and environmental limits created competing models of prosperity, equality and justice. And finally, we look at ways to transcend those divides and build a sustainable and equitable future. The primary vehicles for understanding the evolution of environmental thinking across several centuries are some of the classic texts of environmental thought - from The Book of Genesis to Henry Thoreau's Walden to Rachel Carson's Silent Spring to Al Gore's An Inconvenient Truth. The course seeks to provide a theoretical and historical framework that will help students understand current issues and address real problems.

SM 656. Environmental Futures. (B) Laskowski.

As global population and affluence increases in the 21st century, the world is faced with many environmental challenges. Global climate change, declines in fisheries, water supply shortages, limited fossil fuels, habitat destruction, species extinction, and low-level toxins are a few concerns. Many studies of these issues have projected disastrous impacts on the environment, human health, and the economy. But, how accurate are those projections? And, what needs to happen to make these projections more optimistic? In this course students will select one of the many global environmental problems of the 21st century, research projections made about the impact of the problem to the year 2050, assess the accuracy of the assumptions behind these projections, and apply creative thinking to what needs to happen to make these projections more optimistic (eg, could there be technological breakthroughs?; better international agreements?; improved monitoring?; shifts in cultural attitudes?; regulation and market-based solutions?). Environmental management topics such as strategic planning, environmental indicators, pollution prevention, innovative technologies, and the importance of quality science will be addressed.

SM 662. Green Design and the City. (B) Berman. Offered through LPS - See current timetable.

Can our cities become examples of sustainable design? Does inner city revitalization tie into sustainability? Are there successful examples to learn from? This seminar will focus on how existing cities attempt to integrate green design principles within them. It will look at case studies, both in the US and abroad.

Urban design and transportation will be examined within this context, including how to create pedestrian friendly spaces. Infill construction and the adaptive use of existing buildings will be discussed, as well as the reuse of brownfield sites. We will also look at what types of construction actually constitute green buildings.

We will take advantage of our local resources within Philadelphia, and include visits to nearby sites, along with talks by local experts. There will be a series of short projects given throughout the term. They will usually include both a written component and a presentation to the class. The energetic execution of these projects, their presentations and the subsequent discussions, will be a key part of this seminar.

SM 664. Sustainable Design. (C)

Berman. Offered through LPS - See current timetable.

This seminar will focus on how physical design can improve sustainability. It will be broken down into 3 parts: Green Buildings, Green Urbanism, and Smart Growth Planning. Starting small, we will begin by looking at which types of construction actually constitute Green Buildings and which of these are the most effective. Our look at Green Urbanism will focus on existing cities and towns. They will be examined in terms of how urban design and transportation can promote sustainability. Finally, Smart Growth planning concepts for new developments will be discussed. This will include a survey of New Urbanism. Both these closely allied approaches are recent attempts to guide new growth in a more sensitive manner. We will also take advantage of local resources within our region, and include visits to nearby sites, along with talks by local experts.

674. Assessment and Remediation of the Environment Using Biological Organisms. (M) Vann.

This course is an introduction to current and emerging techniques for analyzing environmental contamination and remediation of damaged environments. Knowledge of these options will be important for both students interested in policy/law options, as well as providing a starting point for those pursuing a more science-oriented understanding of environmental issues. The first portion of the course will address bioindicators--the use of living systems to assess environmental contamination. Many new methods of rapidly-analyzing environmental samples are becoming available. 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 course will survey these approaches to familiarize the student with this rapidly developing field. The second portion of the course will introduce techniques for bioremediation--the use of living organisms to restore contaminated environments. Several case studies will be provided (perhaps with external speakers). Students will be expected to prepare a final paper examining a particular technique in detail.

678. Advanced Biogeochemistry. (B) Vann. A soils course would be helpful, but not required.

The course will cover nature of the field of biogeo chemistry and its application.

Topics include, elemental cycling at various scales, from global to watershed level, the interaction between geology and biology in controlling how these relationships have changed over the Earth's history and man's influence on these cycles.

The course will include an examination of the CENTURY computer model, a popular model for examining nutrient cycling in terrestrial ecosystems. Students will submit a term paper on a related subject, such as comparing the functioning of two watersheds or summarizing current understanding of a particular cycle, etc.

681. Modeling Geographical Space. (M) Tomlin. Offered through LPS - See current timetable.

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.

SM 699. (GEOL699) Masters of Environmental Studies Capstone Seminar. (C) Bordeaux. Permission of instructor required. Offered through LPS - See current timetable.**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.

103. Natural Disturbances and Human Disasters. (B) 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. Horton.

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. (GEOL406) Paleontology. (B)

Living World Sector. All classes. Pfefferkorn. Prerequisite(s): GEOL 100 or permission of instructor. 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)

Pfefferkorn. 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.

295. Study Abroad.

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.

401. Environmental Geology. (M)

Willig.

The purpose of this course is to better understand the interactions of humans and the environment through an examination of geologic processes and features as they influence, and are influenced, by human activities. The ultimate goal of such study is to make better land use decisions.

Following a review of some basic geologic concepts, we will study hazardous geologic processes including; volcanic eruptions, earthquakes, river flooding, coastal flooding and erosion, landslides, and subsidence.

Next, we will discuss environmental impacts associated with the use of fossil fuels, water, and soils. The course will conclude with student presentations of selected topics in environmental geology.

L/L 415. Paleobotany. (M) Pfefferkorn.

Prerequisite(s): Basic course in Geology or Biology or permission of instructor. Two field trips.

Fossil record and evolution of plants. Methods and application of paleobotanical research.

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) Omar.

Prerequisite(s): GEOL 201. May be taken concurrently.

This course provides a comprehensive introduction to theory and applications of chemistry in the earth and environmental sciences. Theory covered will include nucleosynthesis, atomic structure, acid-base equilibrium, thermodynamics, 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

419. Coasts. (C) Horton. Prerequisite(s):

GEOL100, ENV5200, or equivalent. Three-day field trip to the New Jersey Coast.

This course examines the coasts of the world, how they have developed in the past, how they operate and are managed at present, and how they may in the future in the face of climate change. The challenge of coastal science is to develop the capability to predict changes that will occur in the next decade to century from external (e.g., earthquakes and tsunamis, hurricanes, sea-level rise) and internal (e.g. sediment dynamics) processes. In this course, students will acquire hands-on experience on some of the procedures employed to study the coastal system through practical fieldwork and applied laboratory research methodology.

420. Introduction to Geophysics. (M)

Doheny/Bechtel. 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 factors 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: Applications and Methods of Modern Geochronology. (C) Willenbring. Prerequisite(s): Students need GEOL100 or an equivalent course or a solid background in physical sciences, including either chemistry or physics.

This course is designed to give advanced undergraduate students and graduate students an understanding of the science behind numerical dating techniques in geological and archaeological contexts. This course will provide a background in the physics of radioactive decay and natural radiation sources. We will also cover various radiometric dating methods, and non-radiometric alternatives for younger samples. Numerous case studies involving questions of both geological and archaeological importance will be studied in this context. This class will cater to students interested in applying chronologic tools to the areas of archeology, physical anthropology, soil science, tectonics, sea level change, climate change, land use change and ocean processes.

428. Introduction to Isotope Geochemistry. (A) Omar.

This course is for advanced undergraduate students interested in learning about or pursuing applications of isotope geochemistry, with an emphasis on biological and climatic processes (e.g. plant physiology, soils, nutrient cycling, and atmospheric chemistry).

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.

499. Senior Thesis. (F) Giegengack.

Students write a thesis on a geologic topic. Students work with an advisor in their discipline.

501. Pleistocene Geology. (M)

Giegengack. Prerequisite(s): GEOL 100 or equivalent.

Origin, extent in space and time, and effect on geologic processes of Late Cenozoic climatic change; Pleistocene stratigraphy in different parts of the world.

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.

511. Geology of Soils. (A) Johnson.

Prerequisite(s): GEOL 100 or equivalent. Field trips.

Nature, properties, genesis, and classification of soils; soils of the United States.

515. Evolution/Revolution of Land Ecosystems. (M) Dimichele/Wing.

Permission of instructor needed.

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.

517. Igneous and Metamorphic Petrology. (M) Omar.

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.

525. Plant Paleoecology. (M) Pfefferkorn.

Deciphering the ecology of fossil plants, ecosystems, and landscapes through quantitative and qualitative methods.

SM 527. Applied Techniques in Paleontology. (B) Manning.

Prerequisite(s): Geol205 or equivalent is suggested.

The development of surveying, imaging, and analytical techniques has facilitated many advances in the field of paleontology in recent years. This course will review the application of new and existing technologies to the analysis and interpretation of fossil remains. The research areas to be reviewed include: Light Detection and Range (LiDAR) applications to trackway and body mass estimates in dinosaurs; soft tissue preservation in the fossil record and the techniques to recognize and identify biomarkers; dinosaur locomotor reconstruction (using Gaitsym); geochemical and elemental analysis (particularly specializing in synchrotron based techniques); application of high-performance computing; mechanical analysis of biomaterials (both extant and extinct); finite element analysis and the application of high resolution X-ray tomography. Given the fluid nature of developing applications, the course will

include additional techniques which are a function of the research program evolving between the Universities of Manchester and Pennsylvania.

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)

SM 546. Basin Analysis. (M)

Phipps/Scatena. Undergrads need permission of instructor.

An in-depth study of selected depositional basins using petrologic, stratigraphic, sedimentologic, and seismic techniques. Aspects of the depositional processes and basin architecture will be considered in light of the tectonic regime associated with basin formation.

SM 555. Problems in the Early Evolution of Vertebrates. (M) Staff.

Prerequisite(s): GEOL 100, GEOL 205. Short paper based on fossil vertebrate materials.

An analysis of key problems in the paleontology and evolutionary biology of early vertebrates, including: origins of chordates, origins of bone and other hard tissues, organization of the vertebrate head, origins of the major vertebrate classes, environmental contexts of key vertebrate transitions, diversifications of Paleozoic fishes, origin and diversifications of tetrapods, extinctions.

599. Independent Study. (C) Staff.

Directed study for individuals or small groups under supervision of a faculty member.

602. Geotechnics: Introduction to Geotechnical Engineering. (B)

Doheny.

The course begins with a study of the Earth's composition, the formation of soil materials by the weathering process (Physical and Chemical), and a discussion of soil mineralogy, with particular emphasis on the clay minerals. Following this introduction, soil classification systems and physical properties of soils will be presented, as well as the State of Stress in a Soil Mass together with Seepage Theory and Groundwater Flow. The technical portion of the course will conclude with the development of Consolidation Theory and Analyses, Shear Strength Theory, Lateral Earth Pressure Theory and Application, and Slope Stability Analysis.

The course will conclude with the presentation of two Case History Sessions, presenting applications of Geotechnical Engineering Practice and the influence of the Geologic setting.

SM 603. Luquillo Critical Zone Research Seminar. (M) Scatena.

Prerequisite(s): This course is designed for PhD and MS students working on their Luquillo projects.

Classic primary readings on the geology and ecology of the Luquillo mountains and surrounding regions will be read and discussed in sessions led by EES Faculty and graduate students who are involved in Luquillo CZ research.

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 Sedimentary Petrology and Stratigraphy. (M)

Pfefferkorn. Prerequisite(s): GEOL 205, 206, 706 or permission of instructor.

Analysis of selected paleoenvironmental, stratigraphic, and sedimentological problems in the field and laboratory.

ADVANCED STRATIGRAPHY:

In-depth study of sedimentology, stratigraphic principles, and paleoecological interpretation based on the rock record.

SEDIMENTARY PETROLOGY:

Interpretation of rocks using microscopic techniques. Students will make thin-sections of various sedimentary rock types collected from regional depositional basins (Geol 706). Diagenetic, syn- and post-depositional processes will be investigated.

SM 611. Field Study of Soils. (B)

Johnson. 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 614. Regional Geology and Ecology of North America. (A) Phipps.

SM 615. Advanced Vertebrate Paleontology Seminar. (C) Dodson. May be repeated for credit.

Topics in vertebrate paleontology and paleoecology.

616. Geology of the Carboniferous Period. (M) Pfefferkorn.

Paleogeography, biogeography, stratigraphy, paleoclimatology, flora, and fauna of the Carboniferous Period.

SM 617. Topics in Sedimentology. (M)

Prerequisite(s): GEOL 206 or permission of instructor.

CLIMATE CHANGES THRU TIME:

Issues of anthropogenically-induced climate changes are hotly debated. However, it is not possible to make meaningful predictions of future climates without understanding the forces that have controlled past climates. This course will review the geologic evidence for past climate changes and discuss processes that affect global climate changes. It will involve analysis and modeling of various sedimentary environments, systems, and processes.

ANCIENT TERRESTRIAL

ENVIRONMENTS: Multi-disciplinary approaches and techniques that enable the extraction of comprehensive information (weathering, deposition, diagenesis, tectonics) from ancient continental deposits. The goal is the reconstruction of integrated environmental, geographic, and climatic conditions for selected time slices.

SM 618. Geochemistry Seminar. (C) Staff.

Topics in geochemistry.

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 620. Geophysics Seminar. (M)
Staff.

Topics in solid Earth geophysics.

SM 621. Advanced Biogeochemistry. (M) Plante. Prerequisite(s): Geol421 or permission from instructor.

Through close readings from the primary literature, students will undertake an in-depth study of biogeochemical cycling and human disturbance of biogeochemical cycles. Special emphasis will be on carbon and nitrogen cycling in terrestrial ecosystems, but may include other topics based on the interests of enrolled students.

SM 625. Advanced Paleobotany Seminar. (M) Pfefferkorn. May be repeated for credit.

Topics in paleobotany, paleoecology and evolution.

SM 628. Seminar in Isotope Geochemistry. (M) Staff. Prerequisite(s): Intermediate background in chemistry, physics, biology, or geology.

This course is for advanced undergraduates and graduate students interested in learning about or pursuing applications of isotope geochemistry, with an emphasis on biological and climatic processes (e.g. plant physiology, soils, nutrient cycling, and atmospheric chemistry). We will meet to discuss readings both from the literature and textbook chapters where necessary for background. Grading will be on the basis of class participation and short weekly writing assignments. The latter will be completed prior to the class by both students and professor to ensure thorough discussion of each topic.

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.

SM 631. Reconstructing Former Sea Levels. (B) Horton. Course includes a mandatory several day-long field trip.

The significance of relative sea level since the last glacial maximum is recognized by disciplines across the Earth sciences. Relative sea-level histories are important for

calibrating and constraining geophysical models of Earth's rheology and the isostatic adjustment of Earth to ice and water loads. Sea level is crucial to any study of coastal evolution as it serves as the ultimate baseline for continental denudation. The stability of sea level in recent past has been an important factor in sustaining coastal communities and may have profoundly influenced the very initiation of human civilization. The Intergovernmental Panel on Climate Change (IPCC) recently re-emphasized the importance of sea level as a barometer of climate and drew attention to the potentially devastating consequences of future climate change. However, the IPCC also highlighted the uncertainty with which the driving mechanisms of recent sea-level change are understood and the disconnect between long-term geological and recent observational trends. In this course we will begin to fill this important knowledge gap.

636. Quantitative Paleoclimatology. (M) Staff.

This course provides a comprehensive, rigorous survey of our knowledge of the Earth's climate system from ancient to modern. Topics to be covered will include geological evidence for past climate changes, with an emphasis on quantitative methods using geochemistry and geophysics; the basis of earth system modeling; statistical climatology; climate change detection; time-series analysis in climatology.

SM 637. Recent Climate Change. (A)
Staff.

Increases in "greenhouse gases" produced through human activity appear to be affecting the Earth's climate. This course will examine climate change over the last 500 years. We will examine the available instrumental records over this time period as well as proxy climate records such as ice core, tree ring, sediment cores, coral cores and others. Students will research individual topics and present them regularly, review published articles, and attend some seminars.

SM 639. Isotopes in Paleoclimatology. (A) Staff .

Isotope records in tree rings, ice cores, corals, and sediments can be used to reconstruct past climate variables such as temperature, salinity, atmospheric CO₂, El Nino events, cloud cover and precipitation. This course focuses on isotope techniques and applications in paleoclimatology. Special emphasis will be placed on stable carbon, stable oxygen and radiocarbon.

This course is suitable for upper level undergraduates and graduate students.

SM 640. Environmental Investigations and Reporting. (A)
Sauder/Mastropaolo.

Practical applications in environmental and hydrological investigations including sampling techniques, evaluation and reporting of data, critical analysis and interpretation of results. Planning and implementing a site characterization and remedial investigation. Research and reporting on these environmental settings and the fate and transport of chemical parameters.

SM 646. First Billion Years: The Early History of Earth and Life. (A) Phipps.

The course will cover the origin of the Earth. Topics will range constituent atoms to planetesimals; the formation of the Earth including its accretion and differentiation; the early bombardment history of the earth and the formation of the Moon; the cooling of the Earth and the origins of continents and oceans. Additionally various theories for origin of life will be covered including the Archean world, tectonics, the evolution of the atmosphere and oceans, and early life.

651. (GEOL451) Geocomputations I. (M) Mastropaolo. Offered through LPS - See current timetable.

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)

Doheny. Offered through LPS - See current timetable.

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. (GEOL453) Introduction to Hydrology. (A) Sauder. Offered through LPS - See current timetable.

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 I: Solids. (A)

Duda. Offered through LPS - See current timetable.

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.

655. Engineering Geology. (B)

Calabria. Offered through LPS - See current timetable.

Engineering properties of earth materials; engineering testing, classification and use of earth materials; geologic and geophysical investigations and monitoring; geologic hazards; planning and use of the geologic environment.

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).

657. Field Geophysics. (B) Doheny.

Prerequisite(s): GEOL 420: Introduction to Geophysics.

Use of geophysics field equipment (gravity, magnetic, seismic, electrical, electromagnetic, and radar) to collect geologic site investigation data. Theoretical analysis of collected geophysical and geological data to interpret subsurface conditions.

SM 658. (GEOL458) Geostatistics. (C)

Mastropaolo.

Statistical analysis of data from geological, geotechnical, and geohydrologic sources.

659. Surface Water Hydrology. (B)

Bellini.

This course will focus on various aspects of surface water hydrology. Topics covered include: study of all aspects of precipitation and runoff; study of the natural occurrences of floods and droughts; the establishment of

design floods; methods of preventing or alleviating damages due to floods; water losses through evaporation, transpiration, and infiltration; storm water management; and hydrologic considerations in environmental issues.

SM 660. Department of Earth and Environmental Science Seminar.

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. Groundwater Modeling. (B)

Doheny / Freed. Offered through LPS - See current timetable.

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.

667. Landfill Design. (C) Calabria.

Topics for this course include: landfill regulations (Federal/State); permitting; siting considerations; environmental assessment; geotechnical issues; hydrogeologic investigations; landfill component design (QA/QC); linear systems; leachate collection; final cover; gas

control; monitoring; surface water management; and operational, closure, post-closure considerations.

668. Geomechanics II: 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 677. Seminar in Environmental Geology. (M) Giegengack.

706. Topics in Regional Geology. (M)

Phipps. Prerequisite(s): GEOL 208 &/or 206, preferably both; GEOL 390. Field Trips required.

Topics in sedimentology, stratigraphy, petrology, and/or structural geology of selected regions. Regional geologic synthesis and tectonics.

FORELAND BASINS: Structure, sedimentology, and biology/paleobiology of foreland basins, based on the study of modern and ancient examples. These will include the modern Persian Gulf region, and the ancient Carboniferous Appalachian basin. There will be at least one field trip.

DEPOSITIONAL BASINS:

Investigation and interpretation of a number of different tectonically-controlled basins throughout the region. Field work essential. All-day and weekend field trips required. Students will integrate stratigraphic, sedimentological, structural, and tectonic principles within various basinal settings.

SM 715. Paleobiology Seminar. (M)

Staff.

SM 777. Seminar in Quaternary Environments. (M) Giegengack.

Interdisciplinary approach to selected environmental problems of the Pleistocene.

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}

599. ADVANCED CHINESE RDGS.

GENERAL

L/R 011. (COLL004, NELC085) 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.

EAST ASIAN NON-LANGUAGE COURSES IN LITERATURE, HISTORY AND CULTURE

L/R 001. Introduction to Chinese Civilization. (A) History & Tradition Sector. All classes. Goldin.

Survey of the civilization of China from prehistoric times to the present

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.

005. (ANCH195, CLST195) Worlds Apart: Cultural Constructions of "East" and "West". (A) Humanities & Social Science Sector. Class of 2010 & beyond. McInerney/LaFleur.

Multiculturalism increasingly characterizes our political, economic, and personal lives. This course will focus on real and perceived differences between the so-called "East" and "West." Taking a case study approach, we shall read and compare literary materials from classical Greece and Rome, a major source of "Western" culture, and Japan, an "Eastern" society. Through analysis of these texts, we shall explore some of the concepts, values, and myths in terms of which "East" and "West" define themselves and each other: e.g., gender, sexuality, rationality, religion, society, justice, nature, cultural diffusion, work, leisure, life, and death. Readings will include selections from Greco-Roman and Japanese myths, poetry, drama, essays, history, and philosophy. Class format will be lecture with opportunity for questions and discussion. Grading will be based on

midterm and final examinations, a short paper, and class participation. No prerequisites.

L/R 013. (ARTH103) 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.

017. (COML187, GSWS187) Possessing Women. (M) Chance.

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 a 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 the property of men--and what happens when women inhabit the bodies of other women via spirit possession. Readings will draw on the Japanese traditions, 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.

SM 029. Seminar on Chinese Archaeology. (M) Steinhardt. Freshman Seminar.

How has archaeology rewritten the history of ancient China and early Chinese art? That is the question we will answer in this seminar. Each week we will examine artifacts excavated in Chinese tombs to try to understand what they tell us about daily life and philosophical attitudes in ancient China. We will explore famous tombs such as the Tomb of the First Emperor and less well-known artifacts of peoples such as the Scythians and Qidan. We will compare the excavated material with what we can find out about ancient China from other sources, especially literature and standard historical accounts, to find out whether the ideas put

forth in history and literature are accurate. Finally, we will study Chinese art in the Museum of Archaeology and Anthropology and the Philadelphia Museum of Art in comparison to the excavated objects.

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) History & Tradition Sector. All classes. 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. (CINE016) 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.

SM 063. Medicine, Literature, and Culture in Japan. (M) Staff.

This seminar is in many ways an exercise in comparison-by looking at how the practice of medicine in Japan differs from that in America. Japan, where people enjoy good health and live very long lives, not only combines "Western" with "Eastern" medical practices but also is a place where questions of medical ethics and bio-technology are often faced differently than they are in America. The fact that in modern times many Japanese writers had medical educations makes Japanese literature, studied here in translation, a rich context for exploring a wide range of such questions. Film too will be a tool for our studies. A comparative look at what we might think about the body, the mind, and healing or dying processes will be the central focus of this seminar.

SM 065. The Japanese Tea Ceremony - Principles and Practice. (M) Staff. Permission of the instructor.

An introduction to Japanese cultural history and perspectives through a course that combines lectures, readings, and weekly practice of cha-no-yu. This traditional ceremony, one involving a certain amount of bodily discipline, is widely regarded as a uniquely useful tool for understanding the dynamic interactions of traditional Japanese aesthetics, architecture, Zen, and social relationships.

069. (SOC1389) Japanese Popular Culture. (M) Harrington.

This course provides a rigorous introduction to the academic study of Japanese popular culture. Through careful attention to forms of popular culture such as anime (animated films or television shows), manga (comic books), TV dramas, short stories, popular music, fashion and contemporary art, each one of us will be able to develop a better understanding of contemporary Japan. In order to deepen our knowledge, we will learn various methods for studying and writing about the relation between our everyday lives, the processes of globalization, and the pleasures or displeasures that we derive from the objects of popular culture. Through the application of theoretical models to our practical experience of different forms of Japanese popular culture, we will learn to analyze critically some of the functions that these objects serve as sources of meaning, escape, and identity formation in our everyday lives.

070. (HIST090) Pre-modern Japanese History. (A) History & Tradition Sector. All classes. Staff.

This course will survey the major political, economic, social and intellectual trends in Japan from the earliest epoch through the 16th century. Interfaces with EALC 071, Modern Japanese History, in the spring semester.

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.

SM 072. Warring States Japan. (M) Staff.

Japan's 16th century was a time of widespread destruction. It was "a world without a center." Both Emperor and Shogun were challenged by regional warlords. Warfare was endemic; social upheaval was rampant: farmers sought to become samurai, and samurai aspired to be warlords. Yet amidst the turbulence, new political institutions were forged that would bring unprecedented peace to the subsequent Tokugawa era.

074. History of Kyoto. (M) Staff.

For over a thousand years, the city of Kyoto served as the capital of Japan. For most of this time it was the primary urban settlement of the country, the residence of the nation's political and social elite, and the site of most cultural activity. This course is a survey of the establishment and development of the city of Kyoto, cast within the broader context of Japanese history, and will proceed chronologically. Topics include: Founding a New Capital; the City of Prince Genji; Kyoto under Warrior Rule; the Rise of Kyoto Merchants; Kyoto under Seige; Entertainers, Priests, and Poets; Kyoto and the Meiji Restoration; Modernizing Kyoto; etc.

080. Korean Civilization. (A) Staff.

Survey of the civilization of Korea from pre-historic times to the present.

081. (HIST120) Korean History Before 1864. (A) History & Tradition Sector. All classes. Staff.

This course is a survey of the history of Korea from its origins to the late Chosen period. Major interpretive issues in the social, political, and economic history of Korea are introduced. Relations between

Korea and the various Chinese and Japanese states form an important theme.

082. (HIST121) Korean History after 1860. (C) History & Tradition Sector. All classes. Staff.

This course traces the history of Korea from the late Chos dynasty down to the 1990s. It examines major social, political, and economic developments during this period, including early contacts with the west, colonial seizure by Japan, national division after World War II, the Korean War, ideological confrontation between North and South Korea, state-led economic development, military dictatorship, student protest and the democracy movement.

SM 083. (SOCI230, SOCI530) Social Issues in Contemporary Korea. (M)

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.

103. (EALC503, HIST003, HIST403, SOCI230) 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 104. (EALC504, PSCI214, PSCI514) Political Economy of East Asia. (M) Staff.

This course examines the interplay between politics and economics in East Asia. A major course objective is to reconcile the regions past success with the difficulties experience 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.

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 1600 to the present. Special emphasis will be placed 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.

SM 114. (EALC514) Literati Arts of East Asia. (M) Chance, F.

What does it mean to be a poet and a painter? How does being a visual artist link to being a literary person? Americans know the cultures of Asia through such romantic images as The Last Samurai, but few are familiar with the history of calligraphy, painting, prose and poetry which have dominated the cultural history of Asia. Using primary texts in translation, this course explores the complex relationship between poets and painters, intellectual creators and visual artists, over the history of China, Japan, and Korea, from the beginnings of the civil bureaucracy in China in the first century through the rise of women as literati artists in Japan. Students

will develop analytic skills through discussion of written texts and painted representations; they will become familiar with a variety of visual artists and forms as well as with the broad sweep of East Asian history. Background in Asian language and culture is not required.

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. Graduate students may take this course as EALC 518 and should see the instructor to discuss additional requirements for graduate credit.

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.

121. (EALC521) Chinese Poetry & Prose: In translation. (A) Mair.
Prerequisite(s): None.

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.

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. (CINE220, EALC525) Cultural Chinas: 20th Century Chinese Literature and Film. (B) Wang, X.

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.

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.)

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 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. By the end of the course, you should be able to appreciate texts that differ significantly in their value systems, linguistic expressions, and aesthetic sensibilities from those that you may already know. All 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.

SM 154. (EALC554, GSWS154, GSWS554) Sex & Terror Modern Japan. (C) Winston.

This course examines representations of sexuality and sexual experience in the confines of Japanese urban space as it transforms from the late 19th century through the 1930s. Students will explore the creation of modern Japanese subjects in literature and visual culture as these confront a complex and conflicted modernity and new political, social, and cultural demands on sex. From the vestiges of licensed prostitution to the transgressive behavior known as "erotic, grotesque, nonsense," sexual encounter takes on different meaning. All the readings will be in English translation, but Japanese originals can be made available on request.

155. (EALC555) Modern Japanese Literature: From Meiji to World War II. (M) Kano.

This course surveys Japanese literature (novels, short stories, poetry, drama, essays) from 1868 to World War II. The purpose is not only to read some of the most important and interesting literary texts of this period, but also to reflect on the ways we read and study literature, and how we draw connections between literature, self, and society. The reading material will be entirely in English.

156. (EALC556) Post World War II and Contemporary Japanese Fiction. (C) Kano.

Who are the most interesting and important writers in today's Japan? What was literature's role in post-war reconstruction and in Japan's rise as economic super-power? Where can we find the most complex depiction of shifting ideas about gender and sexuality in modern Japan? Why did novelists Kawabata Yasunari (1968) and Oe Kenzaburo (1994) win Nobel Prizes in literature? How have Japanese writers responded to the horrors of war and to the memories of Japan's imperial past? We explore these and other questions by reading literature of various genres, such as novels, short stories, plays, film scripts, poetry, manga, as well as academic essays. Class sessions combine lectures, discussion, use of audio-visual materials and creative as well as analytical writing exercises. The course is taught in English, with all readings in English-translation.

157. (ARTH213) The Arts of Japan.

(M) Staff. Graduate students may take this course as EALC 557 and should see the instructor to discuss additional requirements for graduate credit.

A general survey of Japanese architecture, sculpture, and painting from Jomon pottery through Japanese woodblock prints.

Topics covered include art of the tumulus era, Buddhist art of the Nara and Heian periods, medieval scroll painting, the Japanese castle, screen painting, and later Japanese painting.

L/R 159. (EALC559, PSCI212, PSCI512) Japanese Politics. (M) Staff.

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, exam patterns of political interaction, and investigate current debates over policy. The 1990s have been marked by political change at many different levels in Japa 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, breakin the bureaucracy, a financial crisis and prolonged economic stagnation. In thlatter part of the course, we will focus in particular on the puzzle of how Jappolitical economic structures and policies could have proven so successful for long and yet so disastrous of late. Throughout the course, students will be ento think about Japanese politics in a comparative context and to consider the functioning of the Japanese political system in the context of more theoreticaldebates in political science.

160. (EALC560) Introduction to Japanese Thought. (A) History & Tradition Sector. All classes. Harrington.

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 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.

176. (EALC576, HIST276) Japan: Age of the Samurai. (C) History & Tradition Sector. All classes. 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.

180. Pre-Modern Korean Literature. (M) Staff.

This course surveys the history of Korean literature from the warring periods when the three kingdoms were each vying for dominance on the peninsula to the end of the long Choson dynasty in the 19th century. Students will be introduced to the major authors, works and genres, as well as important historical figures and events in order to examine the development of

Korean literature and culture during these periods of turbulence and peace. Some of the topics we will explore are: literati versus folk culture; identity and language; gender and class relations; and the intersection between history and literature. We will explore these issues through various texts and other media representations, such as film and historical television dramas.

186. (CINE221, COML186, EALC586) Screening Modern Korea: Korean Film and Culture. (M) Staff.

Is Korean cinema experiencing a "renaissance" in the 21st century? We will take the recent surge of success behind Korean cinema as a way to explore our object of study: Korea and the cinema. We situate Korean cinema in broader (and at times narrow) cultural, social, and aesthetic contexts to investigate transnational media production and circulation, globalization, consumer culture, commercialization, Hollywoodization, and construction of national, ethnic, gender identities, etc. The course focuses on the works of prominent filmmakers of Korea's past and present, such as Shin Sangok, Im Kwontae, Kim Kiduk, and Lee Ch'angdong, as well as paying special attention to genres of Korean film such as the melodrama, slapstick comedy, and erotica. No prerequisites. All films with English subtitles.

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-planning, 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 Mongols. (M) Steinhardt.

The Yuan Dynasty (1257-1368), the period of Mongol 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 Sumerian-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) Wang X.

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. (CINE205, EALC625) Topics in Chinese Cinema. (C) Wang, X.

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. (ARTH216, 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 231. (EALC631) Enlightenment and Decadence in Modern Chinese Literature. (H) Wang, X.

The year 1949 witnessed the ideological and territorial division of China into various entities--the mainland, Taiwan, Hong Kong, and overseas, which changed the constellation of modern Chinese literature significantly. How to define the age of the modern in China? From the May Fourth New Cultural Movement to the 1949 great divide, what shaped the topography of modern Chinese literature? This course reconsiders the project of Chinese literary modernization from the vantage point of the 1949 Cold War division. Key issues examined include revolution and involution,

enlightenment and decadence, poetics and politics, migration and dislocation, loyalism, betrayal and the captive mind, the aesthetics of desolation and erotica, death and transformation, gender and violence, etc. Great importance is placed on class discussion and on creating a dialogue of interpretations of the texts being studied.

SM 232. (EALC632) Cultural Memory in Contemporary China. (M) Wang, W.

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 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 241. (EALC641, HIST460) 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 245. (EALC645) Popular Culture in Modern China. (B) Wang, X.

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.

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.

253. (EALC653, RELS279, RELS679) Buddhist Poets of Japan. (M) Staff.

Among the many poets of Japan some have over time gained attention both in Asia and the West for being especially concerned with Buddhist themes and perhaps with having an aesthetic informed by that tradition as well. This course will involve reading at least the following in translation: Saigyō, Ikkyū, Ryōkan, and Miyazawa Kenji. There will, in addition, be selections from other poets as well as attention to some critical essays.

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, THAR485) 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 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, RELS276) Zen Buddhism. (B) Staff. Lectures and discussion. Mid-term, paper, and final.

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. Graduate students may take this course as EALC 679 and should see the instructor to discuss additional requirements for graduate credit.

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, Bamian, Miran, Tumshuk, Kizil, Kucha, Khotan, Adzhina-Tepe, Khocho, Khara-Khoto, and Bezeklik.

SM 301. Major Seminar on China. (C) Staff. Prerequisite(s): EALC001, no language required for undergraduates.

Topic varies year to year. Topic for spring 2009 is Archaeology of Northeast Asia

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. By taking this course you will: 1) learn about some of the major political and cultural controversies in contemporary Japan, including debates on nationalism, war memory, gender equality, the demographic crisis, and the future of Japanese society; 2) practice summarizing, critiquing, and debating recent arguments by major Japanese intelligentsia 3) formulate your own set of intellectual and existential question 4) conduct and present original research on a topic of your own choosing.

SM 501. Chinese History and Civilization. (M) Goldin.

This Master's level seminar focuses on the political, social and cultural history of the

Chinese region from the Stone Age to the 20th century. Readings will consist of primary and secondary sources, including influential modern studies of Chinese history and civilization. All course materials are in English and no knowledge of Chinese is presumed.

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 504. (EALC104, PSCI214, PSCI514) Political Economy of East Asia. (M) Staff.

This course examines the interplay between politics and economics in East Asia. A major course objective is to reconcile the regions past success with the difficulties experience 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.

505. (EALC105, HIST395) 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 placed 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.

SM 514. (EALC114) Literati Arts of East Asia. (M) Chance, F.

What does it mean to be a poet and a painter? How does being a visual artist link to being a literary person? Americans

know the cultures of Asia through such romantic images as *The Last Samurai*, but few are familiar with the history of calligraphy, painting, prose and poetry which have dominated the cultural history of Asia. Using primary texts in translation, this course explores the complex relationship between poets and painters, intellectual creators and visual artists, over the history of China, Japan, and Korea, from the beginnings of the civil bureaucracy in China in the first century through the rise of women as literati artists in Japan. Students will develop analytic skills through discussion of written texts and painted representations; they will become familiar with a variety of visual artists and forms as well as with the broad sweep of East Asian history. Background in Asian language and culture is not required.

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) Wang, X.

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.)

L/R 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 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. By the end of the course, you should be able to appreciate texts that differ significantly in their value systems, linguistic expressions, and aesthetic sensibilities from those that you may already know. All 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.

SM 554. (EALC154, GSWS154, GSWS554) Sex & Terror Modern Japan. (M) Winston.

This course examines representations of sexuality and sexual experience in the confines of Japanese urban space as it transforms from the late 19th century through the 1930s. Students will explore the creation of modern Japanese subjects in literature and visual culture as these confront a complex and conflicted modernity and new political, social, and cultural demands on sex. From the vestiges of licensed prostitution to the transgressive behavior known as "erotic, grotesque, nonsense," sexual encounter takes on different meaning. All the readings will be in English translation, but Japanese originals can be made available on request.

555. (EALC155) Modern Japanese Literature: From Meiji to World War II. (A) Kano.

This course surveys Japanese literature (novels, short stories, poetry, drama, essays) from 1868 to World War II. The purpose is not only to read some of the most important and interesting literary texts of this period, but also to reflect on the ways we read and study literature, and how we draw connections between literature, self, and society. The reading material will be entirely in English.

556. (EALC156) Post World War II and Contemporary Japanese Fiction. (C) Kano.

Who are the most interesting and important writers in today's Japan? What was literature's role in post-war reconstruction and in Japan's rise as economic super-power? Where can we find the most complex depiction of shifting ideas about gender and sexuality in modern Japan? Why did novelists Kawabata Yasunari (1968) and Oe Kenzaburo (1994) win Nobel Prizes in literature? How have Japanese writers responded to the horrors of war and to the memories of Japan's imperial past? We explore these and other questions by reading literature of various genres, such as novels, short stories, plays, film scripts, poetry, manga, as well as academic essays. Class sessions combine lectures, discussion, use of audio-visual materials and creative as well as analytical writing exercises. The

course is taught in English, with all readings in English-translation.

557. (ARTH213, ARTH613) The Arts of Japan. (C) Staff.

A general survey of Japanese architecture, sculpture, and painting from Jomon pottery through Japanese woodblock prints. Topics covered include art of the tumulus era, Buddhist art of the Nara and Heian periods, medieval scroll.

L/R 559. (EALC159, PSCI212, PSCI512) Japanese Politics. (M) Staff.

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, exam patterns of political interaction, and investigate current debates over policy. The 1990s have been marked by political change at many different levels in Japa 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, breakin the bureaucracy, a financial crisis and prolonged economic stagnation. In thlatter part of the course, we will focus in particular on the puzzle of how Jappolitical economic structures and policies could have proven so successful for long and yet so disastrous of late. Throughout the course, students will be encto think about Japanese politics in a comparative context and to consider the functioning of the Japanese political system in the context of more theoreticaldebates in political science.

560. (EALC160) Introduction to Japanese Thought. (A) Harrington.

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, HIST276) 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.

586. (CINE221, EALC186) Screening Modern Korea: Korean Film and Culture. (M) Kim.

Is Korean cinema experiencing a "renaissance" in the 21st century? We will take the recent surge of success behind Korean cinema as a way to explore our object of study: Korea and the cinema. We situate Korean cinema in broader (and at times narrow) cultural, social, and aesthetic contexts to investigate transnational media production and circulation, globalization, consumer culture, commercialization, Hollywoodization, and construction of national, ethnic, gender identities, etc. The course focuses on the works of prominent

filmmakers of Korea's past and present, such as Shin Sangok, Im Kwontae, Kim Kiduk, and Lee Ch'angdong, as well as paying special attention to genres of Korean film such as the melodrama, slapstick comedy, and erotica. No prerequisites. All films with English subtitles.

Special attention to genres of Korean film such as the melodrama, slapstick comedy, and erotica. No prerequisites. All films with English subtitles.

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 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)
Wang X.

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) 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 627. (ARTH216, EALC227) 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.

628. (EALC228) 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.

629. (ARCH716, EALC229) Chinese Architecture. (C) Steinhardt.

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) Wang, X.

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) Wang, X.

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) Spafford. 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, RELS279, RELS679) Buddhist Poets of Japan. (M) Staff.

Among the many poets of Japan some have over time gained attention both in Asia and

the West for being especially concerned with Buddhist themes and perhaps with having an aesthetic informed by that tradition as well. This course will involve reading at least the following in translation: Saigyō, Ikkyū, Ryōkan, and Miyazawa Kenji. There will, in addition, be selections from other poets as well as attention to some critical essays.

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 pre-requisites.

SM 655. (EALC255) 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 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, RELS476) Zen Buddhism. (B) Staff. Lectures and discussion. Mid-term, paper, and final.

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)** Staff.**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. Advanced 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 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 JPAN 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) Kojima.

Prerequisite(s): JPAN 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. 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.

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) Xuan. 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)

Xuan. 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. An introduction to the spoken and written Taiwanese language.

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)

Xuan. 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)

Xuan. 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) Staff. 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) Staff. 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.

296. Study Abroad.

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)

Jiao. 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. 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. Business Chinese II. (B) Wang. Prerequisite(s): CHIN 381 or permission of 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) First Year Classical Chinese 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 descendents 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)**001. Introduction to Japanese I. (A)**

Staff. 101 LPS Course Guide. **This course does not fulfill the language requirement in the College.

Intended for students who have no background. The major emphasis is on oral communication skill.

002. Introduction to 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.

003. Introduction to Japanese III. (A)

Staff. Prerequisite(s): Completion of JPAN 002 or the equivalent. See the 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.

004. Introduction to Japanese IV. (B)

Staff. Prerequisite(s): Completion of JPAN 003 or the equivalent. See the 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.

Prerequisite(s): For the second semester: completion of the first semester or permission of the instructor.

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) Sherry. 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.10, Basic Kanji Book II (L.37 - L.45), and selected newspaper and video materials. Kanji: reproduction-approx.500/recognition-approx.550

312. Intermediate Japanese IV. (B)

Sherry. Prerequisite(s): Completion of JPAN 311 or the equivalent.

Textbooks: Textbooks: Tobira: Gateway to Advanced Japanese (L.11-L.15, 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. Pragmatics are emphasized.

382. Japanese for the Professions II.

(B) Takami. Prerequisite(s): Completion of JPAN 381 or the equivalent.

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) Sherry. 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) Morris. Prerequisite(s):

Japanese proficiency test and permission of instructor. Offered through the Penn Language Center.

This course is for students with an advanced background in Japanese. This course aims

to strengthen knowledge of Kanji (Chinese characters) in Japanese, so that the level of reading and writing will be well balanced with the level of listening and speaking, in particular in order to prepare for Japanese Language Proficiency Test Level 2 or above. It is appropriate for those who know approximately 500 Kanji and have oral proficiency levels higher than Intermediate-Mid according to ACTFL guidelines. Since the Japanese Language Proficiency Test is administered in December every year, if you wish to fully prepare for the test, the instructor 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, 2012, start taking 482 in the spring 2012 and take 481 in the fall 2012. 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.

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.

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 at developing 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 their 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 at further development of the four language skills to the novice-mid 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.

211. Advanced Korean I. (A) Staff.

Prerequisite(s): Completion of KORN 112 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 with more sophisticated grammatical structures and advanced vocabulary on various topics. The development of the four language skills (speaking listening, reading and writing) is equally emphasized.

212. Advanced Korean II. (B) Staff.

Prerequisite(s): Completion of KORN 211 or equivalent knowledge and permission of the instructor.

This is a continuation of 211. Students continue to develop functional proficiency in Korean at the advanced-mid level. The topics include literature, culture, Korean

customs, and social issues in contemporary Korea.

298. Study Abroad.

311. Current Korean Media I. (C) Staff. Prerequisite(s): Completion of KORN 212 or equivalent knowledge and permission of the instructor.

Offered through the Penn Language Center. This course is designed for advanced level students focusing on developing knowledge about Korean society in areas such as education, politics, economy, environment, health, and mass communication. Audiovisual materials and newspapers article are used for this course. Students are expected to actively participate in discussions, research, and presentations.

312. Current Korean Media II. (M)

Staff. Prerequisite(s): Completion of KORN 311 or equivalent knowledge and permission of the instructor.

Offered through the Penn Language Center. While KORN 311 is covering more general and broader topics, this course emphasizes developing in-depth knowledge of Korean society through research, discussion, and presentations.

381. Business Korean I. (A) Staff.

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. (B) Staff.

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 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. (A) Staff. Prerequisite(s): Completion of KORN 312, 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 Modern

Korean II. (B) Staff. Prerequisite(s): Completion of KORN 431 or equivalent knowledge and permission of the instructor.

This course is seeking creative and analytical thinking through 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 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.

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.

UNIVERSITY COURSE REGISTER

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)

Sternstein. 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.

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 I 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.

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) Prerequisite(s): ECON001, ECON002, or ECON010.

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.

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.

034. (PPE 034) Economics of Family & Gender. (A) 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. (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. For non-Econ Majors only. Students may not receive credit for HCMG 202, HCMG 302, or Econ 236.

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. A student may not receive credit for both ECON 050 and ECON 251 or ECON 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. 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, 103, MATH 104 and 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, 102, 103 and written permission from the Director of Independent Research. 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. Students may not receive credit for ECON 034 and ECON 210. 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, 102, 103; MATH 104 and MATH 114 or MATH 115. ECON 104 highly desirable but not strictly required. 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, 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. 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 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. The LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

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. In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

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. In addition, the LPS course, when offered, MAY NOT count for Economics Majors, unless you are officially registered as an LPS student.

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. In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

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. (HCMG302) Economics and Financing of Health Care Delivery. (B)

Prerequisite(s): ECON101, MATH 104, and either MATH 114 or MATH 115. 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. Cross-listed with HCMG 302. 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 provides an application of economic principles to the health care sector. By recognizing the importance of

scarcity and incentives this course will focus on the critical economic issues in producing, delivering and financing health care. In particular, the course will analyze determinants of demand for medical care, such as health status, insurance coverage and income; the unique role of physicians in guiding and shaping the allocation of resources in medical care markets; and competition in medical care markets, especially among hospitals. Special emphasis will be placed on the evaluation of policy instruments such as government regulation, antitrust laws, 'sin taxes' on cigarettes and alcohol, and public health programs. The course will use more advanced quantitative methods and formal economic theory; knowledge of calculus and basic microeconomics are recommended.

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, 102, 103; 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.

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 102; MATH 104 and MATH 114 or MATH 115. LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

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 102; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended. 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 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 102; MATH 104 and MATH 114 or MATH 115.

ECON 103 is recommended. 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 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. The LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

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 102; MATH 104 and MATH 114 or MATH 115. A student may not receive credit for both ECON 050 and ECON 251. 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 and 102; MATH 104 and MATH 114 or MATH 115. A student may not receive credit for ECON 050 and ECON 252. 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 033 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, 103; MATH 104 and MATH 114 OR 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.

263. Transition From Social To Market Economy. (A)

Prerequisite(s): ECON 101 and 102; MATH 104 and MATH 114 or MATH 115. (ECON 263 was formerly ECON 164). In addition, the CGS 200-level evening course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as a CGS student.

This course is in the format of a seminar. It will begin with a brief description of the socialist system of central planning, its strengths and weaknesses, early attempts at reform, and the reasons for abandoning planning and moving to a market system. This will be followed by an investigation of the theoretical aspects of the transition from

the institutional arrangements of socialism to those of a capitalist market system. In the final part of the course, the transition experience of socialist economies will be analyzed with major attention to such issues as price liberalization, macro stabilization, privatization, banking and finance, growth, employment and income, role of foreign sector, legal structure, organized crime, and shock therapy vs. gradualism.

SM 300. Honors Seminar. (E) Staff.

Prerequisite(s): ECON 101, 102, 103, and 220 and two 200 level courses; MATH 104 and MATH 114 or MATH 115. 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 220.

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 700 and 705, 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. (BPUB959) 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

200. (JWST200) Teaching Jewish Texts. (M) Staff.

SM 202. (URBS202) Urban Education. (B) Staff.

This course focuses on various perspectives on urban education, conditions for teaching and learning in urban public schools, current theories of pedagogy in urban classrooms along with a close examination of a few representative and critical issues. While our focus is on schools in the United States, we will broaden our discussion at times to examine the same issues from an international perspective. The course is designed around the following themes (1) perspectives on urban education, (2) the broader urban context of K-12 schooling, (3) teaching and learning in urban settings, and (4) responses to the persistent challenges in urban schools. These themes should provide multiple lenses with which to explore the complexities of urban education. Major theoretical perspectives on schooling and various proposals by researchers and policymakers that address particular challenges in urban education will also be addressed.

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. Prerequisite(s): Introduction to Psych or equivalent.

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) Staff.

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.

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

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. Prerequisite(s): Prior graduate work in related areas recommended.

This seminar will cover a number of topics in human development (e.g., fertility,

health, sex-roles) and education (e.g., pre-school interventions, literacy campaigns, non-formal education, technology innovations) in developing countries that have received attention from researchers and policy planners, and in the work of international agencies such as UNICEF, UNESCO, World Bank and USAID.

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 or 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?

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?

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.

638. The American High School. (B) Puckett.

This course looks at the role, organization and development of the American high school throughout the twentieth century. The contemporary structure and function of the high school is a continuous focus for analysis and comparison.

647. Linguistic Anthropology of Education. (B) Wortham.

This course introduces theoretical insights and empirical approaches from contemporary linguistic anthropology and explores how these could be used to study topics of concern to educational researchers -- focusing on how discourse partly constitutes culture, identity and learning.

660. Qualitative Approaches to Program Evaluation in Urban Schools. Staff. Prerequisite(s): An ethnography course is recommended.

Students will gain a historical overview of qualitative evaluation and an understanding of the variety of approaches within the field. Students will learn about evaluation techniques, research design and data analysis through a real case example in K-12 public education. Students will prepare journal entries and propose a research design for evaluating a program using qualitative approaches.

682. Qualitative Modes of Inquiry. (C) Ravitch, Posecznick or 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. (B)

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.

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, the appropriate treatment for children from different cultural and economic groups, and the relationship between rigor and relevance. Intended for incoming doctoral students.

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.

Supovitz. This course explores the evolution and diverse uses of assessment in four major areas: the historical roots of 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 and Practice. (B)

Puckett.

An examination of major themes in twentieth century American education.

Topics include school reform, ethnicity and race, higher education, work and education, the war on poverty, teaching and teachers, the development of secondary education, and the curriculum.

559. Sociology of Education. (B) Staff.

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.

586. Sociology of Families and Schools. Staff.

This course draws on literature in the sociology of the family and sociology of education to consider the relationships between the sometimes-partnering, sometimes-competing institutions of family and school.

591. Program Evaluation and Policy Analysis. Maynard/Desimone.

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. (A)

Maynard/Lynch.

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.

604. (AFRC604) Foundations of Urban Education. (A) Staff.

Introduction to urban education through reading of selected "classic" and foundational texts. Designed for prospective researchers, scholars, and school personnel.

614. Child Development and Social Policy. Staff. Prerequisite(s): Introduction to Child or Adolescent Development preferred.

This course focuses on the interrelationships among social scientists, their research, and public policy of children and families. A major objective is to offer students sufficient historical research-related background for understanding the framing of policy issues relevant to the education and development of children impacted by poverty and ethnic minority social status. The class format is a graduate seminar with emphasis on the exchange of views between students.

628. Education Finance Policy. (A) Staff.

This course examines the legal, political and economic issues surrounding how public schools are funded, including equity and the interaction of finance and school reform.

707. U.S.School Policy and Reform. (C) Desimone.

This course is designed to increase students' understanding of education policy focused on improving public schools. Topics include accountability, school choice, merit pay and curriculum and leadership reforms, with a focus on the translation of reforms to school and classroom implementation. The course provides opportunities for students to evaluate research on education policy based on the conceptual and methodological rigor of the research.

708. Schools as Organizations. (C) Ingersoll.

This course examines schools as workplaces, teachers as employees and teaching as a job. It is concerned with the character of the teaching occupation and the organization of elementary and secondary schooling. 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. This is a doctoral-level course.

SM 712. (AFRC712, URBS713) Policy Making in Education: Theory and Practice. (C) Staff.

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. Current Issues in Teacher and Teaching Policy. (C) Desimone.

This course is designed as a policy seminar to provide students with the opportunity to analyze critical policy debates pertaining to teachers and teaching policy. Students will have the opportunity to analyze, synthesize and evaluate research and policy positions focused on teachers and teaching.

838. Applied Research & Reporting. (C) 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 Education. (C) Staff.

Issues in research design, development of a literature review, and dissertation proposal.

EDLX-Educational Linguistics**507. (EDUC465) Sociology of Language. (L)** 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.

An introduction to current research and theories on second language writing and composition pedagogy. Students analyze writing samples by second language learners, observe and critique writing lessons, design and present mini-lessons, compose a teaching philosophy, and design curricula for second language writing courses.

517. Classroom Discourse and Interaction. (B) Rymes.

An examination of research on language use in the classroom and its impact on the academic, linguistic, and social development of students. This course is designed for teachers interested in studying their own classrooms, as well as teacher trainers and education researchers.

527. Approaches to Teaching English and Other Modern Languages. (A)

Wagner, S.

This course provides an introduction to theory and practice in language teaching. Readings cover major issues in the field from the disciplinary perspectives of linguistics, psychology, anthropology, and education. Class meetings provide opportunities for students to raise questions, react to readings, analyze and create materials, as well as offer formal presentations.

528. TESOL Practice Teaching. Sicola.

Fieldwork course for TESOL students.

537. Educational Linguistics. (A)

Butler, Moore, Rymes or Wagner.

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.

539. (THAR439) Teaching Performance Art for Cross-Cultural Education. (B) Furman.

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. (B) Hornberger, Rymes or 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. Internship & Seminar: TESOL. (C) Paninos or Wagner, S.

A weekly seminar will cover topics in the field of TESOL which relate to the students' final reflective or action research papers. All students in the MEd/TESOL program must submit a proposal for the internship in the semester before they take EDUC 563. They must complete a thirty-hour fieldwork project during the semester in which they are enrolled in 563. The project is individually designed and is subject to the advisors' approval.

All students in the MEd/TESOL program must complete a supervised 30 hour service project. The supervised project is individually designed and is subject to the advisor's approval.

566. (URBS566) Cross Cultural Awareness. (C) Howard.

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 or Pomerantz. Prerequisite(s): Eight or more courses toward M.S.Ed. degree in Intercultural Communication. Corequisite(s): Permission required.

All students in the MS/ICC program must complete a supervised internship. The supervised internship is individually designed and is subject to the advisor's approval.

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, paying close attention to the role of power in the examination of this relationship.

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. (B) Staff.

Students investigate, observe, practice, and critically evaluate the integration of content and language--content-based instruction--for a variety of purposes and in a variety of settings, including: thematic, content-oriented ESL/EFL teaching; co-teaching and peer coaching by ESL and content teacher teams; and sheltered content instruction, using the SIOP (Sheltered Instruction Observation Protocol). Standards, typical tasks, and special language requirements in the content areas of science, mathematics, social studies, and language arts are reviewed. In addition, theory and research on "academic language" are applied in the analysis of content-area

tasks and standards and in the design of content-oriented language lessons, materials, tasks, and assessments.

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. This 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. (L) 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) Staff.

This course provides a critical perspective on language use in medical, legal, business, and educational settings. Topics include: challenge and control in the courtroom; doctor-patient interaction in diagnosis and treatment; roles and relationships in school contexts. Attention is given to analyzing communication breakdowns in the workplace and identifying practical solutions to them. Issues involving language and power are explored in relation to differential treatment based on sex, age, social class, ethnicity and educational background. Students are given opportunities to write a research proposal and engage in guided research.

650. Communication and Culture in Context. (B) Paninos/Pomerantz.
Prerequisite(s): EDUC 546, Sociolinguistics of Education, or equivalent.

An examination of the literature concerning rules and patterns of language behavior across cultures and contexts. Approaches to language data collection and analysis

include pragmatics, conversation analysis, interlanguage pragmatics, and cross-cultural communication. Research methodology and implications for education for both the field of TESOL (Teaching English to Speakers of Other Languages) and to language pedagogy in general.

661. (LALS661) Language Diversity and Education. (C) Hornberger.

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 Acquisition. (A) Staff.

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.

SM 673. 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.

674. ESL/FL Curriculum and Materials Development. (L) Staff.

Students employ national, state and local standards in the design of a semester-long ESL/EFL course to fit their current or future teaching context. Participants apply theoretical and research knowledge from course readings and class discussion to: analyze the sociocultural context in which their course will be offered and draw implications for course design; conduct needs assessments; set objectives and experiment with performance assessments to measure students' progress towards those objectives; create the course content outline; select appropriate textbooks and adapt supplementary materials; and design original tasks and activities. Some language teaching experience and previous

language teaching methodology course desirable; EDUC 527 & EDUC 537 provide essential background for this advanced course.

675. Structure of English. (B) Adams.

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 or Moore.

This course offers a discourse-based approach to the study of intercultural communication, from the micro-level of interpersonal interaction to the macro-level of institutional practice. Through a series of readings and field-based projects, participants will engage with different forms of discourse analysis and consider their application to a variety of multilingual/multicultural settings.

679. Language for Specific Purposes. (A) Pomerantz.

This course offers international students a hands-on introduction to the practices which constitute academic language use in the fields of TESOL/ICC. 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.

691. First Language Acquisition. (M)
Staff.

This course is an introduction to first language acquisition covering the milestones in normal language development from infancy into early childhood. Topics include prelinguistic communication, early phonological development, word learning, emergence of syntax, early literacy and development of discourse skills. The major theoretical issues in the field will be used to frame the discussions of language development such as the contribution of biological and environmental factors in language acquisition, the mental structure of linguistic knowledge, individual differences and cross-cultural differences in language acquisition.

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.

SM 845. Seminar in Microethnography. (B) 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. (L) Staff. Prerequisite(s): EDUC 670.

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. (LALS927) Research Seminar: Language Policy and Education. (B) Homberger.

Prerequisite(s): Permission of 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

SM 502. 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.

522. (AFRC522) Psychology of the African-American: Implications for Counseling and Human Development. (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) Watts.

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. The practice-oriented elements of the course will also address the partnership process itself. We will consider tools and strategies for conducting needs assessments and gaining entry into schools as an outside community member, and developing documentation and

evaluation measures to gather clinical information as well as to assess program effectiveness. At all times, the course will hold the multiple perspectives of the individual child and the systems around the child, with the goal of having students understand individual interventions in the context of institutional relationships and systemic change.

This course will focus primarily upon work in schools grades pre-k through 8, but will consider issues and strategies relevant to high schools as well.

553. Foundations of Special Education. (L) 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.

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) Selected Topics in the Psychology of Education. (M)

Nakkula.

This course is designed to present quantitative and qualitative approaches to studying and evaluating developmental interventions for children and youth. Basic assumptions underlying the two overarching methodological orientations will be presented throughout the course as a means of determining which sets of methods to use for different types of research and evaluation questions. In addition to presenting quantitative and qualitative methods separately, the course also will present integrative or mixed-methods approaches.

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. Therefore, to participate in the course, students are required to be in a placement for the semester (or be willing to serve as a volunteer) where they will have weekly contact with preschool or young elementary school age children for at least 2 hours a week in an educational or child care setting.

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) Stanley.

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.

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.

610. Cultural Perspectives on Human Development. (B) Wagner.

This course focuses on comparing/contrasting psychological and anthropological accounts of child and human development which utilize cross-cultural and cross-national research. Topics may cover such issues as childhood socialization, literacy and culture, Vygotsky and Piaget in cultural context.

612. (GSWS612) Interactional Processes with LGBT Individuals.

(M) Wortman. 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)

Garinger/Richardson. Prerequisite(s): EDUC 686 Psychological Interventions.

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. Prerequisite(s): EDUC 685 Career Development.

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. Developmental Psychopathology. (M) Staff.

Investigation of etiology, course, prevalence, and implications of functional and physiologic psychopathology, and learning and behavior disorders, among children and adolescents. Special focus on developmental theory and major clinical and empirical classification systems.

663. Sociocultural Foundations in Counseling. (B) Warren. Prerequisite(s): EDUC 686 Psychological Interventions.

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) Spierling.

Prerequisite(s): Permission of 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) Ortiz.

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) Salter.

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)

Garinger/Ortiz. Prerequisite(s): EDUC 687 AND admission to master's program in Psychological Services. May be repeated for credit.

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. (A) Ahmaddiya.

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.

717. Professional Internship in Counseling I. (A) Thomas/Watts.

Prerequisite(s): Formal admission into Professional Counseling and Psychology M.Phil.Program. Must be taken concurrently with Professional Counseling and Psychology Lab.

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) Thomas/Watts.

Prerequisite(s): Formal admission into Professional Counseling and Psychology M.Phil.Program.

Lab seminar group of approximately 7-8 master's students with a seminar group Lab leader is the second component of the PCAP 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 master's students with a seminar group lab leader.

725. Advanced Ethics & Professional Development in Counseling. (B)

Ahmaddiya. Prerequisite(s): EDUC 687, formal admission into Professional Counseling and Psychology M.Phil.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.

Prerequisite(s): EDUC 686 Psychological Interventions.

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)

Cohen. Prerequisite(s): Admission to Psychological Services or Professional Counseling and Psychology 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)

Salter. Prerequisite(s): Admission to Psychological Services or Professional Counseling and Psychology 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)

Stevenson. 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. Proseminar in Interdisciplinary Studies in Human Development (ISHD). (A) Stevenson.

Corequisite(s): May be repeated for credit.

Review of literature on representative developmental topics. The course also incorporates guest lecturers to present research and theorizing covering different aspects of human learning and development. The experience represents an important opportunity for ongoing professional development. May be repeated for credit. Nonetheless, doctoral students are expected to attend the presentations throughout their doctoral training career even if not enrolled in the course for credit.

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. (L) Ellingsen.

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.

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.

This course examines some of the interactions between globalization and the university including increased student mobility and the rise of higher education as a trade good.

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) 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 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) Perna.

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. Reforming Higher Education: What Can We Learn from Other Countries?. (A) Ruby.

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.

589. Budgeting and Resource Allocation. (M) Staff.

A computer-based introduction to the management of resources (money, people, space, etc.) at colleges and universities. Does not require accounting or financial skills. Emphasis is on learning how to use the budget to link educational purposes and financial outcomes.

592. Professional Development in Higher Education. (B) Boverini.

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.

594. Diversity in Higher Education. (B) Gasman.

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.

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.

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. The course will emphasize student involvement in learning through small group work, case study discussions, and role playing.

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. Students will be evaluated on the basis of class participation and three written assignments.

SM 620. Enrollment Management. (B) Kaplan and Rickard.

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) Gasman. 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) Gasman. Prerequisite(s): Doctoral students only.

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) Harper.

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. DiStanislaio.

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) Staff.

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) 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) Staff.

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) Staff.

A study of the most influential federal and state policies, legislation and practices affecting colleges and universities.

751. Quantitative Research Methods in Education. (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.

803. Readings in Higher Education.

(A) Staff. Prerequisite(s): Permission needed from department.

Students will study four distinct approaches to the study of higher education in the United States. Students will examine a major work that exemplifies this approach and study how this work has been critiqued by other scholars within that approach. In addition, students will be introduced to the strengths and weaknesses of the logic by which each approach's interpretations are verified. Finally, students will apply the critical skills developed to a series of additional studies of higher education in the United States.

TLL-Teaching, Learning & Leadership**SM 501. 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. (TLL Division; MSEd/PhD-EdD elective course; no permit required; offered as needed)

508. Managing People. (C) Dwyer.

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. (TLL Division; MSEd/PhD-EdD elective course; no permit required; offered fall, spring)

510. Seminar in Teacher and Teacher Education. (B) Rust & Staff.

In this course, we examine issues of research and practice in teacher education from several different subject locations including the perspectives of teachers, researchers, teacher educators, and policymakers. (TLL Division; MSEd/PhD-EdD elective course; no permit required; offered fall)

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. (TLL Division; MSEd/PhD-EdD elective course; no permit required; offered as needed)

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. (TLL Division; TEP program; MSEd/TEP; restricted to TEP students; permit required; offered in fall)

520. Literacy in Elementary/Middle Schools. Schultz.

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. (TLL Division; TEP program; MSEd/TEP; for TEP students; others as permitted; permit required; offered in fall)

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. (TLL Division; TEP program; MSEd/TEP; for TEP students; others as permitted; permit required; offered in fall)

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. (TLL Division; TEP program; MSEd/TEP; for TEP students/others as permitted; permit required; offered in fall)

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. (TLL Division; MSEd/PhD-EdD elective course/leadership specialization; no permit required; offered as needed)

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. (TLL Division; TEP program; MSEd/TEP; for TEP students; others as permitted; permit required; offered in the summer)

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. (TLL Division; TEP course; MSED/TEP; for TEP students; others as permitted; permit required; offered in fall)

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. (TLL Division; MSED/PhD-EdD elective course; no permit required; offered as needed)

L/R 536. The Teaching & Learning of Chemistry. (E) Staff. Prerequisite(s): Undergrad major or minor in Science.

This course will examine issues associated with curriculum planning and enactment. In addition, the teachers will learn how to undertake action research in their own classrooms so that they can learn from their professional practices. The key topics to be addressed in this introductory course will include: national, state and local standards; curricular resources; models for learning chemistry; social constructivism and communities of practice; safety, equipment and storage; equity and culturally relevant pedagogy; building canonical ideas from laboratories and demonstrations; understanding chemistry at macroscopic, microscopic and symbolic levels; social interaction; analogues, models and concepts maps; uses of interactive technologies to promote understanding of chemistry; connecting chemistry to science and technology; alternative assessment of learning; involving the home and community in the learning of chemistry; international perspectives on the teaching and learning of chemistry in urban areas.

SM 540. Teaching Diverse Learners. (D) Watts, Bialka, Kinney Grossman. Prerequisite(s): Departmental permissions required.

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.

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. (TLL Division; MSED/PhD-EdD elective course; no permit required; offered as needed)

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. (TLL Division; MSED/PhD-EdD elective course/LST specialization course; no permit required; offered fall)

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. (TLL Division; TEP program; MSED/TEP; for TEP students; others as permitted; permit required; offered in summer session II)

555. Advanced Field Seminar (Elementary & Secondary Education).

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. (TLL Division; TEP program; MSED/TEP; for TEP students; permit required; offered in spring)

590. (GSWS590) Gender & Education (ELD). (B) 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. (TLL Division; MSED/PhD-EdD elective course; no permit required; offered as needed)

SM 603. Methods of Teaching Talmud & Rabbis. (L) Staff.

This course is designed to provide opportunities to develop critical thinking skills and pedagogic approaches to teaching Jewish texts, and in particular to teaching Talmud, through investigation of practice, inquiry and research in the teaching and learning of Talmud. (TLL Division; MSED/PhD-EdD elective course; no permit required)

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. (TLL Division; School Leadership Program)

609. Counseling for Educators. (B)
Kuriloff.

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. (TLL Division; MSED/PhD-EdD elective course; no permit required; offered as needed)

616. Master's Foundations of Teaching and Learning. (A)

Kafai/Yoon/Staff. Prerequisite(s): Permission of division.

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. (TLL Division; MSED course; required MSED course; permit required; offered fall)

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. (TLL Division; MSED/PhD-EdD elective course; no permit required; offered spring)

619. (URBS619) Critical Perspectives in Contemporary Urban Education.

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. (TLL Division; MSED/PhD-EdD elective course; no permit required; offered as needed)

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. (TLL Division; PhD-EdD; required PhD-EdD course; permit required; offered fall)

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. (TLL Division; TEP program; MSED/TEP; for TEP students; others as permitted; permit required; offered in fall)

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. (TLL Division; MSED/PhD-EdD elective course; no permit required; offered as needed)

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. (TLL Division; School Leadership Program)

L/R 636. Advanced Topics in the Teaching & Learning of Chemistry.

(E) Staff. Prerequisite(s): Major or minor in Science.

The course will feature research undertaken in the classes of participants. The initial course was designed to examine what was happening and to build understandings about why the teaching and learning of chemistry occurred as it did within the participants' schools, clusters and school districts. This course is intended to develop a cadre of teacher leaders in chemistry. The curriculum will address the particular needs of the students and the standards of the school district. The goal is to implement a curriculum that will lead to substantial improvement in the achievement of high school students. The students will identify from the literature the best practices that are likely to be salient in the conditions in which they teach and adopt these in an effort to attain rigorous standards. They

will explore their roles within the school and district as agents of systemic reform and will endeavor to build a local community to sustain high quality teaching and learning.

639. Design of Learning Environments. 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. (TLL Division; MEd/PhD-EdD elective course/LST specialization course; no permit required; offered spring)

643. Instructional Leadership to Promote Learning. (A) Brody, Dawson, Mata and Ball. Prerequisite(s): Admission to School Leadership Program.

This first course of the School Leadership Program for Aspiring Principals and the Independent School Leadership Program begins with an exploration of values and beliefs underlying leadership in schools. Students examine the knowledge, dispositions and performances needed for the continuous improvement of K-12 instruction indicated in the Pennsylvania Standards for School Leaders, ISLLC, as well as those identified in Balanced Leadership (2003), and other research. Participants study current research in learning, teaching and assessment by focusing on student achievement in K-12 literacy and social studies. Students explore how effective school leaders connect theory to practice and provide leadership for school reform in these two curricular areas. Coursework includes interactive case studies, team projects, panel presentations and guest speakers. (TLL Division; School Leadership Program)

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. (TLL Division; MEd/PhD-EdD elective course/LST specialization course; no permit required; offered summer)

SM 648. Practitioner Research. Ball, Dawson and Mata. Prerequisite(s): Admission to School Leadership Program.

Developing school leaders who are skilled practitioner researchers is an important goal of the School Leadership Program. The steps of problem identification, determining vital questions, identifying data to be collected, developing a plan for collecting, analyzing the data, and developing a plan for implementation, and evaluation based on the findings form the focus of this course. There are two aspects of this course. The first is an introduction to practitioner research through a lecture series conducted by Sharon Ravitch. The second is the development and carrying out of a practitioner research project. The project will be completed to be submitted during the summer session. Supervision and evaluation of that project will be conducted by Warren Mata, Priscilla Dawson, and Earl Ball. (TLL Division; School Leadership Program)

SM 649. Applying Teaming and Moral Decision Making Concepts in Schools. Ball and Mata. Prerequisite(s): Admission to School Leadership Program.

This course leads students to utilize two conceptual models to examine organizational practice in schools: working in groups and applying moral/ethical decision-making in schools. These two unifying concepts are studied in modules led by GSE faculty. In addition, ethical decision-making in schools will be expanded by two sessions led by independent school leaders. Students are provided opportunities to make connections between these two areas, which impact school leadership, as they engage in whole-day Focused Observations in five schools in a variety of K-12 settings. To provide reflection on these topics, a monthly discussion intergrating ideas into practice is held. (TLL Division; School Leadership Program)

651. Field Internship Seminar: Inquiring into Principal Leadership for School Improvement. (A) Ball, Brody, Dawson, and Mata. Prerequisite(s): Admission to School Leadership Program.

This second course of the School Leadership Program supports each student in becoming a reflective practitioner. Students develop the inquiry, communication, and interpersonal skills needed to build a purposeful, collaborative learning community for adults and students. Through inquiry projects students explore how effective school leaders can use data to inform their decisions. Focused observations provide opportunities to visit

area schools committed to school reform. Students engage in a 360 hour on-site internship across the year with a current principal/school leader observing, participating, collaborating and leading school based activities during the school year. A university-assigned mentor supervises the work of each student.

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. (TLL Division; 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. (TLL Division; 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. (TLL Division; 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. (TLL Division; PhD-EdD elective course; permit required; offered fall)

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. (TLL Division; TEP program; MSED/TEP; for TEP students; others as permitted; permit required; offered in spring)

SM 659. Critical Issues in Education.

Brody. Prerequisite(s): Admission to School Leadership Program.

This course is designed to engage students in analysis of three important issues of relevance to contemporary school leadership: technology, globalization and equity and access. As they explore these topics students will be asked to define ways in which their leadership will provide guidance to their schools. The course consists of three modules taught by GSE faculty members. The instruction will be supplemented by current practitioners who will share how their schools address these issues in practice. (TLL Division; School Leadership 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 is intended to help students become aware of the major substantive areas in the field, develop a critical perspective on contrasting paradigms, and raise questions about the implication of research on teaching for curriculum, instruction, evaluation, and teacher education. (TLL Division; MSED/PhD-EdD elective course; no permit required; offered as needed)

668. Master's Paper Seminar (FPE). (B)

Aplenc/Staff.
The master's paper is a 30-40 page research paper that is required for completion of the M.S.Ed. degree in the Foundations & Practices of Education division. The paper will be either an original research project or an original synthesis of previous research and argumentation. This course is set up to provide workshops and regular consultation and feedback on three drafts of the paper. (TLL Division; MSED; required MSED course; permit required; offered fall)

SM 678. Critical Issues in Religious Education in a Diverse Society. (A)

Staff.
This course will explore the role of the teacher-leader as religious educator, in both public and private educational settings in the U.S. Participants will be asked to examine beliefs and understandings of religions and of the historical roles that religion and religious beliefs play and have played in the diverse public square in U.S. Since this is also a course that has a significant clinical component, a flexible cu amount is requested; students will earn between 1 and 3 cu's depending upon the amount of fieldwork activities undertaken. (TLL

Division; MSED/PhD-EdD elective course; no permit required; offered as needed)

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. (TLL Division; MSED/PhD-EdD elective course; no permit required; offered as needed)

702. Conceptual Models in Educational Administration. (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. (TLL Division; MSED/PhD-EdD elective course/leadership specialization; no permit required; offered as needed)

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. (TLL Division; MSED/PhD-EdD elective course; no permit required; offered as needed)

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. (TLL Division; PhD-EdD required course; permit required; offered fall)

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) 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)** 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)** 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)** 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)** 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.

829. Policy Research Seminar. **(C)**

Boe. Prerequisite(s): EDUC 667 or equivalent.

A systematic introduction to general issues and methods of research relevant to contemporary education policy or to social policy. Reading, discussion, and analysis

of research on a variety of policy topics that illustrate various research methods, issues, and problems.

871. (CRIM871) Randomized Trials and Experiments. **(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) Staff. TESOL fieldwork may be also offered in the summer.

Supervised fieldwork for individuals preparing to work in TESOL or 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) Sipe.

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 individualized 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.

Explores the content, materials, methods, and organization of programs to teach reading, writing, and study skills to students in a variety of college and university settings. Prerequisite for staff membership in Penn's Department of Academic Support Programs: Tutoring and Learning Resources.

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) Lytle.

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.

662. Picturebooks and the Practice of Literacy. (B) Sipe.

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 Fiction: Issues and Practices. (B) Sipe.

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) Lytle, S. and Hartley, M.

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) Finn-Miller.

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.

SM 713. Responding to Literature: An Interdisciplinary Perspective. (A) Sipe.

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) Street.

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 of instructor.

Students further their understanding of dynamic relationships among affect, curriculum and instructional context by teaching individuals and small groups throughout the semester. Students' teaching is supervised in weekly seminars and reflected upon through writing, descriptive reviews, and focused discussions. Emphases include child study, observation, and affective and social dimensions of language.

737. Research in Teaching Writing. (M) Lytle.

This course is designed as a collaborative inquiry into the literatures on writing and the teaching of writing from a variety of disciplinary and interdisciplinary perspectives. Its purpose is to provide a context in which participants construct interpretive frameworks for critical readings of these literatures from their multiple perspectives as students, teachers, writers and researchers. It addresses different discourse communities and explores how teaching and researching writing can be acts for social justice and change. Readings include conceptual and empirical research, essays, poetry and fiction. The course draws on participants' experiences as writers and readers, in and out of school, and pays particular attention to the generation and uses of autobiographical texts and narrative inquiry in teaching and research.

834. Theories of Reading. (M) Lytle.

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 investigation of language use in everyday interaction as a reflection of the structure and value system of society.

SM 920. Research Seminar in Reading and Writing. (B) Staff.

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.

116. Introduction to C Programming. (C) Prerequisite(s): Knowledge of algorithms and at least one high-level programming language, e.g. ESE 112 or CIS 110.

This course consists of an introduction to the C programming language focusing on its application to low-level computer resource control. C language instruction topics include: variable data types and scope, expressions, bitwise operations, control structures, preprocessor macros and include files, functions, arrays, and structs. The course contains an extended discussion of pointers and the relationship between variable values and their addresses in memory. Each student will gain individual practice in the use of the language by programming his/her own small microcontroller board to implement a series of "real-world" projects. These projects include a home automations system, an Internet controller for the automation system, and an accurate digital clock based on Internet time service. To encourage creativity, every student is given latitude to add his/her own extra-credit enhancements to these projects. Some previous knowledge of a high-level programming language will be helpful, but no prior knowledge of electronics is required.

170. Principles of Digital Design. (B)

The course provides an introduction to modern logic design and digital systems. It starts with an overview of the major building blocks of a computer. It covers combinational logic including logic gates, minimization techniques, arithmetic circuits and modern logic devices such as programmable logic arrays. The next part

deals with sequential circuits: flip-flops, registers memories, and state machines. Case studies of real-world applications are used to illustrate the design of sequential circuits. The use of hardware description language will be introduced. There is a companion lab-based course, ESE 171, required for EE/CMPE majors.

171. Principles of Digital Design Lab. (B)

This is the companion course for ESE 170 and provides hands-on experience in modern digital circuit design. It makes use of state-of-the-art computer-aided design software including schematic capture, behavioral description, logic-simulation, minimization and implementation tools. The students will get familiar with programmable logic devices and hardware description languages (VHDL). The lab experiments make use of Xilinx FPGAs which allow rapid implementation and testing of the designed circuits. The course consists of weekly 3-hour laboratory sessions.

L/R 204. Systems Methodology.

Prerequisite(s): MATH 114.

This course introduces the integrative methodology that engineers use to solve complex problems. We emphasize the process of problem conception, engineering design, project implementation, and long-term operation as essential components of what we as engineers do. The course also focuses on the life-cycle approach to large-scale complex systems design, and will incorporate case studies, group projects, and technical communications.

205. Electrical Circuits and Systems I Lab. (A)

This course is the companion lab for ESE 215 and provides an introduction to electrical measurements and measuring equipment; electrical sources; resistive, RL, RC, & RLC circuits and their non-electrical analogs; op-amp circuits; transient response and sinusoidal steady state for linear and nonlinear, e.g. neural/biological circuits and systems. LabVIEW and the use of data acquisition boards will be introduced.

206. Electrical Circuits and Systems II Lab. (B)

This course is the companion lab for ESE 216. It covers experiments involving transformers, diodes, and transistors. DC and small signal model amplifiers, rectification, and non-linear op amp circuits.

210. Introduction to Dynamic Systems. (A) Prerequisite(s): Math 240.

This first course in systems modeling focuses on linear discrete-time systems. We draw on a set of examples used throughout the course as the necessary mathematical tools are developed. The examples demonstrate the breadth of systems models and are drawn from engineering, the biological sciences, and economics. MATLAB will be used extensively.

215. Electrical Circuits and Systems I. (A) Prerequisite(s): PHYS 151.

Corequisite(s): MATH 240.

Common principles of Circuits, Systems and flows of electron, photons, and other entities as applied to electrical, and non-electrical systems such as optical (plasmonic), fluidic, traffic, neural, electrochemical, and biological circuits. Class demonstration and computer simulations will be given where applicable to help in rapid understanding of concepts and applications.

216. Electrical Circuits and Systems II. (B) Prerequisite(s): ESE 215.

The course provides an introduction to electric circuits that form the basis of modern microelectronic systems. After a brief discussion of power dissipation, the course will review passive and active filters. Laplace transforms will be used to analyze circuits and to represent network functions. The second half of the course will focus on modern solid-state devices and electronic circuits including diodes, the metal-oxide-semiconductor (MOSFET) transistor and their applications such as single stage MOS amplifiers. Use of state-of-the-art CAD packages such as SPICE will be introduced. The associated lab, ESE 206, is required for EE majors.

218. Physics and Models of Semiconductor Devices. (B)

Prerequisite(s): ESE 215.

Physical electronics of semiconductor devices. Energy bands in solids. Statistics governing the charge carriers in semiconductors. Equilibrium and nonequilibrium transport phenomena in semiconductors. Operation and equivalent circuits for the pn junction, bipolar and field effect transistor, and other semiconductor devices. Scaling issues in transistors and introduction to next-generation nanotechnologies.

250. Digital Audio Basics. (B)

Prerequisite(s): One Intro Programming course (e.g. CIS 110, ESE 116, CIS 120).

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).

252. Transportation Systems Engineering. (M)

Development of transportation and its impact on society and the economy. Geometric characteristics of vehicles. Theory of traction and vehicle dynamic performance. Travel time computations. Transportation networks. Street design and traffic engineering. Railroad technology and operations. High-speed railroads. Air transportation system components and operations. Air traffic control and navigation. Transportation system performance and scheduling. Field trip to major transportation facilities.

296. Study Abroad.

301. Engineering Probability. (C)

Prerequisite(s): MATH 114.

Basic ideas of probability theory. Combinatorics. Random variables and functions of random variables. Means, moments and generating functions. Order statistics and special distributions. Inequalities and the central limit theorem.

302. Engineering Applications of Statistics. (C) Prerequisite(s): ESE 301.

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. (C)

Prerequisite(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.

308. Agent Based Modeling and Simulation. (A) Prerequisite(s):

Probability, Java or C programming, or equivalent.

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.

310. Electric and Magnetic Fields I.

(A) Prerequisite(s): PHYS 151 and MATH 240.

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.

313. Robotics and Bioinspired

Systems. (B) Prerequisite(s): ESE 116 (or equivalent) and MATH 240 or by instructor permission. Junior standing as measured by one of the following prior sophomore level courses (or equivalent): ESE 215 or MEAM 215 or MEAM 220 or MSE 220 or CIS 240.

This is a 1.0 cu research-patterned, open-ended, laboratory-focused course addressing the interface between robotics and integrative biology. The goal is to identify and then explore and possibly add to a specific corner of the scientific literature wherein it is possible to reach the horizons

of knowledge quickly because the relevant empirical tools have only recently become available for broad use. We will focus attention on the development of complex adaptive behavior in a legged robotic system with emphasis on such modalities as locomotion, manipulation, situational awareness, localization and mapping and so on.

L/L 319. Fundamentals of Solid-State Circuits. (A) Prerequisite(s): ESE 216.

Analysis and design of basic active circuits involving semiconductor devices including diodes, bipolar and field effect transistors. Single stage, differential, multi-stage, and operational amplifiers will be discussed including their high frequency response. Oscillators, 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.

325. Fourier Analysis and Applications in Engineering, Mathematics, and the Sciences. (B)

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.

351. Logistics, Manufacturing and Transportation. (M)

Prerequisite(s): ESE 304, Freshmen and Sophmores require instructor permission.

Introduction to supply chains -- the production, distribution, and transportation of goods -- and the role of engineers and managers in the design and operation of that system. Supply chain as a physical process. Transportation service options and design. Impact of Information Technology (IT) and Intelligent Transportation Systems (ITS). Basic routing and distribution strategies. Future trends in transportation and supply chains in light of sustainability concerns.

360. (CBE 375) Introduction to Environmental Systems. (B)

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.

370. Circuit-Level Modeling, Design, and Optimization for Digital Systems. (A)

Prerequisite(s): ESE 170/171, ESE 215/205.

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.

403. Applications of Operations Research in Systems Engineering. (B)

Prerequisite(s): ESE 304 or some equivalent Linear Optimization Course.

This course will present a survey of various areas from Operations Research and the methods used to solve problems in these areas. Some of these topics include: Transportation and Transshipment Problems, Introduction to Graphs and Trees, The LINGO Computer Package, The Transportation Simplex Method, Sensitivity Analysis, and Assignment Problems. The course also will discuss: Network Models, Shortest-Path Problems, Maximum-Flow Problems, and Minimum-Cost Network Flow. Integer Programming as applied to Knapsack Problems, Machine Scheduling Problems, and the Traveling Salesperson Problems is also discussed. Other topics include: Decision Making under Uncertainty, Utility Theory, Decision Trees, Decision Making with Multiple Objectives and Analytic Hierarchy Analysis. Some Game Theory involving Two-Person and n-Person Games is also included in the course. Other topics include: Deterministic and Probabilistic Inventory Models, Holding Cost and Lead Times, the Economic Order Quantity (EOQ), The Continuous Rate EOQ Model and Backorders, The News Vendor Problem, The Economic Order Quantity (EOQ) Model with Uncertain Demands. Other possible topics may include: Finite Regular and Finite Absorbing Markov Chains, Random Walks, and Queuing Models.

404. Introduction to Networks and Protocols. (A)

Prerequisite(s): Undergraduate probability and analysis. Course open to Seniors in SEAS and Wharton. All others require instructor permission. Students who take ESE 404 may not take TCOM 500.

This is an introductory course on packet networks and associated protocols that form the basis of today's communication infrastructure, with a particular emphasis on IP based networks such as the Internet. The course introduces the various design and implementation choices that are behind the development of modern networks, and emphasizes basic analytical understanding

in motivating those choices. 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 then followed by a discussion of link layer aspects, including multiple access control (MAC) strategies, local area networks (Ethernet, token rings, 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 solutions such as 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.

406. (ESE 505, MEAM513) Control of Systems. (B)

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.

408. Data Communications. (B)

Prerequisite(s): ESE 325 or permission of the instructor.

Overview of the communication process. Frequency response of linear channels. Random processes and power spectral densities. Modulation and Noise. Baseband data transmission: pulse amplitude modulation, inter-symbol interference, and equalization. Performance in noise. Digital band-pass modulation (PSK, QAM, FSK). Elements of information theory.

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.

412. Chaotic Dynamics in Electrical and Biological Systems. (A)

Prerequisite(s): MATH 240, PHYS 150 or permission of the instructor.

Introduction to non-linear dynamics, chaos, bifurcation, and qualitative analysis of continuous and discrete dynamical systems and their use in understanding complex

behavior of systems. Emphasis will be placed on understanding qualitative features of models of electrical, mechanical, and biological systems.

418. Electrical Energy Storage Systems. (M) Prerequisite(s): General Chemistry (CHEM 101), ESE 218, Calculus I.

This is a senior level course on scientific and technological fundamentals as they apply to two of the most utilized energy storage device systems, the electrochemical batteries and super-capacitors. The student will be taught how simple galvanic cells in series gave origin to those ubiquitous devices that combined excel in both power and energy density. The course will introduce the student to the modes of electrical energy storage by batteries and capacitors, different categories of electrochemical cells and batteries, primary and rechargeable 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 electrolytes, carbonaceous materials, effective surface area (ESA) and functionalizations.

419. (ESE 572) Analog Integrated Circuits. (A) Prerequisite(s): ESE 319, ESE 570, 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.

444. (ESE 544) Project Management.

(A) 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. 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 design undertaken in ESE 450 and successfully implementing the project. 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 posted 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 linear system theory in time domain based on linear operators. The course introduces the fundamental mathematics of linear spaces, linear operator theory, and then proceeds with existence and uniqueness of solutions of differential equations, the fundamental matrix solution and state transition matrix for time-varying linear systems. It then focuses on the fundamental concepts of stability, controllability, and observability, feedback, pole placement, observers, output feedback, kalman filtering, linear quadratic regulator. Special topics such as optimal control, robust, geometric linear control will be considered as time permits.

501. (TCOM501) Networking - Theory and Fundamentals. (B)

Prerequisite(s): ESE 530 or STAT 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. (OPIM910) Introduction to Optimization Theory. (A)

Prerequisite(s): Linear Algebra.

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 descent 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.

505. (ESE 406, MEAM513) Control of Systems. (B)

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.

508. (OPIM660) Info Systems for E-Commerce. (M)

Prerequisite(s): A computer programming language course such as CSE 120 (C++), plus ESE 301 (Probability) and ESE 302 (Statistics) or equivalent.

This course looks at the information systems phenomena that are revolutionizing organizations (e.g., clicks & mortar shopping, net-centric value chains, telemedicine, emergent communities, online democracy, etc). To be effective in this milieu, organizations must do more than just push new information technology. They need to determine how to harness the new technology to manage complexity and to maximize stakeholder value. Processes need to be systematically analyzed and redesigned all along the value chain from supplies and procurement to electronic storefronts and customer support, from campaign headquarters to voter booth, etc. This course examines design principles task and information process modeling and analysis methodologies, and a range of underlying information technologies (e.g., webserver design, transaction processing, warehousing, datamining/knowledge management, bots and agents, XML, security, information theory/complexity, and more) that will help the modern organization or community to maximize its strategic objectives. We also examine failure case studies and derive lessons learned.

509. (TCOM503) 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.

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. Shrodinger 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, semi-conductor 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.

519. Real-Time Embedded Systems.

(C) Prerequisite(s): Programming in C/C++. 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.

521. The Physics of Solid State

Energy Devices. (M) 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. (OPIM656) 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.

525. (MSE 525) Nanoscale Science and Engineering. (A)

Prerequisite(s): ESE 218 or PHYS 240 or MSE 215 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 sustension of current approaches, and for the development of revolutionary designs and applications.

529. (MEAM529) Introduction to MEMS and NEMS. (A)

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 STAT 430 or ESE301 at Penn. Students are expected to have a sound calculus background as covered 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. This course is a prerequisite for subsequent courses in communication theory and telecommunications such as ESE 576 and TCOM 501. The course is also suitable for students seeking a rigorous graduate level exposure to probabilistic ideas and principles with applications in diverse settings. We will focus on discrete and continuous probability spaces.

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 and their characterizations and applications; random variables, distribution functions; random number generation and statistical tests of randomness; measures of central tendency -- mean, median, mode; mathematical expectation and the Lebesgue theory; expectations of functions, key properties, 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): Undergraduate Signals and Systems.

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. Selected applications.

534. Computer Organization. (M)

Prerequisite(s): Basic computability and basic digital circuits, VLSI exposure helpful but not required. CSE 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).

539. (BE 539) Neural Networks, Chaos, and Dynamics: Theory and Application. (B)

Physiology and anatomy of living neurons and neural networks; Brain organization; Elements of nonlinear dynamics, the driven

pendulum as paradigm for complexity, synchronicity, bifurcation, self-organization and chaos; Iterative maps on the interval, period-doubling route to chaos, universality and the Feigenbaum constant, Lyapunov exponents, entropy and information; Geometric characterization of attractors; Fractals and the Mandelbrot set; Neuron dynamics: from Hodgkin-Huxley to integrate and fire, bifurcation neuron; Artificial neural networks and connectionist models, Hopfield (attractor-type) networks, energy functions, convergence theorems, storage capacity, associative memory, pattern classification, pattern completion and error correction, the Morita network; Stochastic networks, simulated annealing and the Boltzmann machine, solution of optimization problems, hardware implementations of neural networks; the problem of learning, algorithmic approaches: Perception learning, back-propagation, Kohonen's self-organizing maps and other networks; Coupled-map lattices; Selected applications including financial markets.

540. (ESE 400) Engineering Economics. (C)

This course is cross-listed with an advanced-level undergraduate course (ESE 400). Compared to the undergraduate course, students will be required to do additional work and will be graded by a more rigorous performance standard. 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.

544. (ESE 444) Project Management. (A)

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.

555. Cities and Transportation Systems. (M)

Transportation systems operations; concepts, scheduling and analyses. Applications of operations research methods. Rail and bus networks, lines, branches and feeders. Timed transfer system. Fares, other revenues and costs. Organization and management. Transit planning methodology; comparison of modes. Transit financing and policy. Urban transportation problems in developed and developing countries: their origins, causes and solutions. Definition and implementation of optimal role of cars, transit, bicycles and pedestrians in cities. Balanced transportation and livable cities. Field trip.

560. (CBE 543) Sustainable Development of Water Resource Systems. (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. A case study approach is used to demonstrate these principles across a range of examples from developed and developing countries.

567. (OPIM261, OPIM761) Risk Analysis and Environmental Management. (C)

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.

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.

572. (ESE 419) Analog Integrated Circuits. (A) Prerequisite(s): ESE 570 and 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.

573. (BE 526) Building Brains in Silicon. (M) Prerequisite(s): Students with advanced knowledge in neurobiology but rudimentary knowledge in electrical engineering or vice versa are welcome. Biology students should have a course in Cellular Neurobiology and BIOL 451, Systems Neuroscience. Engineering students should have ESE 218, Physics and Models of Semiconductor Devices and ESE 319, Fundamentals of Solid-State Circuits.

We model the structure and function of neural systems in silicon using very large scale integration (VLSI) complimentary metal-oxide-semiconductor (CMOS) technology. To build these neuromorphic systems, we proceed from the device level, through the circuit level, to the system level. At the device level, we mimic electrodiffusion of ions through membrane channels with electrodiffusion of electrons through transistor channels. At the circuit level, we derive minimal implementation of synaptic interaction, dendritic integration, and active membrane behavior. At the system level, we synthesize the

spatiotemporal dynamics of the cochlea, the retina, and early stages of cortical processing.

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. (TCOM511) Introduction to Wireless Systems. (M) Prerequisite(s): Basic knowledge of wireless networks, protocols, and operating system concepts. TCOM 500 or equivalent.

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.

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)

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): Undergraduate Control course.

This courses focuses on nonlinear systems, planar dynamical systems, Poincare Bendixson Theory, index theory,

bifurcations, Lyapunov stability, small-gain theorems, passivity, the Poincaré map, the center manifold theorem, geometric control theory, and feedback linearization.

630. Elements of Neural Computation, Complexity, and Learning. (M)

Prerequisite(s): A semester course in probability or equivalent exposure to probability (e.g. ESE 530).

Non-linear elements and networks: linear and polynomial threshold elements, sigmoidal units, radial basis functions. Finite (Boolean) problems: acyclic networks; Fourier analysis and efficient computation; projection pursuit; low frequency functions. Network capacity: Feedforward networks; Vapnik-Chervnenkis dimension. Learning theory: Valiant's learning model; the sample complexity of learning. Learning algorithms: Perception training, gradient descent algorithms, stochastic approximation. Learning complexity: the intractability of learning; model selection.

632. Random Process Models and Optimum Filtering. (M)

Prerequisite(s): ESE 530 or equivalent.

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 infrast, 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 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 laboratories, develop instructional material 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 responsible for the

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course. At the completion of every 0.5 course unit of teach, the student will receive a Satisfactory/Unsatisfactory grade and a written evsigned by the faculty member responsible for the course. The evaluation will beon comments of the students taking the course and the impressions of the facult

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/Disseratation Research. (C)

For students working on an advanced research program leading to the completion of master's thesis or Ph.D. dissertation requirements.

ENGINEERING AND APPLIED SCIENCE (EG) {EAS}

SM 001. Engineering Ethics Seminar.

The increasing scale, complexity, and social impact of technology have forced the engineering community to re-examine issues of professional ethics and responsibility. In these seminars students will participate in discussions oriented around a series of real-world case studies involving a wide range of contemporary controversies, including the Challenger disaster, software liability, and intellectual property issues. The goal is to provide students with tools for thinking about the complex ethical issues that they were likely to encounter in their own academic and professional careers.

SM 009. Writing About Science and Engineering. (A)

Using the approaches of such computer scientists as Donald A Norman (*The Design of Everyday Things*) and Alan Cooper, the father of Visual Basic, this writing seminar will explore issues and ideas related to the creative process and end results of how everyday objects are designed and used, from light switches and telephones to computer software. This seminar is intended for anyone who is interested in thinking about everyday life and its objects and learning about what goes into the design process. We will explore design failures and successes, and learn how attention to the objects in our everyday lives and how these were designed changes our perspective toward not only the objects that surround us, but our very lives and culture. Along with readings from Norman and Cooper, readings will also likely be drawn from journals, magazines, newspapers. Students will be expected to write and revise 3 four-to-six page papers, one-page responses, in-class writings and a reading and idea journal.

This is a writing seminar--and as such fulfills the entire Writing Requirement for students in all four undergraduate schools. The seminar contents vary from semester to semester; for a current description, please see the Writing Program web site: www.english.upenn.edu/Writing.

101. Introduction to Engineering. (C)

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 as an engineering requirement in SEAS.

L/L 105. Introduction to Scientific Computing. (C)

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, flow control, 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 and audio processing, and control of sensors and actuators. This course does not assume any prior programming experience but will make use of basic concepts from calculus and Newtonian physics.

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.

L/R 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)

250. Energy Systems, Resources and Technology. (C) Prerequisite(s): Sophomore standing in Engineering. Freshman Chemistry, Freshman Physics or Mechanics.

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.

280. (BE 280) Bioengineering in the World. (C)

Open to all majors at Penn, this course explores the wide-range of bioengineering applications 'in the world' and then takes these concepts 'into the world' by teaching them to a small group of students at the high school level. Students will learn fundamental concepts behind bioengineering applications such as Gene Therapy, Stem Cells, Neuroengineering, Tissue Engineering, Biomechanics, Imaging, and Medical Devices. They will

also develop effective methods for teaching technical concepts. At the high school, the Penn students will perform hands-on activities with the high school students, discuss ethical questions related to each topic, and explore career options.

281. Multimedia Tools and Technology. (C)

L/R 285. Teaching Computer Science Basics. (C) Faculty. Prerequisite(s): CIS 110 or CIS 120.

299. Eng Rsch-Prep/App/Meth. (C)**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.

349. Ideas to Assets. (M)

Prerequisite(s): Sophomore or higher standing.

Not every idea leads to a great product. The process of "crystallizing" a clever idea into a saleable asset demands a mix of creativity, systems thinking, sound business instincts, and the courage to do things differently. Students in this project-centered course will gain the necessary skills and experience from concentrated work on early-stage inventions drawn from Penn's technology portfolio. Is the invention feasible? Patentable? How should it be designed and produced? What will it cost? Is there a market? Does the payoff justify the investment? These and similar questions will be answered through a multifaceted process including analysis, experimentation, design, and/or market research. The projects are not "case studies", but rather involve real, current intellectual property of potential value to the University. Inventors and specialists from the Center for Technology Transfer will be available to collaborate with the student teams. Project work will be complemented by lectures and exercises dealing with the patent process, cost and market estimation, project planning, economic analysis, and the systems approach to new product design.

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, Ecology, Economics, Sustainability. (A)

Any University student interested in energy and its impacts, who is an undergraduate 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, 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 energy consumption, use, and resources; ecological impacts, sustainability and design of sustainable energy systems; methods of energy analysis; forecasting; electricity generation systems (steam and gas turbine based power plants, fuel cells), energy for transportation (cars, aircraft, and ships); nuclear energy and wastes; renewable energy use: solar, wind, hydroelectric, geothermal, biomass; prospects for future energy systems: fusion power, power generation in space.

402. (EAS 502) Renewable Energy and Its Impact. (B)

Prerequisite(s): Any undergraduate student interested in renewable energy and its impacts, who is an undergraduate Junior or Senior. Students taking the course as EAS 502 will be given assignments commensurate with graduate 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, Ecology, 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, 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 energy consumption, use, and resources; ecological impacts, sustainability and design of sustainable energy systems; methods of energy analysis; forecasting; electricity generation systems (steam and gas turbine based power plants, fuel cells), energy for transportation (cars, aircraft, and ships); nuclear energy and wastes; renewable energy use: solar, wind, hydroelectric, geothermal, biomass; prospects for future energy systems: fusion power, power generation in space.

502. (EAS 402) Renewable Energy and Its Impact. (B) Prerequisite(s): Any undergraduate and graduate university student interested in renewable energy and its impacts, preferably at the upper level undergraduate and non-engineering graduate level of maturity.

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.

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.

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.

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.

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.

898. CPT Research Practicum. (C)

SM 900. Resp Conduct Res Eng. (C)

312. Theory of Networks. (C)

412. Algorithmic Game Theory. (C)

ENGINEERING MATHEMATICS (ENM)

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.

251. Analytical Methods for Engineering. (A) 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 emphasize 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.

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 probability. Expectation. Variance. Covariance. Joint probability. Moment generating functions. Stochastic models and applications. Markov chains. Renewal processes. Queuing models. Statistical inference. Linear regression. Computational probability. Discrete-event simulation.

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.

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.

Continuous Dynamical Systems: Nonlinear Equations versus Linear Equations, One-Dimensional Flows: Flows on a Line, Fixed Points and Stability, Linear Stability Analysis, Potentials, Bifurcations, and Flows on the Circle. Two-Dimensional Flows: Linear Systems, Eigenvalues and Eigenvectors, Classification of Fixed Points, Phase Portraits, Conservative Systems, Reversible Systems, Index Theory, Limit Cycles, Gradient Systems, Liapunov Functions, Poincare-Bendixon Theorem, Lienard Systems, Relaxation Oscillations, Weakly Nonlinear Oscillators, Perturbation Theory, Saddle-Node, Transcritical and Pitchfork Bifurcations, Hopf Bifurcations, Global Bifurcations of Cycles, Hysteresis, and Poincare Maps. Three-Dimensional Flows: The Lorenz Equations, Strange Attractors and Chaos, The Lorenz Map.

Discrete Dynamical Systems: One-Dimensional Maps, Chaos, Fixed Points and Cobwebs, The Liapunov Exponent, Universality and Feigenbaum's Number, Renormalization Theory, Fractals, Countable and Uncountable Sets, The Cantor Middle-Thirds Set, Self-Similar Fractals and Their Dimensions, The von Koch Curve, Box Dimension and Multifractals.

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.

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

Freshman Seminar 016

See English Department website for current descriptions: www.english.upenn.edu

SM 016. (ASAM016, CINE016, COML016, FREN200, GSWS016) 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

017. Age of Beowulf. (M)

This course introduces students to the great Old English epic Beowulf within the larger context of Anglo-Saxon culture. We will read the poem in its entirety (after a crash course on Old English grammar); as we do so, we will use our experience of the poem to branch out into such topics as Anglo-Saxon poetics, mythologies and genealogies, manuscript culture, monastic life, archeology, legal codes, slavery, and gender relations. Finally, we will use the poem to think through the place of Old English in modern American and British culture, as for example, the way we conceive of the English language, national identity, and our medieval-saturated popular culture (romances, films, videogames, etc.).

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

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 Wonderer*, *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.

019. History of the English Language. (M)

This course traces the history of the English language through English literary history, from Anglo-Saxon England to 21st-century America. We will consider the relationship between different language systems (e.g., syntax, morphology, orthography, grammar) and the relation of those systems to the literature of different historical periods. We will also consider the social and political events influencing language change, such as the introduction of Christianity, the Norman Conquest, the printing press, colonialism, educational policies, and mass media.

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, COML120) 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.

023. History and Theory of Genre. (M)

This course will offer students the opportunity to understand what makes one genre or kind of literature different from another. Where do their definitions originate? How does genre affect how a literary work is written, how it is reproduced, and how it is interpreted? To what degree have the various genres mutated through time? Under what circumstances do new genres emerge? The syllabus will consist of representative works of a number of literary genres (drama, romance, lyric, satire, epic) as well as some readings, both ancient and modern, in the theory of genre.

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

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 used 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. Drama to 1660. (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) [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. Primary 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. (CINE138, 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. Emphasis 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 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 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 to 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.

042. 18th-Century Poetry. (M)

An introduction to poetic practices as they developed in England, and in English-speaking Britain and its colonies, between the late seventeenth and early nineteenth centuries. Typically, this course will survey poetry on both sides of the Atlantic, though its geographic focus will vary with the instructor. Students will focus on a variety of poetic forms including, though not restricted to: satire, the ode, panegyric, pastoral and topographical poetry, lyric poetry. We will seek to understand poetry as crucial to, and constitutive of, eighteenth-century aesthetic and cultural practice.

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

043. 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 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.

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 witness 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 important, 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 of 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.

048. Transatlantic Literature. (M)

A survey of the literatures of the English-speaking Atlantic world, from the earliest colonial ventures in North America to the cosmopolitan cultures of the 19th-century empire. In prose, poetry, and drama by a diverse range of writers, the course will trace numerous transatlantic dialogues--on colonialism, aesthetics, revolution, slavery, imagination, nationalism, and religion--from the British Isles to the Americas to Western Africa.

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

049. Enlightenment and Romanticism. (M)

A survey of literature from the Enlightenment to Romanticism, focusing on the interdisciplinary nature of literary and social change between 1745 and 1848. Students will read the aesthetic,

philosophical, and literary writings from this century of American, European, and Caribbean revolutions. While readings will vary from course to course, students should expect to read such authors as Anna Barbauld, William Blake, Edmund Burke, Olaudah Equiano, Henry Fielding, Benjamin Franklin, Philip Freneau, Margaret Fuller, David Hume, Thomas Jefferson, Hannah More, Thomas Paine, Walter Scott, Percy Shelley, Adam Smith, Horace Walpole, Phillis Wheatley, Helen Maria Williams, and Mary Wollstonecraft.

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. (CINE051, 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.

052. 19th-Century Poetry. (M)
[Formerly ENGL 051].

An introduction to British and American poetry and poetics from the early Romantics to the early Modernists.¶ Authors may include Blake, Coleridge, Wordsworth, Hemans, Shelley, Keats, Byron, Bryant, Tennyson, Poe, Longfellow, the Brownings, Whitman, Dickinson, the Brontës, Swinburne, the Rossettis, Hopkins, Arnold, Dunbar, Hardy, and Robinson.

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 a 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) Music and Literature. (A)

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 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 description of the current offerings.

056. (THAR125) Modern Drama. (M)

Selected writings for the stage from the mid-nineteenth century to the present, encompassing such radical movements as realism and naturalism, symbolism and surrealism, metatheatre, expressionism, epic theatre, the theatre of the absurd, and post-modernism. Major playwrights include Ibsen, Strindberg, Chekhov, Shaw, Pirandello, Brecht, Beckett, Kushner, and Parks.

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 Calderín de la Barca, Frederick Douglass, Helen Hunt Jackson, Henry Wadsworth Longfellow, Jose Marti, Herman Melville, John Rollin Ridge, María Amparo Ruiz de Burton, and Felix 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 Brontes, 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. (CINE160) 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 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 the course.

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

063. (AFRC063) 20th-Century American Literature. (M) [Formerly ENGL 058].

This course surveys American literature across the twentieth-century, considering its formal innovations in the wake of modernism, the two World Wars, the Cold War and postmodernity. Authors treated might include: James, Wharton, Eliot, Pound, Faulkner, Hemingway, Rhys, Baldwin, Ginsberg, Plath, Pynchon, Walcott, and Morrison.

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.

066. Literature and Law. (M)

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

An introduction not only to representations of the law and legal processes in literary texts, but also to the theories of reading, representation, and interpretation that form the foundation of both legal and literary analysis.

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

067. 20th-Century Literature of the Americas. (M)

This course situates major U.S. literary movements of the twentieth century within the political and cultural histories of the Americas. With this more global context we will survey writing about revolution, imperialism, social protest, feminism and sexuality, and the influence of the "boom" writers and magical realism on U.S. culture. Writers might include Willa Cather, Michelle Cliff, Coco Fusco, Langston Hughes, Jack Kerouac, Leslie Marmon Silko, Gabriel Garcia Marquez, Katherine Anne Porter, and William Carlos Williams.

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 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 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. (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. (AFRC071, AFST071) Literatures of Africa and the African Diaspora. (M)

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.

073. 19th-Century Literatures in Dialogue. (M)

What dialogues have defined and constituted American and other literatures? This course examines critical intersections between different literatures of the 19th century, addressing questions of race, ethnicity, and culture. Previous versions of this course have included such titles as "Postbellum/Pre-Harlem" and "Victorian Literature and Ireland." Our readings will consider a range of literary interactions, and will take a self-consciously comparative and intertextual approach.

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

074. (AFRC085) 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 poems 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. (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.

077. (COML077, SAST124) Literature and Empire. (M)

Since the sixteenth century English has been, among other things, an imperial language, and ideas about empire and imperialism have shaped not only many of English literature's central texts but also the development of English literary study as a discipline. This course is an introduction to the way imperial contact and changing ideas about empire and decolonization have shaped literature in English from the sixteenth to the twentieth centuries. We will consider historical and cultural materials to offer contexts for literary production of texts from the sixteenth to the twentieth centuries. The course also will serve as a comprehensive introduction to the way literary and cultural representations of Europe have been influenced by changing ideas about empire and imperialism. Different versions of the course will vary in the historical and cultural material they cover as they offer a context for literary production.

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

079. (CINE059, GRMN261, GRMN263, JWST179, JWST261) Jewish-American Literature. (M) Arts & Letters Sector. All Classes.

From vaudeville comedy to modernist poetry, from Tin Pan Alley to the postwar novel, from Yiddish theater to midrashic approaches to literary interpretation, Jewish

American literature and thought have been central to, and on the cutting edge of, the fabric of American culture -- high, low, and, especially, in between. This course will examine the many facets of Jewish American literature, both secular and observant, assimilationist and particularist -- from films such as *The Jazz Singer* (1927) to the fiction of Roth and Bellow to the poetry of Bob Dylan and Adrienne Rich. While we will focus on significant works of fiction and poetry, we also will read within the wider world of philosophy, criticism, radio, film, theater, and television that surround them.

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

080. (AFRC079, MUSC075) 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, CINE081) 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.

083. (AFRC083, JWST083) 20th-Century Literatures In Dialogue. (M)

What dialogues have defined and constituted American and other literatures? This course examines critical intersections between different literatures, addressing questions of race, ethnicity, and culture. Previous versions of this course have included such titles as "African-American and Jewish-American Literature." Our readings will consider a range of literary interactions, and will take a self-consciously comparative and intertextual approach.

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

084. (AFRC084) Theories of Race and Ethnicity. (M)

The idea of 'race' broadly defined as the signification of biological and sociocultural differences as an index of human superiority or inferiority has played a crucial role in the literary imagination and is fundamental to studying most literatures in English

This course will examine representations of race in literary practices and in particular the centrality of such representations to the historical unfolding of communities and nations.

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

086. American Drama. (M) [Formerly ENGL 076].

Selected writings for the American stage from the nineteenth century to the present, in relation to American history, culture, other forms of literary expression, and major movements in theatre aesthetics. Major playwrights include O'Neill, Odets, Hellman, Miller, Williams, Albee, Shepherd, Mamet, Baraka, Wilson, Kushner, and Parks.

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

087. (COML110, THAR110) Theatre, History and Cultural 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.

093. (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) 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. (ARTH107, CINE103, COML116) Introduction to Film Theory. (B)

This course introduces students to literature's fundamental institutions and practices, and provides an excellent foundation for the English major or minor. This means that we will examine the historical and theoretical origins of both literature and literary studies, and survey some of the debates that have defined them. We will also examine the place of the literary within specific ideas of "culture" -- including the terms "high," "polite," "mass," and "popular" culture -- and with the critical methods useful to the study of mass media like television and film.

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

096. (COML096, 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 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, 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, THAR111) Theatre, History and Cultural II. (M)

The idea of "race" -- broadly defined as the signification of biological and socio-cultural differences as an index of human superiority or inferiority -- has played a crucial role in the literary imagination and is fundamental to studying most literatures in English. This course will examine representations of race in literary

practices, and in particular the centrality of such representations to the historical unfolding of communities and nations. How do ideas of race inform and engage with literary forms and genres in a given historical moment, and how does literature in turn address the histories and legacies of racist practices? We will also analyze the connections between questions of race and questions of "ethnicity": what, for instance, is the history of this concept, and what does it mean to designate a body of imaginative writing as an "ethnic literature?"

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

098. (COML112, THAR112) Theatre, History and Cultural 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, GSWS102) Introduction to Literary Study. (C) Arts & Letters Sector. All Classes.

This course is ideal for students consider the English major or minor, since it serves as an introduction to the study of literature. We will begin by raising fundamental and exciting questions central to literary study: What is literature? What has been and is its function? What is the nature of literary value? We will read a variety of literary genres and critical texts and survey a range of interpretive approaches and methods. The course combines lecture and discussion; students will write a series of short interpretive papers. 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 intended to serve as a foundation for students interested in going on to become English majors.

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

L/R 101. (AFRC101, CINE100, COML117, GSWS101) Study of an Author. (C) Arts & Letters Sector. All Classes.

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. 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 student 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. (CINE112, COML126, COML245) 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 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. 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. (COML119, COML125, COML128, GSWS128, NELC180) Study of a Literary Genre. (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, CINE104, 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 student 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.

105. (CINE110, COML106, COML150, GRMN253, GSWS105) Topics in Literature and Society. (C) Humanities & Social Science Sector. Class of 2010 & beyond.

This course offers students an opportunity to explore the relation between social institutions and culture, particularly how such institutions structure contemporary human society. Specific versions of this course such as "Copyright and Culture," for example, teach students the specific concepts and principles of legal and literary analysis while exploring the history of how discrete interpretive systems have overlapped in their jurisdictional claims, have shared specific values while rejecting others, and have repeatedly come into conflict with one another over the definition, status, and function of art and intellectual property. In all its versions, this course will provide students with specific tools to understand and evaluate the behavior of

human beings in contemporary cultures. At the same time, the subject matter of the course will render the conflict between different social institutions and between their different interpretive methods its centerpiece.

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

SM 267. (THAR241) Actoers and Acting. (C) Now is available as English 271.

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 several forms of fiction and poetry. Though emphasis is on practice, classroom work includes discussion of theory as well as readings in British and American 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.

SM 111. (COML115) Experimental Writing Seminar. (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 is a nontraditional "poetry immersion" workshop. It will be structured around a series of writing experiments, intensive readings, art gallery visits, and the production of individual chapbooks or web sites for each participant, and performance of participants' works. There will also be some visits from visiting poets. The emphasis in the workshop will be on new and innovative approaches to composition and form, including digital, sound, and performance, rather than on works emphasizing narrative or story telling. Permission of the instructor is required. Send a brief email stating why you wish to attend the workshop (writing samples not required).

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.

A workshop course in the writing of verse, with seminar and individual discussion of student work. There will be reading of traditional and contemporary poetry and analysis of the formal elements of verse.

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. 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.

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. (CINE116) 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) 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 workshop-oriented 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 122. (FNAR256, FNAR556)

Grotesque Forms. (C) Students wishing to take this course must e-mail the instructors, describing their interest in the course, why they want to take it, and their relevant background. (Requirement will be included in the course description).

An introduction to letterpress printing and bookmaking and writing for the artist book, focusing on the history of the artish book, competence in letterpress technique, print composition and design skills, and alternative book binding. Course readings will focus on the work Johanna 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. (CINE130) 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. (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, URBS273)

Advanced Non-Fiction Workshop. (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 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)

Candidates for the course are asked to submit as soon as possible one or two samples of their best creative nonfiction prose. Paper copies only, no electronic submissions. Be sure to include name, phone number, email address, the last four digits of your social security number.

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. Introduction to Journalistic Writing. (C)

A course in journalistic writing, introducing the student to the nuts and bolts of reporting, of finding the story, tracking down the facts, interviewing sources, using quotes and dialogue skillfully, editing.

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) Nonfiction writing sample a documentary piece, a feature story, profile, etc. will be required.

Advanced Journalistic Writing. How to write profiles personal pieces, and third-personal observational pieces, in ways that hook the average reader with strong emphasis on the best journalistic fact-gathering methods, including the cultivation of sources, interviewing

techniques, and the proper use of secondary material in the Internet age.

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

SM 159. Political Writing in the Blog Age. (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.

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) This course is not open to freshman. 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.

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. Students wishing to take this course must submit a writing sample as part of the selection process.

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 responsibility 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, bloggers.

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

SM 165. Writing through Culture and Art. (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 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 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 219. Topics In The History of The English Language. (M) [Formerly ENGL 279]

Spaces will be reserved for English majors.

This seminar explores an aspect of the History of the English Language; 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 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. (COML222, GSWS221) Topics In Romance. (M) 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 223. (COML333, ITAL333) Topics In Medieval Poetry. (M) Spaces will be reserved for English majors.

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 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. (CLST227) 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. (CLST296, CLST315, CLST360, CLST361, COML296) 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 232. Topics In 17th-Century Poetry. (M) [Formerly ENGL 231]. Spaces will be reserved for English majors.

The works of poets of the sixteenth and seventeenth centuries, such as John Donne, George Herbert, Henry Vaughan and other, approached through a variety of topics; 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 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)
Prerequisite(s): Pre-requisites THAR 120 or 121 (or their equivalent). 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. (ASAM241, COML239, GSWS241) 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 242. Topics In 18th-Century Poetry. (M) Spaces will be reserved for English majors.

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 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 246. Topics In Drama 1660 - 1840. (M) Spaces will be reserved for English majors.

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 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. (CINE251, 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 252. Topics In 19th-Century Poetry. (M) [Formerly ENGL 251] Spaces will be reserved for English majors.

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 253. (AFRC263, GSWS284) 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 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, THAR275) 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 257. Topics of Americas Before 1900. (M) Spaces will be reserved for English majors.

This course explores an aspect of U.S. literature and culture in the context of the global history of the Americas; 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. (COML248, GRMN249) 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. (CINE261, COML271, 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. 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) 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. (CINE295) 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) 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. (COML284, GSWS271, LALS291, ROML290) 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, 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, CINE272) 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, CINE271, 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. (COML265, THAR240, THAR241) 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.

SM 279. (CINE159, GRMN261, JWST279, NELC159) 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 281. (AFRC281, CINE281, COMM281, GSWS281, LALS280) 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, CINE282, RELS208) 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, CINE280, ENGL593, 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 289. Topics in Modern American Fiction. (M) Spaces will be reserved for English Majors.

Studies of trends and themes in the modern American novel. Topics in the past have included "California Dreaming," studying novels set in California such as *THE LAST TYCOON*, *THE BIG SLEEP*, *RUN RIVER*, *THE CRYING OF LOT 49* and others; William Faulkner; and "The Work, the Life, the Community: Eight American Literary Artists," which focused on Fitzgerald, Hemingway, Mailer, and others in their cultural context.

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

SM 290. (AFRC290, COML290, GSWS290, GSWS293, LALS290) 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. (ARTH290, CINE201, COML201, GRMN259) 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. (CINE202, CINE292, CINE392, COML292, COML391) 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, ASAM202, COML378, LALS293, ROML296) 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. (ARTH301, COML291) 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. (CINE260, CINE295, CINE296, 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.

SM 401. (URBS406) Teaching American Studies. (M) Permission given by the professor.

A double-credit course that combines the study of American cultural with High School teaching. Each student in the course will complete a standard list of readings and writing assignments, including several brief written reports and a fifteen-page final essay. In addition, each student will be assigned to an English or Social Studies teacher at University City High School and will assist that teacher at least three hours each week in class. The

second half of English 401 also comprises a list of readings mainly in urban education, and a number of writing assignments, including another fifteen-page final paper.

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

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 319. Topics In The History of The English Language. (M) Benjamin Franklin Seminar.

This course focuses on some clearly defined aspects of language history, for example, "The Behavior of Language and Language of Behavior," which examines language taboos, the language of sexuality and sexism, mutations of meaning, and other subtleties of language.

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. (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 332. Topics In Renaissance Poetry. (M) [Formerly ENGL 331]. Benjamin Franklin Seminar.

The works of poets of the sixteenth and seventeenth centuries, such as John Donne, George Herbert, Henry Vaughan and others, approached through a variety of topics; 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 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. 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) 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. 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 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 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. 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 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 388. Topics In American Poetry. (M) Benjamin Franklin Seminar.

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 390. (CINE308, 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, ARTH392, ARTH489, CINE392, COML391) 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) 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, 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. 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. (CINE505) 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, 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. (CLST610) 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. (COML538, 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. (COML537) 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. 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 taht of seduction.

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

SM 544. 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. (COML547) Eighteenth-Century Novel. (M) Staff.

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 548. (COML545, FOLK545) 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. (COML550, GSW550) 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, GSW553, RELS531) 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. (CINE556, 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. 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 C ollected 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, ARTH590, CINE501, COML569, GSWS569) 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, COML573) 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. (COML682, SPAN682) 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. (AFRC532, AFRC572, COML575, LALS702, SOCI702) Topics in African Literature. (M)
Wong, Edlie.

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.

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

SM 573. (CINE515, COML570, FREN573) 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. (FOLK575) 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, GRMN580) 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. (ARTH593, CINE591, COML592) 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. (ARTH590, CINE500, CINE550, CINE592, GRMN550) 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. (COML594, SAST526) 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. (CLST701) 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, GREK602, SLAV526) Interdisciplinary Approches 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 understudied, 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. (CLST630, COML714) 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 coventions (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. 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 issues 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, 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. (CINE600) 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) 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. (COML768, 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, PSCI683, SAST769) Feminist Theory. (M)

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, as explore the different forms of dissent individual, collective, urban, rural, nationalist, pan-nationalists, 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 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. (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. (COML778, GSWS778) 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. (ARTH787, COML787, COML790, GSWS787, GSWS790) Recent Issues in Critical Theory. (M)

Course varies with instructor. Recent versions have been "Critical Theory: Legacies of the Frankfurt School" and "Auteurism and Artificiality in Film Studies".

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

SM 795. (COML795) 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. (ARTH793, CINE793, COML653, 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) 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. (C) 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}

575. Introduction to Genetic Epidemiology. (B) Rebbeck, Devoto.
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.

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.

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.

652. Renal and Urologic

Epidemiology. 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 advance(d) 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.

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.

BIostatistics (BSTA)

509. Introduction to Epidemiology.

510. Introduction to Anatomy and Physiology. (A) Probert.

The purpose of this course is to introduce students without a background in medicine and biology to the basic vocabulary and principles of human anatomy and physiology in preparation for collaborative research in biostatistics. The course will begin with an overview of basic human biochemistry, cell biology, and genetics. Later topics will focus on the major organ systems including circulation, digestion and excretion, neurophysiology, and reproduction. Major disease areas of research such as cancer and drug research will also be covered.

550. (PSYC611, STAT500) App Reg and Anal of Var.

620. Probability I. (A) Morrison.

Prerequisite(s): Two semesters of calculus (through multivariable calculus), linear algebra. This course is also offered in the Summer I session.

This course covers 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.

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) Brown.

Prerequisite(s): BSTA 621.

Statistical inference including estimation, confidence intervals, hypothesis tests and non-parametric methods.

630. Statistical Methods for Data Analysis I. (A) Shults and Putt.

Prerequisite(s): Multivariable calculus and linear algebra, BSTA 620 (may be taken concurrently).

This first course in statistical methods for data analysis is aimed at first year Biostatistics degree candidates. It focuses on the analysis of continuous data, and includes descriptive statistics, such as central tendencies, dispersion measures, shapes of a distribution, graphical representations of distributions, transformations, and testing for goodness of fit for a distribution. Populations, samples, hypotheses of differences and equivalence, and errors will be defined. One and two

sample t-tests, analysis of variance, correlation, as well as non-parametric tests and correlations will be covered.

Estimation, including confidence intervals, and robust methods will be discussed. The relationship between outcome variables and explanatory variables will be examined via regression analysis, including single 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.

631. Statistical Methods and Data Analysis II. (B) Gimotty. Prerequisite(s): linear algebra, calculus, BSTA 630, BSTA 620, BSTA 621 (may be taken concurrently).

This is the second half of the methods sequence and focuses on categorical data and survival data. Topics in categorical data to be covered include defining rates, incidence and prevalence, the chi-squared test, Fisher's exact test and its extension, relative risk and odds-ratio, sensitivity, specificity, predictive values, logistic regression with goodness of fit tests, ROC curves, Mantel-Haenszel test, McNemar's test, the Poisson model, and the Kappa statistic. Survival analysis will include defining the survival curve, censoring, and the hazard function, the Kaplan-Meier estimate, Greenwood's formula and confidence bands, the log rank test, and Cox's proportional hazards regression models. 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. (STAT552) 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.

L/R 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.

Shults, 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,Sammel. 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.

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.

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.

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. Topic 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. 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.

633. Advanced Database Mangement for Clinical Research. (B) Holmes.
Prerequisite(s): EPID 532, or permission of instructor.

This course is intended to provide in-depth, practical exposure to the design, implementation, and use of secondary data resources in clinical research. This course is intended to provide students with the skills needed to design and conduct a research project using secondary data, with a focus on data management. We will focus on analysis only to the extent that one needs to be aware of the demands that particular analytic strategies put on the structure and management of data.

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.

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 1 designs, multi-stage and other adaptive designs, graphical data presentations and current ethical controversies in clinical trials.

640. Advanced Topics in Epidemiology. (L) 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.

646. Reproductive EPI. (J)

648. Introduction to Pharmacoepidemiology I. 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. 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. Strom.
Prerequisite(s): Permission of Instructor.

These seminars serve as follow-up to Topics in Pharmacoepidemiology II, continuing with topics presented in that course.

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.

666. Pharmacoepidemiology Research Methods. (A) 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. Holmes. 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. (B)

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 Pharmacoeppi.

848. Topics in Pharmacoeppi I.

866. Pharmacoeppidemiology Res.

FINANCE (WH) {FNCE}

100. (FNCE601) 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.

101. (FNCE602) Monetary Economics and the Global Economy. (C)

Prerequisite(s): ECON 010 [or ECON 001, ECON 002] and MATH 104. Students cannot receive credit for both FNCE 101 and ECON 102 [ECON 4] WHARTON STUDENTS ARE REQUIRED TO TAKE FNCE 101.

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.

103. Business Economics. (A)
FRESHMAN JOSEPH WHARTON
HONORS SCHOLAR STUDENTS ONLY,
Non-Honors students need permission.

The course covers introductory microeconomics and macroeconomics with particular attention given to global and long-run growth issues. The microeconomic portion introduces the discipline and fundamental tools of economics. It proceeds to study the workings of a price system and theories of consumer and firm decision-making. It further analyzes particular market structures characterized by perfect and imperfect competition, reviews the strengths and weaknesses of a market economy, and considers the government's role in

correcting market failures and promoting competition. The macroeconomic portion studies the domestic and international forces that govern the determination of the aggregate level of economic activity, and pays particular attention to the determinants of long-run economic growth and stabilization policies used to dampen business cycles. The course concludes with global issues including the determinants of trade, trade policy, capital mobility, international financial instability, and international economic integration and the extent of globalization.

203. (FNCE726) Advanced Corporate Finance. (C) Prerequisite(s): FNCE 100, FNCE 101, STAT 101, and STAT 102.

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. Some areas 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.

205. (FNCE720) Investment Management. (C) Prerequisite(s): FNCE 100-101 and STAT 101-102.

This course is designed to acquaint the student with the concepts of portfolio analysis in the general area of institutional investment management. The course discusses principles for managing financial assets. These principles apply, for example, to managing corporate pension funds, bank-administered trusts, and other institutional funds. Students will learn how to establish appropriate investment objectives, develop optimal portfolio strategies, estimate risk-return tradeoffs, and evaluate investment performance. Many of the latest quantitative approaches are discussed.

206. (FNCE717) Financial Derivatives. (C) Prerequisite(s): FNCE 100, STAT 101 - prerequisites cannot be taken concurrently. 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. (FNCE728) Corporate Valuation. (C) Prerequisite(s): FNCE 100, ACCT 101, and STAT 101-111 or equivalent. Acct 201 is 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. (FNCE731) International Corporate Finance. (A) Prerequisite(s): FNCE 100.

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, forecasting exchange rates, international portfolio diversification, managing exchange risk, taxation issues, cost of capital and financial structure in the multinational firm, and sources of financing.

209. (REAL209) Real Estate Investment: Analysis and Financing. (C) Prerequisite(s): FNCE 100 & STAT 101 - STAT 102.

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 medterms, depending on instructor.

215. (FNCE724, REAL724, REAL945) Urban Real Estate Economics. (C)
Prerequisite(s): FNCE 100-101.

Applies microeconomic theory to the real estate demand and supply and location decisions of households and firms and to related policy areas, including urban renewal, zoning, property taxation, and racial segregation.

219. (FNCE719) International Financial Markets. (C) Prerequisite(s): FNCE 100, FNCE 101, 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. (FNCE732) 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. (BPUB230, REAL230) Urban Fiscal Policy. (A) Prerequisite(s): FNCE 101.

A detailed examination of the financing of local governments, suburbs, and center cities within the metropolitan economy.

235. (FNCE725) Fixed Income Securities. (C) Prerequisite(s): FNCE 100, FNCE 101.

FNCE 235 is a rigorous study of fixed income securities, including default-free bonds, floating rate notes, and corporate bonds. Closely related financial instruments such as forwards and futures on fixed income securities, bond options, and interest rate swaps are also examined. In addition to analyzing specific types of fixed income securities, there will be an examination of the tools used in bond portfolio management.

238. (FNCE738) Capital Markets - Formerly Funding Investments. (C)
Prerequisite(s): FNCE 100, FNCE 101.

This course examines the available corporate securities that firms can use to finance investment. The course will focus on: (1) the design of these securities (Why do bonds have embedded options? What is the role of preferred stock?); (2) the issuing process for these securities (What do investment banks do? Is the underwriting process important for the cost of capital?); (3) the pricing of these securities (How are credit risk in bonds and loans priced?) The securities covered include corporate and junk bonds, bank loans, common and preferred equity, commercial paper, securitization, as well as some recent innovations. Other topics include: the role of embedded options in corporate bonds; the role of bank and loan covenants; the function of bond rating agencies; exchange offers; prepackaged bankruptcies; bankruptcy in Chapter 11; workouts; debtor-in-possession financing; and pricing credit risk. The course is designed to be complementary to Advanced Corporate Finance and Fixed Income Securities.

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-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.

250. (FNCE750) Venture Capital and the Finance of Innovation. (C)
Prerequisite(s): FNCE 100 and FNCE 101 (FNCE 101 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, Monte Carlo simulation, contingent-claims analysis, decision trees, 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.

251. (FNCE751) The Finance of Buyouts and Acquisitions.

Prerequisite(s): FNCE 100, FNCE 101, C-Requisite FNCE 203. 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 buyouts by private equity partnerships, and the second one studies mergers and acquisitions.

396. (FNCE896) Finance in Europe.

397. (FNCE897) FNCE in Mid East & N Afr.

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.

411. (FNCE011) Monetary Economics. (C) Faculty.**603. Basics Of Finance.**

FNCE 603 prepares students for the basic corporate finance class, FNCE 601. It covers the fundamental characteristics of stocks, bonds, and options and net present value. The course will demonstrate how to use Microsoft Excel and a financial calculator to perform these calculations.

611. Corporate Finance.**612. Accelerated Corp Finance.****613. Macroecn & Global Econom.****895. (FNCE395) Private Equity.**

Prerequisite(s): FNCE 726-Advanced Corporate Finance and FNCE 751-Finance of Buyouts and Acquisitions or permission from the professor.

The 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. (FNCE396) Finance in Europe.**897. (FNCE397) FNCE in Mid East & N Afr.****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. Financial Institutions. (B)

Prerequisite(s): ECON 898, STAT 510 or FNCE 911.

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.

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 (Fin. 912) and Empirical Methods in Corporate Finance (Fin 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 some current work. An emphasis will be put on the link between empirical and theoretical work, and how to think about research questions critically.

932. Corporate Finance. (A) Prerequisite(s): FNCE 911, FNCE 921, or permission of instructor.

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 Research in Finance. (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. Temporal dependence in asset returns.

937. Applied Quantitative Methods in Finance. (A) Prerequisite(s): FNCE 911.

Finance 937 uses numerical tools to address a variety of issues in finance. The course has two main objectives. First, it seeks to provide the students with useful quantitative tools to understand and produce frontier research in finance. Second, it applies these tools to advanced topics in both corporate finance and asset pricing. A special emphasis is placed on new and recent research.

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 view 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.

FINE ARTS (FA) {FNAR}

SM 007. Freshman Seminar: Feat of Clay & the Arcanum. (M)

Courtney/Maeshima. Lab Fee \$40. May not be taken as an elective studio by Fine Arts Majors or Minors.

An introduction to three-dimensional art through clay, this course introduces students to the fundamental language of object making through hands-on experience with clay materials. Students develop their visual skills by creating sculptural forms as well as pottery forms such as cups, bowls and jars. Each project is presented with clear demonstrations and individual instructions. The first half of the semester will focus on hand-building methods which include pinching, coiling, and slab-building. The students will learn how to throw at a potter's wheel during the latter half of the semester. Reading assignments, slide presentations and a field trip broaden the understanding of object making. \$40 Studio Fee.

034. (ENGL034, HIST034) Cultures of the Book. (A) Stallybrass/Comberg.

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*.

035. Common Press Workshop. Comberg.

The workshop is an introduction to letterpress printing and its environment - tools, materials, design and technical support - for those students who choose to complete research and/or a final printed project for the *Cultures of the Book* course (FNAR 034/ENGL 034/HIST 034). The workshop will include composing type manually or digitally, setting up the press with handset type or polymer plates, operating the letterpress, and printing a small edition. Additionally, the workshop will enable students to use the print studio for cutting and simple binding if needed. Paper will need to be purchased separately for those enrolled in the workshop.

SM 061. (CINE061, FNAR661, VLST061) Video I. (C) Reynolds/Van Cleve/Perlin/Duncan.

This course provides students with the introductory skills and concepts needed to create short works using digital video technologies. 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.

SM 062. (CINE062, FNAR662) Video II. (C) Reynolds/Perlin. Prerequisite(s): FNAR 061.

Video II offers opportunities to further explore the role of sound, editing and screen aesthetics. Through a series of three video projects and a variety of technical exercises, students will refine their ability to articulate more complex and creative projects in digital cinema. In addition, advanced level production and post-production equipment is introduced in this course.

SM 063. (CINE063, FNAR663) Documentary Video. (A) Heriza.

Prerequisite(s): FNAR 061.

A digital video course stressing concept development and the exploration of contemporary aesthetics of the digital realm, specifically in relation to the documentary form. Building on camera, sound and editing skills acquired in *Film/Video I* and *II*, students will produce a portfolio of short videos and one longer project over the course of the semester. Set assignments continue to investigate the formal qualities of image-making, the grammar of the moving image and advanced sound production issues within the documentary context.

SM 064. (CINE064, FNAR664) Interactive Video. (B) Reynolds.

Prerequisite(s): FNAR 061, FNAR 062.

This course explores the concepts and technologies behind non-linear storytelling through mediums like DVD's and the world wide web. Students will learn to make interactive DVD videos as a form of expression and explore the possibilities of streaming videomaking.

SM 065. (CINE065, FNAR665) Cinema Production. (A) Van Cleve.

Prerequisite(s): FNAR-061.

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 066. (CINE066, FNAR666) Sound Seminar: Sonic Measures. (B) Adkins. Prerequisite(s): FNAR 062.

Sonic Measures is a comprehensive introduction to the theory and practice of digital audio design, including sound for video, sound installation, composition, and sound art. Projects and demonstrations will familiarize students with all aspects of recording and synthesis of sound using Apple's Logic Pro software. Assignments will combine technical issues alongside an ongoing conceptual development individual to each student's interests. No musical knowledge needed.

SM 067. (CINE067, FNAR667) Advanced Video Projects. (M) Reynolds. Prerequisite(s): FNAR 062.

This course presents students with an advanced level investigation into various forms of digital video projects as well as non-traditional presentation formats. Structured to create a more focused environment for individual projects, students will present and discuss their work in a series of group critiques. Lecture topics, screenings, and technical demonstrations will vary depending on students' past history as well as aesthetic and theoretical interests.

SM 068. (CINE068, FNAR668) Cinematography. (B) Van Cleve.

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 075. (CINE075, FNAR675) Image and Sound Editing. (C) Novack/Novack. Prerequisite(s): FNAR 061.

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.

123. (FNAR523, VLST123) Drawing I. (C)

Edgerton/Curran/Talevski/Murphy/Hudson/Feige.

This course integrates formal issues, technical skill and content in basic drawing. Investigative work is from observation. Drawing from ideas and the imagination will also be explored using a wide variety of materials (such as graphite, charcoal, conte, ink) and methods (continuous tone, subtraction, etc.) It is appropriate for beginners and those with modest experience.

124. (FNAR524) Drawing II. (C)

Curran/Weiss. Prerequisite(s): FNAR 123.

A continuation of FNAR 123. Drawing II expands upon drawing fundamentals and leads the student into a facility with materials and methods, and into drawing as an objective not solely a means.

140. (FNAR540) Furniture Design. (A)

Schmidt-Ullrich.

The intent of this course is to amplify and maintain creativity, to expand on the tools of design. From hands-on modeling to large scale prototyping, students will delve into furniture design through the process of sketch, modeling in three-dimension, wordplay (haiku, oxymoron, hybridization and the conundrum). A "real" museum quality furniture object will be produced.

142. (FNAR542) 3-D Design. (C)

Vidnovic.

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) Sculpture I: Materials and Techniques. (C) White.

Students will develop facility with conceptual and visual 3-dimensional forms by applying plastic media and subtraction,

addition and fabrication techniques with hand and power tools.

146. (FNAR546) Sculpture II. (C)

White. Prerequisite(s): FNAR 145.

Sculpture II builds on the skills and concepts acquired in Sculpture I and challenges the student with concept directed projects.

SM 210. In Pursuit of Originality. (M)

Fierlinger. This course may not be counted as an elective studio towards the Fine Arts Major or Minor.

The purpose of this seminar is to familiarize freshmen with the intellectual pursuit of creativity. Through lectures, followed by a period of class discussions on the topic of the day and a visual diary, the student's mind will begin to understand art's serious place in society and how the pursuit of creating original art is an inherited, natural desire, programmed within our genes. The need to become keen observers of nature will be stressed, from the brain down to the molecular level, back to the mind's own will power and out to the vast, surrounding universe permeated with infinite mysteries, which we can begin to comprehend once we maintain an open mind and allow ourselves to experience awe and humanity. The ancient role of the artist is to hold witness, each in her and his way, to nature's meaning. Each student will be required to take notes of the impressions and imaginations and these should be recorded in both written and pictorial form. An effort to pursue originality is key. By the end of the semester, each student should have a unique "book" comprised of their interpretation of ideas, freshly received from the entire class.

211. (FNAR511, VLST311) Color. (C)

Lachman.

The color class is a one semester exploration of color action and interaction, its history and its contemporary paradigms and applications. Studio work includes both "laboratory" studies and improvisatory exercises and uses colored papers, gouache, light and related materials.

222. (FNAR622, URBS322) The Big Picture: Mural Arts in Philadelphia. (C) Golden/Walinsky.

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 226. (FNAR626, URBS226) The Photography of Urban Place. (M)

Prerequisite(s): FNAR-271 or Permission of the Instructor. This course may not be used as an elective studio for the Fine Arts Major or Minor.

This is a non-studio course in the photography of buildings, streetscapes, and cities. It is designed for photographers interested in the built environment as subject matter, as well as for architecture and planning students. We will hone practical skills in perspective control, lighting, and photographic interpretation of space, so that photographers, architects and planners can better photograph precedents and their own projects, and better evaluate the use of professional architectural photography for promotion and education. \$50 Studio Fee.

Anyone who owns a digital or film camera (including point-and-shoot) is qualified; no darkroom or Photoshop experience needed. Professional view camera techniques will be covered at a basic level.

The course will consist equally of slide lectures, discussions, and location shooting at Philadelphia residential, commercial, and industrial sites. Student images (digital or traditional) will be transferred to PowerPoint for class critique. Readings and discussions may range into issues of architectural and urban planning theory and philosophy that affect the interpretation of the built environment and how its image is perceived. Both documentary and fine art approaches will be covered.

231. (FNAR531) Introduction to Painting Practices. (C) Curran/Murphy.

Prerequisite(s): FNAR 123/523.

This course is an introduction to painting with emphasis on formal principles, content and expression. The course will explore the technical application of paint as well as the impact of a range of compositional and color strategies. Working from direct observation, members of the course will develop perceptual skills to create convincing relationships of form in space. The studio course assignments will be supported by lectures that introduce both contemporary and historical precedents in painting.

232. (FNAR532) Painting Studio. (C)

Tileston. Prerequisite(s): FNAR 231.

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. Members of the course will be expected to improve in the technical handling of paints and move towards developing personal modes of seeing, interpreting, and thinking for themselves.

233. (FNAR633) Digital Illustration. (M) REIFSNYDER. Prerequisite(s): FNAR 264/636 and FNAR 123/523.

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) Web Design I. (C) STAFF. Prerequisite(s): FNAR 264.

Web Design I is a course designed to introduce the student to web presentation, theory, techniques and current software applications. Instruction will include usability, graphic design, web terminology, appropriate file protocolling, information architecture planning, communication strategies and www identity design. Upon completion of this course, students will possess a working knowledge of how to organize and design full web page content for interactive online user interfacing or control-group presentation.

235. (FNAR635) 3-D Computer Modeling: Digital Sculpture. (C) White. Prerequisite(s): FNAR 123 and FNAR 264.

Students will develop a facility with fundamental 3-dimensional design concepts through the application of both computer graphics visualization and physical construction. The course will offer students a technical understanding of Polygonal and Spline based modeling, alternative and standard methods of 3-D input/output, and will cover regulations for creating models that will function properly for animation, video games and CMC/laser output.

236. (FNAR536) Digital Figure Modeling. (B) White. Prerequisite(s): FNAR 235/635.

3D computer figure modeling is a course which will emphasize the modeling of the human figure on the computer. Students will be studying anatomy as it relates to an understanding of the human bone and muscle structure. This understanding will be implemented in constructing models which could be used for still images, medical illustrations, animation, computer games, 3D output and motion capture.

SM 238. (FNAR538) Open Book. (A) Hyland.

"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. (Benjamin Franklin Scholar Seminar)

SM 239. Benjamin Franklin Seminar: Photographic Thinking. Davenport.

Prerequisite(s): Digital camera, familiarity with Photoshop and access to computer imaging software. 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. Although we will have a couple of tutorials on exposure, image editing and manipulation, as well as, an introduction to the range of equipment and printing options available. The greater part of class time will be group discussions and critique, discussing the readings, class presentations and looking at a lot of contemporary art.

How do images function? What kinds of images can be a critical language at this point in history? In what ways have the contemporary artists used photography as a tool for expression and communication? This course will explore and interrogate the key issues surrounding the medium of photography, led through these questions by lectures, group discussion and assignments/project-based work. Students will be asked to complete readings and photography assignments, make in-class presentations and complete a final written or photographic project. Students should have a strong interest in art history,

philosophy and should be motivated to work independently, and experiment creatively.

241. (FNAR541) Hand-Drawn Computer Animation. (M)

Fierlinger/Hagerty. Prerequisite(s): FNAR-264 or Permission of Instructor.

The student will learn to conceptualize and produce animation design ideas with an eye on the possibility of making the art of animation a future career. The student will be introduced to the workings of hand-drawn digital 2D animation design using a Wacom tablet and software TVPaint, specializing in this type of production. Emphasis will be placed on: 1) the development of drawing skills particularly related to the creation of paperless animation in a quick and effortless style; 2) the finesse of representing a sense of drama and motion within a single frame; 3) storytelling skills fulfilling a mission of urgency and purposefulness; 4) the pursuit of originality in a world where almost everything has already been done. Students are required to buy their own Wacom Intuos2 pens.

243. (FNAR543) Figure Sculpture I. (C) Vidnovic.

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; attendance and effort are mandatory.

244. (FNAR544) Figure Sculpture II. (C) Vidnovic. Prerequisite(s): FNAR 243.

A focused study of the human figure for students who have already taken Figure Sculpture I. Figure Sculpture II offers students a chance to refine their modeling skills, to appropriately enhance their use of anatomy, and to experiment with scale. Full fluency in basic human functional anatomy is expected upon enrollment.

250. Introduction to Printmaking. (B) Staff. Lab fee: \$40.00.

This course will concentrate on creating images in a variety of print media. This course encourages both technical exploration as well as an emphasis on image making. With an emphasis on intaglio, a wide variety of print techniques will be covered. In addition to intaglio techniques, the class will also cover screen printing, relief techniques and monoprinting. Through in-class demonstrations and the application of ideas surrounding drawing and mark making, two dimensional design, and conceptual process, students will

enhance their capacity for developing images. Students will also produce a portfolio of prints displaying a thorough knowledge of a variety of print techniques. Lab fee: \$40.00.

251. (FNAR551) Printmaking: Etching. (C) Talevski. Lab Fee \$40.

Students will have the opportunity to explore the idea of reproducibility, process and experimentation. Zinc and Copper etching, as well as non-acid processes will be covered. Demonstrations involve processes as basic as drypoint and line etching to more advanced skills such as spit bite and multiple plate color printing. A good introduction to the arts for students with little or no experience; this course will provide a foundation on which to build, combining direct skills like drawing and painting with conceptualization, visualization, planning and professionalism. Though offering much technical information, the focus of the class will be image making and idea development. Students will be challenged to pursue themes personally important while completing smaller projects designed to master techniques. \$40 Studio Fee

252. (FNAR552) Printmaking: Relief & Screen Printing. (C) Neff. Lab Fee \$40.

This course will explore the possibilities of the more direct and graphic printmaking methods: relief and screen printing. Demonstrations will be offered in linoleum and wood block printing, monotypes, collagraphs, multi-block color printing, stencil and photo silkscreen. Experimentation with materials, techniques and the definition of "printing" is strongly encouraged. Students will have the opportunity to explore the idea of reproducibility, process and play. \$40 Studio fee.

253. (FNAR553) Advanced Projects in Printmaking. (B) Neff/Marti.

Prerequisite(s): FNAR 252 or FNAR 257 and FNAR 251. Lab Fee \$40.

This course will concentrate on expanding imagery in print media. A wide variety of print techniques will be covered. Techniques will be addressed as they serve the needs of ideas rather than a set technical procedure. Through individual consultation, scheduled class critiques, field trips, guest artists, and collaborative projects, 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. The course requires the

proposal of a directed project to be explored in this seminar. \$40 Studio Fee.

255. (FNAR555) Book Arts and Letterpress. Treacy. Lab Fee \$40.

Book Arts and Letterpress is an introduction to the structure, form and craft of books as aesthetic and utilitarian objects. The letterpress will be used to set type for the books and much of the text will be based on the students' own writings. Students can expect to produce a variety of bindings, objects, chapbooks, etc. Lab fee of \$40.00 required.

SM 256. (ENGL122, FNAR556) Grotesque Forms. (A) Treacy/Gautsche.

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 Johanna 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. \$40 Studio Fee.

257. (FNAR557) Printmaking: Mixed Media. (C) Neff. Lab fee of \$40.

This course will concentrate on expanding your imagery in print media. A wide variety of print techniques will be covered such as monoprinting, multi-plate color printing, photo-based intaglio, lithography and screenprinting. Techniques will be addressed as they serve the needs of your ideas rather than as a set technical procedure. Through individual consultation, scheduled class critiques, field trips, guest artists, and collaborative projects, attention will be given to your work in and out of printmaking so that the technical and conceptual strengths of print media can serve as a worthwhile adjunct to your overall work. Independent work outside of class is expected and printmaking experience is highly recommended. \$40 Studio fee.

260. (FNAR560) Ceramics: Handbuilding. (C) Courtney. Lab Fee \$80.

This class is designed to give students a foundation of basic skills needed to express ideas creatively in clay. Assignments will

combine learning different approaches to art/sculpture making issue with clay forming and finishing techniques. Coil building, slab construction, pinching and tile making will be learned. Students will become familiar with basic glaze and slip surface treatments. The firing process will also be covered. Issues in historical and contemporary ceramics will be discussed. Instruction will center around demonstration, slide presentations, individual and group critiques.

261. (FNAR561) Clay Wheel Throwing I. (C) Courtney/Maeshima/Greenheck. Lab Fee \$80.

The purpose of this beginning level ceramics class is to learn the skills needed to use the potter's wheel as a tool for object making. Traditional ceramic techniques such as centering the clay, pulling walls and trimming pots will be a focus. A variety of glazing and slip decoration methods will be covered. Slide discussions, field trips and readings will supplement the studio work. \$80 Studio fee.

262. (FNAR548) Mosaics and Tiles. (B) Warnock. Lab Fee \$80.

This class will introduce students to a variety of techniques and approaches used in creating mosaics. Students will learn the history of this ancient method of pictorial rendering and will gain appreciation for contemporary applications of mosaic in both utilitarian and fine art contexts. Various methods of making, glazing and firing tiles will be taught, enabling students to design and produce their own series of works. Readings, slide presentations and field trips will complement hands-on experience. \$80 Studio Fee.

263. (FNAR563) Clay Wheel Throwing II. (C) Greenheck. Prerequisite(s): FNAR 261. Lab Fee \$80.

Students will continue to develop the technical skills involved in the wheel throwing process. Using the wheel as a tool to make sculptural as well as functional objects will also be explored. Focus will be placed on students' creative and technical development. \$80 Studio Fee.

264. (FNAR636, VLST264) Digital Design Foundations. (C)

Fledderman/Holmes/Comberg/Reifsnnyder/Telhan.

This course explores the elements and principles of design and composition. It is an introduction to the intentional organization of traditional and digital image-making. Emphasis will be placed on understanding compositional relationships through experimentation, iteration and

critique. Students will create imagery using hand skills and the software programs Adobe Illustrator, Photoshop, and InDesign.

266. (FNAR566) Graphic Design. (C) Treacy/Comberg. Prerequisite(s): FNAR 264/636.

Graphic Design encompasses many forms of visual communication that are disseminated in print, on screen and in the environment. In every design, the meaningful use of text and/or image is what communicates a message to an intended audience. Through a series of different projects, students will gain an understanding of visual problem-solving concepts. Professional design software will be used.

267. (CINE267, FNAR567) Computer Animation. (C) Mosley/Hagerty. Prerequisite(s): FNAR 264.

Through a series of studio projects, this course will focus on 2D and 3D computer animation. Emphasis is placed on time-based design and storytelling by developing new sensitivities to movement, cinematography, editing, sound, color, and lighting. Compositing software covered in the course will be used to combine 2D graphics, 3D animation, and sound. Recommended materials: Wacom Pen

269. (FNAR569) Typography. (B) Hyland. Prerequisite(s): FNAR 264.

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. (B) Comberg. Prerequisite(s): FNAR 266 or FNAR 269.

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.

SM 271. (FNAR571, VLST271) Introduction to Photography. (C) Rodewald/Martinez/Diamond/Ward. Lab Fee \$50.

This course will introduce students to the basic concepts, processes and techniques used in black and white photography, including camera operation, exposure, darkroom procedures, basic lighting, and their controlled applications. Introduction to Photography is designed to provide beginners with an introduction into the proper methods for creating black and white photographic images. Students will learn how to fully use and understand their SLR 35mm camera in order to successfully expose black and white film. Students will then learn how to professionally process their film and print their negatives onto photographic paper. This course begins with an emphasis on understanding and mastering technical procedures and evolves into an investigation of the creative and expressive possibilities of the medium. A brief introduction into the realm of digital imaging is also incorporated into this course; this includes scanning black and white negatives and the basics of Photoshop image adjustments. No previous experience necessary. Although it is recommended that students purchase their own 35mm SLR cameras for this course, cameras will be available throughout the semester for reservation and checkout from the photography equipment room. Lab fee: \$50.00

SM 272. (FNAR572) Intermediate Photography. (C) Rodewald. Prerequisite(s): FNAR 271 or Instructor Permission. Lab Fee \$50.

This intermediate photography course will expand on traditional black and white techniques by using various types of films, fiber printing papers and advanced darkroom procedures. The basics of the Zone System, advanced metering, studio lighting and 4x5 view camera will be introduced as well as medium format Hasselblad camera systems. A wide array of traditional (and non) photographic techniques will be covered to provide a "toolbox" of processes that will expand the students' vocabulary as image-makers. Emphasis will be on exploring and mastering these different approaches as we begin to identify how these different processes - and how they look - can contribute to meaning in a work of art. Throughout the course students will be guided toward the creation of work that is both technically and conceptually realized.

Correlations between digital and analog photographic practices are also incorporated into this course, providing an introduction into the possibilities of hybrid platforms. The examination of both historic and contemporary photographs will supplement this research. The final project will be a developed portfolio of prints based on one idea or theme. Lab fee: \$50.00.

SM 274. (FNAR574) Portrait Photography. (B) Wahl. Prerequisite(s): FNAR 271 or FNAR 340 or Permission of Instructor. Lab Fee \$50.

The objective of this class is to explore the many ways of interpretive photographic portraiture. An awareness of historical perspective, technical developments, physiognomy and proxemics will be discussed in order to gain a better understanding of the context of photographic portraiture. Natural and artificial lighting demonstrations will be presented to illustrate the importance of their relationship to the interpretive portrait. Any photographic medium (film - black and white or color - or digital) will be accepted, providing the skill and quality are apparent. There will be an assignment given each week at the beginning of each class and prints/CD's will be due the following week. The final project will be an extended portrait project of your choice. \$50 Studio Fee.

275. (FNAR583) Introduction to Color Photography. (C) Rodewald. Prerequisite(s): FNAR 271 or Permission of Instructor. Lab Fee \$50.

In this course students will begin to incorporate color into their technical and aesthetic photography arsenal. How film reacts to light and records color, how color influences the meaning of an image, and the development of a personal color sense will be explored through a series of assignments ranging from portrait to documentary to constructed photography. Topics covered will include: color theory, color temperatures, film and paper characteristics, push and pull processing, filters, advanced metering techniques, a brief introduction to the 4x5 View Camera, medium format Hasselblad systems, basic flash and studio lighting, print spotting, presentation, content and context. Emphasis will be placed on the photograph as a means of visual expression and the class is designed to treat color photography as both a technical and artistic medium. Correlations between digital and analog photographic practices are also incorporated into this course in order to illustrate and explore the full range of potential within color photography's trajectory and range. The examination of both historic and contemporary photographs

will supplement our visual explorations.
Lab fee: \$50.00.

276. (FNAR676) Lighting: Editorial Photography. (A) Bryant. Prerequisite(s): FNAR 271 or Instructor Permission. Lab fee \$50.00.

There are times that creativity cannot be shoe-horned into a studio. There are times that vision and craft must be able to control the tools of making an image. This introductory course on lighting is meant to expand the talents of photographers, whether they be fine art or documentary, and open up a new way of creating images - images that do not have to be created in Photoshop, but are created from the vision of the artist. In this class available light means whatever light is available: flash, tungsten, sunlight, or streetlight. The goal of this class is to allow the artist to grow in confidence and technical skill and to open their eyes to what they can create. Lab fee of \$50.00 required.

SM 278. (FNAR578) Photojournalism. (C) Bryant. Prerequisite(s): FNAR 271 or Permission of Instructor. Lab Fee \$50.

This is an introductory course in photojournalism with a major emphasis on developing a thoughtful approach toward seeing and making of meaningful photographs that communicate with readers. We will look critically at documentary and news photographs from the past and present. Through weekly shooting assignments, students will be exposed to the demands placed on working journalists. \$50 Studio Fee.

SM 279. (FNAR679) Large Format Photography & Studio Lighting. (B) Wahl. Prerequisite(s): FNAR 271 or Permission of Instructor. Lab Fee \$50.

The large format camera is the most versatile and widely used camera for fine art, architectural and commercial photography. This course will introduce the student to the basic and advanced operations of the camera. The class will also explore the use of artificial lighting in a studio environment. Recommended for Fine Arts and Architecture students. \$50 Studio Fee.

280. (FNAR580) Figure Drawing I. (C) Martenson/Talevski. Prerequisite(s): FNAR 123.

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 composition and as a contextualized element.

281. (FNAR581) Figure Drawing II. (C) Martenson. Prerequisite(s): FNAR 280.

Figure Drawing II is an advanced class designed to further develop the student's skill and facility. Content issues will be explored through individualized projects concentrating on the human form and expanded media applications.

SM 282. (FNAR582) Advanced Topics In Photography: Photo-based Installations Work. (A) Martinez. Prerequisite(s): FNAR 271/571 or Instructor Permission. Lab Fee \$50.

The course will stimulate students to create photography-based works of art that break from traditional practices to venture into exploring the various methods and materials of installation, public works, and/or assemblage. The class will be working on a group effort, various collaborative projects, and on individual installations. In creating these installation works students will not only be encouraged to cross disciplines (for example, to incorporate aspects of drawing or sculpture into their projects), but to also make work for specific sites in and around campus. Technical demonstrations for this course include: mural printing, various transfer processes, alternative darkroom techniques, use of hand-applied light sensitive liquid emulsions, etc. \$50 Studio Fee.

287. (FNAR587) Advanced Color Photography: Multiples and the Narrative. (B) Rodewald. Prerequisite(s): FNAR 275/FNAR 583 or Permission of Instructor. Lab Fee \$50.

This course will expand upon and refine the technical information learned in Introduction to Color Photography. While based in analog practice, all available technologies will be considered as viable components toward the creation of three larger bodies of works. Both documentary and still life approaches will be explored with an emphasis on solid conceptual research as our starting point. Projects are self-defined and negotiated with the instructor. The course is designed to treat color photography as both a technical and artistic medium. The final project will include a limited edition class portfolio. The examination of both historic and contemporary photography will supplement our visual explorations. The emphasis for this Advanced Color Photography course will shift throughout academic semesters. For example, the following descriptions adds specificity to this upper level photography course offering.

"Advanced Color Projects: Multiples and the Narrative" will focus on the creation of photographic based works of art that use more than one image to explore issues of content, context, sequencing and the abstract narrative. This is a cross-platform, hybrid technologies class and while based on analog/film practice - both black and white and color - all digital processes are considered possible viable components toward the completion of three larger bodies of works. Both documentary and still life approaches will be explored with an emphasis on solid conceptual research as our starting point. Project content is self-defined and negotiated with the instructor. The course is designed to treat color photography as both a technical and artistic medium. The final project will include a limited edition portfolio. The examination of both historic and contemporary photographs will supplement our visual explorations. Lab fee: \$50.00

289. (CINE289, FNAR589) Mixed Media Animation. (B)

Burke/Hagerty/Mosley. Prerequisite(s): FNAR 123 and FNAR 264.

This animation course fuses hands-on studio drawing, modeling, and cinematic processes with digital tools. Real world techniques such as stop-motion, claymation, 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.

290. Character Animation. (C)

Prerequisite(s): FNAR 267 or 235 or 236.

333. (FNAR533) Painting Studio II. (C)

Tileston. Prerequisite(s): FNAR 232 and FNAR 123.

Advanced Painting, open media.

334. (FNAR534) Painting Studio III. (C)

Tileston. Prerequisite(s): FNAR 333 and FNAR 123.

Advanced painting, open media.

335. (FNAR535) Web Design II. (B)

STAFF. Prerequisite(s): FNAR 234.

Web Design II builds on the course content of Web Design I, expanding the student's knowledge of and practice with CSS, HTML and JavaScript. These client-side technologies, however, are limited to passive, one-way communications. In Web Design II, students will take their work a step further by making robust, interactive applications and art using PHP and other

server side technologies. In addition to technical skills, instruction will be heavily framed around design strategies for the web. Students will be challenged to create clear, usable and visually interesting interactive interfaces. Over the course of the semester, students will experiment with net based art, data visualization and execute a complete interactive web application.

337. (FNAR637) Information Design and Visualization. (C) Comberg.

Prerequisite(s): FNAR 264.

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.

340. (FNAR640) Digital Photography. (C)

Wahl/Diamond/Stolfa/Rodewald/Ward/Martinez.

Understanding the tools of digital photography and how to use them is a necessity for visual artists. Using new technologies for personal expression is an important objective of this course. Equally important is to train and prepare students with the basic practical digital skills needed in the various aspects of today's world, including career development and support, avocation, and visual communication. The course will cover the basics of camera use and composition, as well as the critical techniques of digital capture, image processing, color management and color correction. A digital camera with a minimum of a seven-megapixels resolution will be needed for this course.

SM 341. (FNAR641) Architecture, Landscape and Cities: Large Format Photography. (M) Staff. Prerequisite(s): FNAR 271. Lab Fee \$50.

The emphasis of this course is on the usage and practical applications of the large format camera and how it records and interprets architecture and landscapes. The course is directed to photographers, architects, landscape artists and historic preservationists. The skills acquired will give students a practical application to ideas learned in conceptual classes. Topics covered will include: using the camera outdoors; framing; perspective and vantage point; filters and lighting sources. Lectures and presentations on architectural photographers as well as field trips to noted

local sites will also be included. \$50 Studio fee.

349. (FNAR649) Advanced Digital Photography. (C) Diamond.

Prerequisite(s): FNAR 341/640.

This course further explores the conceptual, philosophical and technical relationship between the camera, computer and the contemporary artist. With a heavy emphasis on project-oriented work, students will further their knowledge of manipulation, retouching and collage, as well as embarking on advanced color management and the use of digital photography in the studio environment. In addition to exploring these advanced imaging practices in their own work, students will also be required to critically examine the profound effects that new imaging technologies are having on art, journalism and the commercial realms.

353. (CINE353, FNAR653) Advanced Projects in Animation. (B)

Mosley/Hagerty/Landreth. Prerequisite(s): FNAR 235 and FNAR 267, or Instructor Permission.

Through a series of studio projects, this course will focus on advanced concepts in 3D computer animation and 2D compositing. The course will cover advanced techniques for rigging animated characters or structures, shading 3D forms, working with dynamic simulations, rendering projects, and compositing complex shots. Topics discussed will include production pipelines, motion-capture, and methods of developing ideas for animation. The schedule of the course will lend itself to allowing members to complete ambitious self-conceived animation projects.

362. (FNAR564) Clay: II. (M) Courtney. Prerequisite(s): FNAR 260 OR FNAR 261. Lab Fee \$80.

The purpose of this class is to expand the student's knowledge of ceramic processes. Handbuilding techniques such as coil building and slab construction will be reviewed as well as the potter's wheel. A greater emphasis will be placed on glaze chemistry, surface, and the firing process. Students will gain a broader knowledge of both electric and gas kiln firing processes. Exploring local clay institutions, such as the Clay Studio in Old City Philadelphia and the Moravian Tile Works in Doylestown will introduce students to the local ceramic resources that have played a significant role in the history of American ceramics. Raku firing, how to make two and three part slip cast molds, printmaking and ceramics and

the introduction of the computer into the art making process can be expected.

370. (FNAR670) Advanced Graphic Design and Typography. (A)

Gallagher/Comberg. Prerequisite(s): FNAR 266 and FNAR 269 or Permission of Instructor.

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.

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. (A) Mosley/Neff. Fine Arts Majors only.

Using the skills and education thus far acquired at Penn, the student will design and present a project reflecting a personal investigation in the visual arts. The instructor will guide students in readings on contemporary critical issues relevant to the student's research. The resulting work will be presented in an exhibition during the spring semester that will be evaluated by the seminar participants and the instructor. Media is open.

SM 489. Senior Seminar Project. (B)

Schneider/Neff/Martinez. Prerequisite(s): FNAR 488. Continuation of FNAR488 culminating in an exhibition.

501. Graduate Studio I. (A)

Adkins/Davenport/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.

511. (FNAR211, VLST311) Color. (C)

Lachman.

The color class is a one semester exploration of color action and interaction, its history and its contemporary paradigms and applications. Studio work includes both

"laboratory" studies and improvisatory exercises and uses colored papers, gouache, light and related materials.

515. Photography Studio Abroad.

Martinez. Prerequisite(s): Permission of Instructor Required.

The Howard A. Silverstein and Patricia Bleznak Silverstein Photography Studio Abroad will explore the contradictions and significance of various international radically shifting contemporary cultural climates. It will also offer our students the venue for the implementation of technical challenges and resolutions in pursuit of an image. Assignments will include specific technical strategies, presentations, conceptually driven units and a two-week shooting onsite. This abroad studio will go to Mumbai, India in the Spring 2011.

523. (FNAR123, VLST123) Drawing I. (C)

Edgerton/Curran/Talevski/Murphy/Hudson/Feige.

This course integrates formal issues, technical skill and content in basic drawing. Investigative work is from observation. Drawing from ideas and the imagination will also be explored using a wide variety of materials (such as graphite, charcoal, conte, ink) and methods (continuous tone, subtraction, etc.) It is appropriate for beginners and those with modest experience.

524. (FNAR124) Drawing II. (C)

Curran/Weiss. Prerequisite(s): FNAR 523. A continuation of FNAR 523.

Drawing II expands upon drawing fundamentals and leads the student into a facility with materials and methods, and into drawing as an objective not solely a means.

531. (FNAR231) Introduction to Painting Practices. (C) Curran/Murphy. Prerequisite(s): FNAR 523.

This course is an introduction to painting with emphasis on formal principles, content and expression. The course will explore the technical application of paint as well as the impact of a range of compositional and color strategies. Working from direct observation, members of the course will develop perceptual skills to create convincing relationships of form in space. The studio course assignments will be supported by lectures that introduce both contemporary and historical precedents in painting.

532. (FNAR232) Painting Studio. (C)

Tileston. Prerequisite(s): FNAR 531.

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. Members of the course will be expected to improve in the technical handling of paints and move towards developing personal modes of seeing, interpreting, and thinking for themselves.

533. (FNAR333) Painting III. (C)

Tileston. Prerequisite(s): FNAR 523 and FNAR 532.

Advanced Painting, open media.

534. (FNAR334) Painting Studio III. (C)

Tileston. Prerequisite(s): FNAR 533 and FNAR 523.

Advanced painting, open media.

535. (FNAR335) Web Design II. (B)

Staff. Prerequisite(s): FNAR 634.

This course will explore the design processes and techniques for creating an effective interactive experience. Students will apply both analytical and creative thinking at different points in the semester. This class will be a furtherance in learning to think and work as a designer. Students will begin to discern between everyday visual clutter and strongly developed design rooted in conceptual, aesthetic and technical achievement. Students will learn to distinguish the good from the bad and know the difference between design and decoration. We will explore how animation and sound can enhance the content and tell a story in a compelling way. The class will use Adobe Flash and Adobe Dreamweaver (HTML and CSS) programming.

536. (FNAR236) Digital Figure

Modeling. (B) White. Prerequisite(s): FNAR 635; Recommended FNAR 543 or FNAR 580.

3D computer figure modeling is a course which will emphasize the modeling of the human figure on the computer. Students will be studying anatomy as it relates to an understanding of the human bone and muscle structure. This understanding will be implemented in constructing models which could be used for still images, medical illustrations, animation, computer games, 3D output and motion capture.

SM 538. (FNAR238) Open Book. (A)

Hyland.

"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 539. Visual Communications and Presentation. (B) Telhan.

This seminar introduces an interdisciplinary approach to design, communication & presentation by visual methods. This semester, the emphasis of the course will be on extending the ways to think about the role of designer in the society-as artist, researcher, technologist, activist, intellectual, and critique. Students experiment with different elements of visual communication, image-making, fabrication, and prototyping techniques and learn to present themselves as emerging cultural producers. Through a set of projects that span across a variety of media, students work on improving their sensibilities towards the needs of their profession and develop their portfolios as their individual critical responses to the economic, social and cultural realities of the society they are living in.

540. (FNAR140) Furniture Design. (A)

Allison.

The intent of this course is to amplify and maintain creativity, expanding on the tools of design. From modeling to large scale prototyping, students will delve into design through the process of sketch, modeling in three-dimension, and wordplay (haiku, oxymoron, hybridization and the conundrum).

541. (FNAR241) Hand-Drawn Computer Animation. (M)

Fierlinger/Hagerty. Prerequisite(s): FNAR-523 and FNAR-636 or Permission of Instructor.

The student will learn to conceptualize and produce animation design ideas with an eye on the possibility of making the art of animation a future career. The student will be introduced to the workings of hand-drawn digital 2D animation design using a Wacom tablet and software TVPaint, specializing in this type of production. Emphasis will be placed on: 1) the development of drawing skills particularly related to the creation of paperless animation in a quick and effortless style; 2) the finesse of representing a sense of drama and motion within a single frame; 3) storytelling skills fulfilling a mission of urgency and purposefulness; 4) the pursuit

of originality in a world where almost everything has already been done. Students are required to buy their own Wacom Intuos2 pens.

542. (FNAR142) 3-D Design. (C)

Vidnovic.

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)

Vidnovic.

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; attendance and effort are mandatory.

544. (FNAR244) Figure Sculpture II. (C)

Vidnovic. Prerequisite(s): FNAR 543.

A focused study of the human figure for students who have already taken Figure Sculpture I. Figure Sculpture II offers students a chance to refine their modeling skills, to appropriately enhance their use of anatomy, and to experiment with scale. Full fluency in basic human functional anatomy is expected upon enrollment.

545. (FNAR145) Sculpture I: Materials and Techniques. (C)

White.

Students will develop facility with conceptual and visual 3-dimensional forms by applying plastic media and subtraction, addition and fabrication techniques with hand tools, power tools and welding equipment.

546. (FNAR146) Sculpture II. (C)

White. Prerequisite(s): FNAR 545.

Sculpture II builds on the skills and concepts acquired in Sculpture I and challenges the student with concept directed projects.

548. (FNAR262) Mosaic and Tiles. (B)

Warnock. Lab Fee- \$80.

This class will introduce students to a variety of techniques and approaches used in creating mosaics. Students will learn the history of this ancient method of pictorial rendering and will gain appreciation for contemporary applications of mosaic in both utilitarian and fine art contexts. Various methods of making, glazing and firing tiles will be taught, enabling students to design

and produce their own series of works. Readings, slide presentations and field trips will complement hands-on experience. \$80 Studio Fee.

551. (FNAR251) Printmaking: Etching. (C)

Neff/Talevski. Lab Fee \$40.

Students will have the opportunity to explore the idea of reproducibility, process and experimentation. Zinc and Copper etching, as well as non-acid processes will be covered. Demonstrations involve processes as basic as drypoint and line etching to more advanced skills such as spit bite and multiple plate color printing. A good introduction to the arts for students with little or no experience; this course will provide a foundation on which to build, combining direct skills like drawing and painting with conceptualization, visualization, planning and professionalism. Though offering much technical information, the focus of the class will be image making and idea development. Students will be challenged to pursue themes personally important while completing smaller projects designed to master techniques. \$40 Studio Fee.

552. (FNAR252) Printmaking: Relief & Screen Printing. (C)

Neff. Lab Fee \$40.

This course will explore the possibilities of the more direct and graphic printmaking methods: relief and screen printing. Demonstrations will be offered in linoleum and wood block printing, monotypes, collagraphs, multi-block color printing, stencil and photo silkscreen. Experimentation with materials, techniques and the definition of "printing" is strongly encouraged. Students will have the opportunity to explore the idea of reproducibility, process and play. \$40 Studio Fee.

553. (FNAR253) Advanced Projects in Printmaking. (B)

Neff/Marti. Prerequisite(s): FNAR 551 and FNAR 552 or FNAR 557. Lab Fee \$40.

This course will concentrate on expanding imagery in print media. A wide variety of print techniques will be covered. Techniques will be addressed as they serve the needs of ideas rather than a set technical procedure. Through individual consultation, scheduled class critiques, field trips, guest artists, and collaborative projects, 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. The course requires the proposal of a directed project to be explored in this seminar. \$40 Studio fee.

554. Graduate Printmaking I. (G)

Adkins. Lab Fee \$25.

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.

555. (FNAR255) Book Arts & Letterpress. (C)

Treacy. Lab Fee \$40.

Book Arts and Letterpress is an introduction to the structure, form and craft of books as aesthetic and utilitarian objects. The letterpress will be used to set type for the books and much of the text will be based on the students' own writings. Students can expect to produce a variety of bindings, objects, chapbooks, etc. Lab fee of \$40.00 required.

SM 556. (ENGL122, FNAR256) Grotesque Forms. (A)

Neff/Gautsche. Prerequisite(s): FNAR 5231 or FNAR 542 or ARCH 302.

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 Johanna 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. \$40 Studio Fee.

557. (FNAR257) Printmaking: Mixed Media. (C)

Neff. Lab fee of \$25.

This course will concentrate on expanding your imagery in print media. A wide variety of print techniques will be covered such as monoprinting, multi-plate color printing, photo-based intaglio, lithography and screenprinting. Techniques will be addressed as they serve the needs of your ideas rather than as a set technical procedure. Through individual consultation, scheduled class critiques, field trips, guest artists, and collaborative

projects, attention will be given to your work in and out of printmaking so that the technical and conceptual strengths of print media can serve as a worthwhile adjunct to your overall work. Independent work outside of class is expected and printmaking experience is highly recommended. \$40 Studio fee.

560. (FNAR260) Ceramics: Handbuilding. (C) Maeshima/Courtney. Lab Fee \$80.

This class is designed to give students a foundation of basic skills needed to express ideas creatively in clay. Assignments will combine learning different approaches to art/sculpture making with clay forming and finishing techniques. Coil building, slab construction, pinching and tile making will be learned. Students will become familiar with basic glaze and slip surface treatments. The firing process will also be covered. Issues in historical and contemporary ceramics will be discussed. Instruction will center around demonstration, slide presentations, individual and group critiques.

561. (FNAR261) Clay Wheel Throwing I. (C) Courtney/Maeshima/Greenheck. Lab Fee \$80.

The purpose of this beginning level ceramics class is to learn the skills needed to use the potter's wheel as a tool for object making. Traditional ceramic techniques such as centering the clay, pulling walls and trimming pots will be a focus. A variety of glazing and slip decoration methods will be covered. Slide discussions, field trips and readings will supplement the studio work. \$80 Studio Fee.

563. (FNAR263) Clay Wheel Throwing II. (C) Greenheck. Prerequisite(s): FNAR 561. Lab Fee \$80.

Students will continue to develop the technical skills involved in the wheel throwing process. Using the wheel as a tool to make sculptural as well as functional objects will also be explored. Focus will be placed on the students' creative and technical development. \$80 Studio Fee.

564. (FNAR362) Clay II. (M) Courtney. Prerequisite(s): FNAR 560 or 561. Lab Fee \$80.

The purpose of this class is to expand students' knowledge of ceramic processes. Hand building techniques such as coil building and slab construction will be reviewed as well as the potter's wheel. A greater emphasis will be placed on glaze chemistry, surface, and the firing process. Students will gain a broader knowledge of both electric and gas kiln firing processes.

Exploring local clay institutions, such as the Clay Studio in Old City Philadelphia and the Moravian Tile Works in Doylestown will introduce students to the local ceramic resources that have played a significant role in the history of American ceramics. Raku firing, how to make two and three part slip cast molds, printmaking and ceramics and the introduction of the computer into the art making process can be expected.

566. (FNAR266) Graphic Design. (C) Treacy. Prerequisite(s): FNAR 636.

Graphic Design encompasses many forms of visual communication that are disseminated in print, on screen and in the environment. In every design, the meaningful use of text and/or image is what communicates a message to an intended audience. Through a series of different projects, students will gain an understanding of visual problem-solving concepts. Professional design software will be used.

567. (CINE267, FNAR267) Computer Animation. (C) Mosley/Hagerty/Burke. Prerequisite(s): FNAR 523 and FNAR 661 or FNAR 636.

Through a series of studio projects, this course will focus on 2D and 3D computer animation. Emphasis is placed on time-based design and storytelling by developing new sensitivities to movement, cinematography, editing, sound, color, and lighting. Compositing software covered in the course will be used to combine 2D graphics, 3D animation, and sound. Recommended materials: Wacom Pen

568. (FNAR268) Interactive Multimedia. (M) Mosley/Telhan.

Interactive multimedia design in art, education, entertainment, and business has extended from the primitive state of CD-ROMS, and Laserdiscs, to the web, public interactive installations, and applications for hand-held computers. Through a series of studio projects, this course will focus on sound design, animation and graphic interface design for interactivity. Authoring and editing applications will be introduced including Flash and Pro Tools. Recommended materials: Wacom Pen

569. (FNAR269) Typography. (B) Hyland. Prerequisite(s): FNAR 636.

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. (B) Comberg. Prerequisite(s): FNAR 566 or FNAR 569.

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.

SM 571. (FNAR271, VLST271) Introduction to Photography. (C) Rodewald/Martinez/Diamond/Ward. Lab Fee \$50.

This course will introduce students to the basic concepts, processes and techniques used in black and white photography, including camera operation, exposure, darkroom procedures, basic lighting, and their controlled applications. Introduction to Photography is designed to provide beginners with an introduction into the proper methods for creating black and white photographic images. Students will learn how to fully use and understand their SLR 35mm camera in order to successfully expose black and white film. Students will then learn how to professionally process their film and print their negatives onto photographic paper. This course begins with an emphasis on understanding and mastering technical procedures and evolves into an investigation of the creative and expressive possibilities of the medium. A brief introduction into the realm of digital imaging is also incorporated into this course; this includes scanning black and white negatives and the basics of Photoshop image adjustments. No previous experience necessary. Although it is recommended that students purchase their own 35mm SLR cameras for this course, cameras will be available throughout the semester for reservation and checkout from the photography equipment room. Lab fee: \$50.00

SM 572. (FNAR272) Intermediate Photography. (C) Rodewald.

Prerequisite(s): FNAR 571 or Permission of Instructor. Lab Fee \$50.

The intermediate class addresses the aesthetics of picture making and a higher level of technical development. Assignments are given that enable the students to experience as many different ideas and methods as possible. \$50 Studio Fee.

SM 574. (FNAR274) Portrait

Photography. (B) Wahl. Prerequisite(s): FNAR 571 or FNAR 640 or Instructor Permission. Lab Fee \$50.

This class focuses on the human and its specific history. The emphasis will be on individual aesthetics dealing with the elements of formal and informal portraiture on location and in the studio with both artificial and natural light. We will explore many different technical aspects. A variety of assignments will include photographing the nude in a studio setting. \$50 Studio Fee.

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 577. Significant Matters: Form Language in Visual Art. (C) Faculty.

Focusing on each student's independent studio pursuits, group critiques of works-in-progress will examine their development and the nature of their form-language. Relationships between image and idea, structure and concept as well as subject and

meaning will be examined through discussion and two papers: a written preliminary "thesis" statement for their own work and a critique of other students' work including a record and summary of revisions in point of view over the course of the semester. All media areas welcome; weekly attendance required.

SM 578. (FNAR278) Photojournalism. (C) Bryant. Prerequisite(s): FNAR 571 or Permission of Instructor. Lab Fee \$50.

This is an introductory course in photjournalism with a major emphasis on developing a thoughtful approach toward seeing and making of meaningful photographs that communicate with readers. We will look critically at documentary and news photographs from the past and present. Through weekly shooting assignments, students will be exposed to the demands placed on working journalists. \$50 Studio Fee.

579. Graduate Computer Seminar. (M) Mosley.

The computer has become an indispensable tool for artists as they propose, create and document works. This seminar examines the integration of digital technologies within the tradition of fine art production and distribution, and also embraces theoretical issues instigated by emerging technologies. Class members will use the computer to draw, paint, manipulate images, edit video, and publish text for print or web.

580. (FNAR280) Figure Drawing I. (C) Martenson/Talevski. Prerequisite(s): FNAR 123/523.

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 composition and as a contextualized element.

581. (FNAR281) Figure Drawing II. (C) Martenson. Prerequisite(s): FNAR 580.

Figure Drawing II is an advanced class designed to further develop the student's skill and facility. Content issues will be explored through individualized projects concentrating on the human form and expanded media applications.

SM 582. (FNAR282) Advanced Topics in Photography: Photo-based Installation Works. (A) Martinez.

Prerequisite(s): FNAR 571 or Permission of Instructor. Lab Fee \$50.

The course will stimulate students to create photographic-based works of art that break

from traditional practices to venture into exploring the various methods and materials of installation, public works, and/or assemblage. The class will be working on a group effort, various collaborative projects, and on individual installations. In creating these installation works students will not only be encouraged to cross disciplines (for example, to incorporate aspects of drawing or sculpture into their projects), but to also make work for specific sites in and around campus. Technical demonstrations for this course include: mural printing, various transfer processes, alternative darkroom techniques, use of hand-applied light sensitive liquid emulsions, etc. \$50 Studio Fee.

583. (FNAR275) Introduction to Color Photography. (C) Rodewald.

Prerequisite(s): FNAR 571 or Permission of Instructor. Lab Fee \$50.

In this course students will begin to incorporate color into their technical and aesthetic photography arsenal. How film reacts to light and records color, how color influences the meaning of an image, and the development of a personal color sense will be explored through a series of assignments ranging from portrait to documentary to constructed photography. Topics covered will include: color theory, color temperatures, film and paper characteristics, push and pull processing, filters, advanced metering techniques, a brief introduction to the 4x5 View Camera, medium format Hasselblad systems, basic flash and studio lighting, print spotting, presentation, content and context. Emphasis will be placed on the photograph as a means of visual expression and the class is designed to treat color photography as both a technical and artistic medium. Correlations between digital and analog photographic practices are also incorporated into this course in order to illustrate and explore the full range of potential within color photography's trajectory and range. The examination of both historic and contemporary photographs will supplement our visual explorations. Lab fee: \$50.00.

587. (FNAR287) Advanced Color Photography: Multiples and the Narrative. (B) Rodewald. Prerequisite(s): FNAR 583 or Permission of Instructor. Lab Fee \$50.

This course will focus on the creation of photographic-based works of art that use more than one image to explore issues of content, context, sequencing and the abstract narrative. This is a cross platform, hybrid technologies class and while based on analog/film practice, both black and white and color, all digital processes are

considered possible viable components toward the completion of three larger bodies of work. Both documentary and still life approaches will be explored with an emphasis on solid conceptual research as our starting point. Project content is self-defined and negotiated with the instructor. The course is designed to treat color photography as both a technical and artistic medium. The final project will include a limited edition class portfolio. The examination of both historic and contemporary photographs will supplement our visual explorations.

"Advanced Color Projects: Multiples and the Narrative" will focus on the creation of photographic based works of art that use more than one image to explore issues of content, context, sequencing and the abstract narrative. This is a cross-platform, hybrid technologies class and while based on analog/film practice - both black and white and color - all digital processes are considered possible viable components toward the completion of three larger bodies of works. Both documentary and still life approaches will be explored with an emphasis on solid conceptual research as our starting point. Project content is self-defined and negotiated with the instructor. The course is designed to treat color photography as both a technical and artistic medium. The final project will include a limited edition portfolio. The examination of both historic and contemporary photographs will supplement our visual explorations. Lab fee: \$50.00

589. (CINE289, FNAR289) Mixed Media Animation. (B)

Mosley/Hagerty/Burke. Prerequisite(s): FNAR 523 and FNAR 636.

This animation course fuses hands-on studio drawing, modeling, and cinematic processes with digital tools. Real world techniques such as stop-motion, claymation, 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 591. The Body and Photography. (B) Martinez. Prerequisite(s): FNAR 271 and FNAR 340 and Instructor Permission.

This course is designed for students who are ardently interested in exploring the body-photographically. Through various situations and settings-- demonstrations, presentations, and lectures by artists/possible guest lecturers, readings, class discussions, slide presentations,

brainstorming session, work-in-progress critiques, field trips to galleries and museums as well as other possible pertinent locations (such as nudist colonies and burlesque clubs) -- this course will stimulate students to think about and create studio/seminar course will investigate various topics related to The Body and Photography. In-class discussions on gender, and political and social issues related to the body (from the grotesque to the classical), will be important topics of discussions and exploration throughout the semester and an integral aspect of this course. Themes addressed throughout the semester include: the history of the nude in fine art photography with a special emphasis on new trends in contemporary depictions of the body, and techniques used in photographing the nude (demonstrations on specific traditional and special lighting techniques; large format and medium format cameras; different film choices; metering; proper traditional, and experimental darkroom techniques; black and white vs. color). \$50 Studio fee.

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 596. Figures of Thought Seminar. (C) Adkins.

Figures of Thought is a seminar that examines a variety of themes and strategies employed by contemporary artists in the expanded field of studio practice. It monitors the process that occurs from the luminosity of an idea through its conceptual underpinnings to its material manifestation. The course also addresses alternative approaches of adaptation to the current professional climate regarding the access to emerging professional opportunities. Its aim is to offer graduate students the tools to develop distinguishing avenues to the generic career approaches that often plague their ranks. The reassessment of the processes involved in presentation of artist statements and applications for residencies and grant opportunities are examined and reviewed. Readings from the texts of traditionalist philosophers Titus Burckhardt, Ananda Coomaraswamy, and Rene Guenon

combined with contemporary texts on a variety of topics in the arts form the basis of class discussion and presentations. Each semester students create work in response to thematic foci issuing from bodies of literature, film, music, and popular culture that culminates in a public multimedia group exhibition. Figures of Thought also includes occasional joint trips to museums and galleries in New York that bear on class topics and visits to artists' studios when possible.

601. Graduate Studio III. (A)

Adkins/Davenport/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.

622. (FNAR222, URBS322) The Big Picture: Mural Arts in Philadelphia. (C) Golden/Walinsky.

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 626. (FNAR226, URBS226) The Photography of Urban Place. (M)

Staff. Prerequisite(s): FNAR 571 or Permission of the Instructor. This course may not be used as an elective studio for the Fine Arts Major or Minor.

This is a non-studio course in the photography of buildings, streetscapes, and cities. It is designed for photographers interested in the built environment as subject matter, as well as for architecture and planning students. We will hone practical skills in perspective control, lighting, and photographic interpretation of space, so that photographers, architects and planners can better photograph precedents and their own projects, and better evaluate the use of professional architectural

photography for promotion and education. \$50 Studio fee.

Anyone who owns a digital or film camera (including point-and-shoot) is qualified; no darkroom or Photoshop experience needed. Professional view camera techniques will be covered at a basic level.

The course will consist equally of slide lectures, discussions, and location shooting at Philadelphia residential, commercial, and industrial sites. Student images (digital or traditional) will be transferred to PowerPoint for class critique. Readings and discussions may range into issues of architectural and urban planning theory and philosophy that affect the interpretation of the built environment and how its image is perceived. Both documentary and fine art approaches will be covered.

633. (FNAR233) Digital Illustration. (M) Reifsnnyder. Prerequisite(s): FNAR 264/636 and FNAR 123/523.

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.

634. (FNAR234) Web Design. (C) Staff. Prerequisite(s): FNAR 636.

A course designed to introduce the student to web presentation, theory, techniques and current software applications, including Adobe Photoshop, Macromedia Dreamweaver and Macromedia Flash. Instruction will include web terminology, appropriate file protocolling, information architecture planning, menu-linking organization, communication strategies and www identity design. Upon completion of this course, students will possess a working knowledge of how to organize and design full web page content for interactive on-line user interfacing or control-group presentation.

635. (FNAR235) 3-D Computer Modeling/Digital Sculpture. (C) White. Prerequisite(s): FNAR 523 and FNAR 636.

Students will develop a facility with fundamental 3-dimensional design concepts through the application of both computer graphics visualization and physical construction. The course will offer students a technical understanding of Polygonal and Spline based modeling,

alternative and standard methods of 3-D input/output, and will cover regulations for creating models that will function properly for animation, video games and CMC/laser output.

636. (FNAR264, VLST264) Digital Design Foundations. (C)

Fledderman/Holmes/Comberg/Reifsnnyder/Telhan.

This course explores the elements and principles of design and composition. It is an introduction to the intentional organization of traditional and digital image-making. Emphasis will be placed on understanding compositional relationships through experimentation, iteration and critique. Students will create imagery using hand skills and the software programs Adobe Illustrator, Photoshop, and InDesign.

637. (FNAR337) Information Design and Visualization. Comberg.

Prerequisite(s): FNAR 636.

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.

640. (FNAR340) Digital Photography. (C) Wahl/Diamond/Stolfa/Rodewald/Ward.

Understanding the tools of digital photography and how to use them is a necessity for visual artists. Using new technologies for personal expression is an important objective of this course. Equally important is to train and prepare students with the basic practical digital skills needed in the various aspects of today's world, including career development and support, avocation and visual communication. The course will cover the basics of camera use and composition, as well as the critical techniques of digital capture, image processing, color management and color correction. A digital camera with a minimum of a seven-megapixels resolution will be needed for this course.

SM 641. (FNAR341) Architecture, Landscape and Cities: Large Format Photography. (M) Staff. Prerequisite(s): FNAR 571. Lab Fee \$50.

The emphasis of this course is on the usage and practical applications of the large format camera and how it records and interprets architecture and landscapes. The course is directed to photographers, architects, landscape artists and historic

preservationists. The skills acquired will give students a practical application to ideas learned in conceptual classes. Topics covered will include: using the camera outdoors; framing; perspective and vantage point; filters and lighting sources. Lectures and presentations on architectural photographers as well as field trips to noted local sites will also be included. \$50 Studio fee.

646. (FNAR366) ADVANCED 3D MODELING. Prerequisite(s): FNAR 235/635 or FNAR 236/536. Advance 3D Modeling.

649. (FNAR349) Advanced Digital Photography. (C) Diamond. Prerequisite(s): FNAR 640.

This course further explores the conceptual, philosophical and technical relationship between the camera, computer and the contemporary artist. With a heavy emphasis on project-oriented work, students will further their knowledge of manipulation, retouching and collage, as well as embarking on advanced color management and the use of digital photography in the studio environment. In addition to exploring these advanced imaging practices in their own work, students will also be required to critically examine the profound effects that new imaging technologies are having on art, journalism and the commercial realms.

SM 661. (FNAR061, VLST061) Video I. (C) Reynolds/Van Cleve/Perlin/Duncan.

This course provides students with the introductory skills and concepts needed to create short works using digital video technologies. 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.

SM 662. (CINE062, FNAR062) Video II. (C) Reynolds/Perlin. Prerequisite(s): FNAR 661.

Video II offers opportunities to further explore the role of sound, editing and screen aesthetics. Through a series of three video projects and a variety of technical exercises, students will refine their ability to articulate more complex and creative projects in digital cinema. In addition, advanced level production and post-production equipment is introduced in this course.

SM 663. (CINE063, FNAR063)**Documentary Video. (A)** Heriza.

Prerequisite(s): FNAR 661.

A digital video course stressing concept development and the exploration of contemporary aesthetics of the digital realm, specifically in relation to the documentary form. Building on camera, sound and editing skills acquired in Film/Video I and II, students will produce a portfolio of short videos and one longer project over the course of the semester. Set assignments continue to investigate the formal qualities of image-making, the grammar of the moving image and advanced sound production issues within the documentary context.

SM 664. (CINE064, FNAR064)**Interactive Video. (B)** Reynolds.

Prerequisite(s): FNAR 662, FNAR 061.

This course explores the concepts and technologies behind non-linear storytelling through mediums like DVD's and the world wide web. Students will learn to make interactive DVD videos as a form of expression and explore the possibilities of streaming videomaking.

SM 665. (CINE065, FNAR065) Cinema Production. (A) Van Cleve.

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 666. (CINE066, FNAR066) Sound Seminar: Sonic Measures. (B) Adkins.

Prerequisite(s): FNAR662.

Sonic Measures is a comprehensive introduction to the theory and practice of digital audio design, including sound for video, sound installation, composition, and sound art. Projects and demonstrations will familiarize students with all aspects of recording and synthesis of sound using Apple's Logic Pro software. Assignments will combine technical issues alongside an ongoing conceptual development individual to each student's interests. No musical knowledge needed.

SM 667. (CINE067, FNAR067)**Advanced Video Projects. (M)**

Reynolds. Prerequisite(s): FNAR 662.

This course presents students with an advanced level investigation into various forms of digital video projects as well as non-traditional presentation formats. Structured to create a more focused environment for individual projects, students will present and discuss their work in a series of group critiques. Lecture topics, screenings, and technical demonstrations will vary depending on students' past history as well as aesthetic and theoretical interests.

SM 668. (CINE068, FNAR068)**Cinematography. (B)** Van Cleve.

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)

Gallagher/Comberg. Prerequisite(s): FNAR 566 AND FNAR 569 or Permission of Instructor.

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 675. (CINE075, FNAR075) Image and Sound Editing. (C) Novack/Novak.

Prerequisite(s): FNAR 661.

676. (FNAR276) Lighting: Editorial Photography. (A) Bryant. Prerequisite(s): FNAR 571 or Permission of Instructor. Lab

fee \$50.00.

SM 679. (FNAR279) Large Format Photography & Studio Lighting. (B)

Wahl. Prerequisite(s): FNAR 571 or

Permission of Instructor. Lab Fee \$50.

The large format camera is the most versatile and widely used camera for fine art, architectural and commercial photography. This course will introduce the student to the basic and advanced operations of the camera. The class will also explore the use of artificial lighting in a studio environment. Recommended for Fine Arts and Architecture students. \$50 Studio Fee.

SM 712. (ARCH712) 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.

075. (AFRC077, GSWS075, MUSC075) Jazz: Style and History. (M) Ramsey, Parberry. Open to all students.

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.

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, MUSC146) 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. (SOCI137) 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.

L/R 200. (CLST100, CLST200, COML200) Greek and Roman Mythology. (C) 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.

201. (ANTH205, RELS205) American Folklore. (C) Staff.

This course will examine American expressive culture through an exploration of narrative; music; dance; drama; public

events; material arts and architecture; religion; medicine; politics; foodways; ways of speaking; and customs surrounding and celebrating work, leisure, childhood, family, aging, individually and community. In other words, we will be studying the 99% of American life that often goes unnoticed by other college courses! Special topics featured in 2004; tattooing, piercing, branding and other forms of contemporary body arts; UFO abduction as belief and legend; women's home altars; and the African-based North American religion called "vodou.

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.

223. (RELS213) Folk Religion. (M) Staff.

This course will emphasize religion as it is believed, practiced, and experienced in everyday life. Emphasis will be placed on Christian belief systems in Europe and America in historical and contemporary perspective. Among the topics to be discussed in 2005 will be stigmata, healing miracles of the saints, apparitions of the Virgin Mary, possession, exorcism, the near-death experience, the Rapture, Vodou, and contemporary Witchcraft.

229. (ANTH226, COML357) 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 rhen) 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.

259. (AFRC258, ANTH227, LALS258, MUSC258) 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.

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.

SM 310. (AFRC308, RELS310, URBS310) Religious Diversity in America: West Philadelphia. (M) Matter.

In the 1950's America seemed to be a land of "Protestant, Catholic, and Jew." Now it is clearly also a land of Muslims and Hindus, Buddhists and Taoists, Rastafarians and Neo-pagans and many more religious groups. This course will focus upon a variety of topics: religious diversity in West Philadelphia, Philadelphia and beyond; the politics of religious diversity; religion in American schools and cities; and conflicts and cooperation among diverse religious groups.

SM 321. (ANTH321, ASAM321, URBS327) Exploring Local Memory and Tradition. (M) Hufford M.

In this place-based community service learning course, we explore the use of traditional verbal arts material practices among immigrant communities seeking to make Philadelphia home. We begin with theories of culture, community, identity, and the production of locality from the social science, and move from there into historic, literary, and ethnographic portrayals of relevance to the community we will be working with. Students are introduced to the principles of ethnographic fieldwork, including techniques of participant observation, interviewing, community-based research design, interpretation, and presentation, and the ethical dimensions of fieldwork. Applying these methods, students develop a project that serves the needs of a collaborating Philadelphia community. Students gain critical thinking and observation skills from the readings, discussion, writing assignments, and field trips. The fieldwork

component for the Spring 2007 focuses on the verbal arts and material cultural traditions of South Philadelphia's Indonesian community. In partnership with the Folk Arts and Cultural Treasures School (FACTS), students and faculty will develop an overview of Philadelphia's Indonesian community and its goals for cultural and linguistic maintenance. Students will also work with community members to identify resources on which FACTS can draw in order

to support these goals for the many Indonesian children who have recently enrolled in the school. This one and a half credit course, which fulfills the General Distribution requirement in Society, will be of special value to students interested in anthropology, sociology, folklore and urban studies, linguistics, asian studies, literary studies and vernacular arts and culture.

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 transferal 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.

SM 369. (HSOC369, STSC359) Introduction Complementary and Alternative Medicine. (A) Staff.

This course will present the study of health traditions in the field of folklore and folklife. It is designed to explore the value of this approach to disciplines and

individuals as they simultaneously bear upon all human experience with, communication about, and understanding of illness, disease and healing.

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.

Cities are unique places with neighborhood tales and hidden folk art, and reflect intricate variations in cultural activities. This course will examine a sampling of this city's ethnic arts, as well as the face to face communication within the intersections of city societies. It will involve weekly local field observations and will be of use to anyone studying human interaction, creative process, 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 500. Proseminar in Folklore. (A) Staff.

The shifting definition of folklore as a subject has allowed for the dynamic development of a field that has never been content with narrow disciplinary territory. The course endeavors to provide an entry into the breadth of folkloric expression--told, performed, enacted, believed, or made. We will also study the sociopolitical and intellectual ground on which the study of folklore has been positioned over roughly the last two hundred years. Readings and class discussions will clarify how scholars today conceptualize "expressive culture," exemplify earlier ways of organizing and analyzing the material, and explore the linkage between available technological recording tools and the shape of folklore documentation and analysis. (required course for graduate students in folklore; open to others with instructor's permission)

SM 502. (ANTH506, GSWS502) Fieldwork Theory and Practice. (C) Hufford, M.

This graduate seminar explores the theory and practice of folkloristic ethnography, with a focus on sites in West Philadelphia. Through reading and exercises in ethnographic observation and writing, students consider the nature of the ethnographic encounter, its social functions and civic possibilities, and the writings, archives, films, recordings and community events that form its outcomes. Historical and contemporary reading provide an overview of ethnography as it has emerged in the social sciences over the past century, while attention to the techniques and technologies in fieldnotes, sound and video recording, photography, archiving, and sensing will develop students' skills as ethnographic scholars, writers, and community activists. Undergraduates may enroll with permission.

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 510. Ethnography of Belief. (A) Hufford, D.

This course will examine traditional systems of supernatural belief with an emphasis on the role of personal experience in their development and maintenance. The course will focus on the subject of belief generally conceived of as being "folk" in some sense (e.g., beliefs in ghosts), but will not exclude a consideration of popular and academic beliefs where appropriate (e.g., popular beliefs about UFO's and theological doctrines of the immortality of the soul). The course will be multidisciplinary in scope. This course serves as an introduction to folk belief systems and is open to qualified undergraduate students.

SM 512. (RELS503) Spirituality, Religion and Health: Ethical, Cultural and Medical Issues. (M) Hufford, D.

Although many have attributed modern medicine's success to its liberation from the ancient association of healing with religion, recent research has shown that spirituality (the personal aspect of the sacred) and religion (the institutional forms of spiritual belief and practice) are powerful influences in health decision-making and that most American patients want spiritual matters discussed with their medical care. Additional research has documented effects of spiritual belief and religious practice on physical and mental health, ranging from general effects of religiosity on overall health and longevity to double-blind studies of intercessory prayer. At the same time critics argue that the research is flawed and that clinical involvement in religious matters is unethical. This topic, once marginal, now appears in the pages of major medical journals and has drawn the attention

of the National Institutes of Health. This course will examine a variety of spiritual traditions in relation to health, including major world religions and those groups with highly specific health teachings such as Jehovah's Witnesses, Christian Science and shamanic traditions. Competing points of view will be considered in ethical, medical and cultural terms.

514. (HSSC514) Human Diversity and the Cultures of Medicine. (M) Hufford, D.

Over the past decade there has been a growing awareness of the importance of such basic aspects of human diversity as culture, (religion, language), ethnicity, economic status, gender, age and disability in health care as in other areas of life. This course will deal with (1) the social and cultural foundations of health care in the modern world and (2) the ways that diversity affects and is affected by health care. Because simplistic views of diversity reinforce stereotypes, the course necessarily recognizes that each individual belongs to more than one group -- each person has a cultural background, a gender, an age, may have one or more disabilities, and so forth. And even within groups, the experiences and needs of each individual are unique. For example, there is no such person as "the African-American patient" or "the female patient." Proper attention to diversity can enhance both cultural and individually appropriate care for all persons. By dealing with these political, social and cultural aspects of diversity and health care, this course will introduce students to complex and basic issues of social construction ranging from cultural dimensions of medical ethics to the importance of differing health traditions (from folk medicine to foodways to such beliefs as the idea that AIDS is a genocidal government conspiracy).

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 521. (ANTH521) Culture and Psychology: Identity, Self and Culture. (M) Hammarberg.

Psychological implications of differences in human experience arising from distinctive cultural patterns of mankind considered with reference to a variety of problems.

527. (ANTH547, EDUC547, URBS547) Anthropology and Education. (M)

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 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.

SM 533. (HSSC533) Folk and Unorthodox Health Systems. (B) Hufford, D.

Examination of theories concerning the origin and function of folk beliefs, investigation of the expression of folk beliefs in legend, folk art, custom and ritual. Ritual is the focal genre for explanatory purposes, and introduction to the social symbolic approach to analysis and interpretation is primary for exploration and application.

535. (EDUC550) Children's Folklore. (M) Staff.

This course will examine the play, games, and oral lore of childhood cross culturally with an emphasis on both the uniqueness of children's traditional communication, and its similarities with the culture in which it is found. Classical study of children's lore genres, the complex analysis of play in live performance, and the history of children's folklore research will be discussed. The course will emphasize student field work and the recording of children's folklore in different contexts, and may be of interest to

those working in education, psychology, sociology, social welfare, and anthropology.

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 543. (ANTH543) Ethnographic Writing. (M) Rabberman, Theophano.

Ethnographic research has brought anthropologists and folklorists, sociologists and oral historians face to face with some compelling challenges as they describe specific social and cultural groups to a variety of audiences: insiders and outsiders, academics and lay audiences. Attempting to be both scientific and humanistic, ethnography has been accused of being neither. How can ethnographers best understand their impact on the groups they study, and the impact of their research on their own identity? How can ethnographers balance their personal agendas (related for example to political and ideological goals, particularly Feminism and anti-imperialism) with an academic quest to produce "scientific," well-supported research? And how have ethnographers experimented with style and genre to break the chains of traditional ethnographic writing and better represent their experience in the field?

SM 548. (HIST512, HSOC545, HSSC545) Comparative Medicine. (M) Feierman.

Health and medicine in the Non-Western World: this seminar explores current readings on health and healing in the colonial and post-colonial world. We give special attention to local healing under conditions 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 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 570. (ANTH570) Identity and the Life Course. (C) Hammarberg.

Examines life experience through autobiographies, journals, diaries, life histories and other self-reports in relation to culturally-constituted identities and life plans for different societies and subgroups. Explores tensions, conflicts and creativity associated with sex, gender and age, rites of passage, personal development, family systems, and identity processes and cultural integration. Requirements include your own autobiographical writing and a consultant-based life-history analysis (15-20 page limit).

SM 575. (ENGL584, ENV5575, HSSC575) Environmental Imaginaries. (M) Hufford, M.

"Environmental imaginaries" names the contending discourses that order society around processes of development and change. Behind public controversies over development, its subject, objects, and technologies, are an array of collectively wrought fictions that relate people to their material surroundings. We will be especially attentive to solipsistic cartesian fictions that enable the persistent separation of culture from environment. How are these fictions produced, enacted, and materialized in such diverse sites as Appalachian strip mines and Sea World, nature walks and permit hearing? What kind of environmental imaginary sustains the notion that "wisdom sits in places"? How are alternative ways of knowing and being cojured through naming practices, narratives, and other speech genres, as well as landscapes, protest

rallies and other forms of public display? We will traverse the border between humanities and social sciences. How is Bakhtin's law of placement essential for urban planners? Why is Bateson's notion of the thinking system vital for environmental writers? Moving from theories of world making, multiple realities, and aesthetic ecologies through ethnographic literature on culture and environment, and into your own experience, observation, and written reflections, this seminar will explore the production of environmental imaginaries across a range of modern genres and practices. At stake is nothing less than place, identity, and the nature of human being.

SM 580. Literature and Activism. (L) Watterson.

How do words transform people, places, and events in ways that bring about social change? What are the motivations, methods, politics and implications of "doing good work?" How does an understanding of doing good work depend on one's position: as non-profit worker, social justice advocate, community activist, business person? In this interdisciplinary seminar we will cover current issues surrounding social initiatives in many forms of literature: from fiction and non-fiction, to exhibits, web-sites, on-line journals, grant-proposals, and ethnographic documentaries. Students will be given an opportunity to do participatory research on local concerns: witnessing, critiquing, and putting words into action and thereby gain practical knowledge about how artists express themselves in ways that impact and empower local community arts, cultural and education programs. Students may, for example work in programs to learn about how art and community performance can bring people together through location, spirit and tradition can empower people to address difficult social issues. And, as art, after all, is not only created by artist and craftspeople, but disseminated both informally and formally -- through schools, museums and programs -- we will also explore how particular policies affect society and local culture.

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 kethnography 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) Singer.

This course surveys the history and recent developments in sexuality studies and queer thought. We will first establish a foundation in sexuality studies and queer thought by reading some inaugural texts in the field. We will then move to examine some critical intersections between sexuality and four intimately related subject areas: Feminism, Race Studies, Transgender Studies and Disability Studies. This will allow us to focus on the relationship to other modes of power, marginality, privilege, and social norms. The final part of the course will examine queer studies from a present/future vantage point through the frames of capitalism, cross-cultural considerations, citizenship and nationalism, as well as queer time, place and futures. The course will conclude by asking "What's queer (and not so queer) about Queer Studies today?"

102. (AFRC105, COML100, ENGL100) Intro to Literary Study. (C) 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 the English Department's website at www.english.upenn.edu for a description of the current offerings.

128. (COML128, ENGL103) The Diary. (A) 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.

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. Black Queer Studies.

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 216. (HSOC216) Gender and Health. (M) Mason.

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 230. (HIST230, JWST230, RUSS212) TOPICS IN EUROPEAN HIST. (M) Topics in European History.

294. (ARTH294) Facing America. (M)

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 minstrels from the colonial period through

SM 322. Advanced Topics in Gender and Sexuality Studies. (A) Singer.

This advanced seminar explores the social and material conditions that gave rise to the category transgender at the turn of the twenty-first century. We will engage this contested terrain by critically examining the category transgender through a series of questions. How did transgender emerge historically and what cultural work does it perform? What does it enable as a category and what does it obscure? What are the possibilities and/or problems of using "transgender" to describe gender and sexuality cross-culturally? We will additionally consider "transgender" as a nexus of powerful social critique by exploring several thematic rubrics: medical and social histories, categories, embodiment, feminist politics, cross-cultural studies, and activism. To highlight the interdisciplinary formation of the field, we will study a variety of texts including ethnographic writing, memoir, documentary film, performance, activism and policy analysis, legal theory, medical and science studies, as well as feminist and queer theory

SM 333. (HSOC334) BIRTH CULTURE & MED TECH. (M)

SM 639. (ANTH639) Erotic Subjectivity: Self, Sex, Spirit and Power in the African Diaspora.

This multi-disciplinary course explores various notions of black 'selfhood' through the lens of the erotic. Following from Caribbean-American lesbian poet Audre Lorde's reconceptualization of the erotic in her now classic essay "Uses of the Erotic: the Erotic as Power," we will consider sex/desire alongside political and spiritual consciousness in our assessment of the relationship between subjectivity and eros. Reaching across various geographical locations, historical periods and theoretical genealogies, our readings will draw from African Diaspora Studies, Anthropology and Gender/Sexuality Studies. We will also look to artistic production throughout the African Diaspora for the significant contributions black artists have made as some of the most exciting theorists of self, sex, spirit and power.

All Undergraduate and Graduate Courses (formerly GSOC)

002. Gender and Society. (C) Society Sector. All classes. Lundeen. Requirement for Women's Studies majors.

This course examines the impact of sex and gender roles on contemporary American society. Differentiation by sex is the central organizing principle of nearly every human society. How can we understand the relationship between biological sex and socially constructed gender? How do maleness and femaleness affect the balance of power and resources in our society? How much has changed since the beginning of the Women's Movement of the 1960's? The course will examine key issues of gender difference and inequality including family life, paid work, economic status, violence, body image, sexuality, and reproduction. The course will examine men's roles and women's roles, treating gender as an interactive and dynamic concept.

L/R 004. (SOCI004) The Family. (C)

Society Sector. All classes. Furstenburg, 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. Harknett, Kohler, Zuberi.

The course covers selected aspects of population and the study of demography, including social, economic, and political issues: population explosion, baby bust, population aging, abortion, teenage pregnancy, illegal aliens, racial classification and population and development.

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, CINE016, 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 Women's Studies. 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.

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. (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.

This course examines jazz performance as a twentieth century American musical discourse, one that covers and critiques the standard textbook/mediated narratives of jazz history. One goal of the course is to think about how our knowledge of jazz

might be reshaped by including women musicians and gender in the narrative. Another is to begin to think about jazz as a musical language that reaches far beyond the borders of the United States, largely through the networks of the entertainment industry.

090. (AFRC090, COML090, ENGL090) Women 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.

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, Cherrøe 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 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 GSWS-100.

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

L/R 101. (CINE100, 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 will investigate women's religious practices and beliefs in a number of established religions. We will pay attention to such topics as theological explanations of women's role in creation, the relationship between women and evil, the position of women in religious hierarchies, and the impact of social change on women's roles in established religions. Traditional religions considered will include Judaism, Christianity, Islam, and Buddhism. Issues raised will include the impact of the women's movement and feminist thought on women and religion, and the development of contemporary woman-oriented spiritual movements and religious practices.

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 in the United States. The central focus of the course is on employment discrimination by race and gender. After a comprehensive overview of the structures of labor markets and of nondiscriminatory reasons for the existence of group differentials in employment and wages, various theories of the sources of discrimination are reviewed and evaluated. Actual governmental 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) 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. (CINE118, 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. (SOC1122) The Sociology of Gender. (C) Society Sector. All classes. Leidner.

The assignment of gender roles and the creation of gender identities has profound consequences for women and men at every level of society: from their intimate relations, how they manage and participate in the institutions of society, their place in society's stratification systems. This course examines four aspects of gender relations: historical and cross-cultural examples of gender roles; gender relations in contemporary American institutions; theories of sex differences and gender inequality; and movements and policies for gender equality. Some specific topics to be covered are: Women and the economy, women and the professions, working class women, minority women, violence against women, changing male identities, the nature of male power, and women's liberation movement.

SM 125. (CINE125, COML127, RUSS125) The Adultery Novel In and Out of Russia. (C) Arts & Letters Sector. All Classes. Platt. All readings and lectures in English.

The object of the course is to analyze a series of 19C and 20C novels (and a few short stories) about adultery. Our reading will teach us about novelistic traditions of the period in question and about the relationship of Russian literature to the European models to which it responded. The course begins with a novel not about families falling apart, but about families coming together - Jane Austen's *Pride and Prejudice*. We then will turn to what is arguably the most well-known adultery novel ever written, Flaubert's *Madame Bovary*. Following this, we investigate a series of Russian revisions of the same thematic territory that range from "great literature" to pulp fiction, including Tolstoy's *Anna Karenina* and other works by Tolstoy, Chekhov, Leskov, and Nagrodskaia. As something of an epilogue to the course, we will read Milan Kundera's backward glance at this same tradition in nineteenth-century writing, *The Unbearable Lightness of Being*. In our coursework we will apply various critical approaches in order to place adultery into its social and cultural context, including: sociological descriptions of modernity, Marxist examinations of family as a social and economic institution, Freudian/Psychoanalytic interpretations of family life and transgressive sexuality, Feminist work on the construction of gender.

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 will introduce Penn students of literature, women's studies, and Jewish studies -- both undergraduates and graduates -- to the long tradition of women as readers, writers, and subjects in Jewish literature (in translation from Yiddish, Hebrew, and in English). By examining the interaction of culture, gender, and religion in a variety of literary works by Jewish authors, from the seventeenth century to the present, the course will argue for the importance of Jewish women's writing. Authors include Glikl of Hameln, Cynthia Ozick, Anzia Yezierska, Kadya Molodowsky, Esther Raab, Anne Frank, and others.

"Jewish woman, who knows your life? In darkness you have come, in darkness do you go." J. L. Gordon (1890)

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 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 the Women's Studies major/minor in Gender, Culture and Society (GSWS).

L/R 213. (CINE215, SAST213) Indian Cinema and Society. (B) Majithia.

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 214. (HIST214) America after 1800: Advanced Benjamin Franklin Seminar. (M) Staff.

This seminar examines the economic, demographic, and spatial transformations of American cities since World War II. Topics for analysis include the impact of deindustrialization and the emergence of an information-service economy, in migration and immigration, ghetto creation, the origin and history of suburbs, and levers of change - politics, policy, social movements, and social reform. Assignments include one book per week, short commentary papers, discussion leadership, and a final essay.

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. (AFST221) Gender in Modern South Asia. (A) Staff.

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. (CINE208) Topics in Gender and Cinema. (M) Beckman.

This topic course explores aspects of Gender in Film intensively. The course will be cross-listed with GSWS when the course contents includes women, gender and sexuality in 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.

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 18 C. Novel. (M) Staff.

This course explores an aspect of 18th-century novel intensively; specific course topics will vary from year to year. If the topic is appropriate 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.

249. (EDUC576, PHIL249) Philosophy of Education. (M) Detlefsen.

This course covers a variety of philosophical questions surrounding education. These may include questions in epistemology, human nature, philosophy of psychology, ethics, and social-political philosophy.

SM 250. (CINE251, COML249, ENGL251) 19th Century Literature. (M) Staff.

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

SM 251. (AFRC309, THAR250) Theatre Workshop. (M) Staff.

This course will examine a specific aspect of theatrical practice, taught by a visiting professional theatre artist. If the course content 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.

L/R 252. (COML253, GRMN253, HSOC253, STSC253) Freud. (M)

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

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 255. (COML261, ENGL255) 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. (CINE222, COML256, EALC257) Contemporary Fiction and 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) Advanced 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.

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) Valeggia. 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.

268. (AFST268) Women and Human Rights in Africa. (M) Staff.

Is violence against women a violation of human rights regardless of whether this occurs in the private or public spheres? Should rape and sexual violence against women and girls in situations of armed conflict be considered as war crimes? As gender issues have become central to the development dialogue, the linkages between human rights, gender and development have become increasingly apparent and especially relevant for the African continent. A primary goal of the course will be to reveal the gendered nature of human rights issues and the recurrent application of human rights concepts in Africa. It will also illuminate issues affecting women in all facets of life including rape and forced pregnancy during war time and expanding definitions of torture, freedom of expression, violence, internal displacement and refugees as stated in the Universal Declaration of Human Rights. Class assignments will be designed to craft a vision and application of human

rights that are truly relevant to women and men alike.

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 281. (AFRC281, COML325, ENGL281) Topics in African-American Literature. (M) Staff. This course is not open to freshmen.

In the past this course has addressed itself to topics as diverse as "Afro-American Autobiography" and "Backgrounds of Afro-American Literature", including examination of oral narratives, Black Christianity, and Afro-American music; and "Black Narratives", beginning with eighteenth-century slave narratives and working toward contemporary literature.

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

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, CINE286) Topics in Africana Studies. (C) Staff. This course will be cross-listed with GSWS when the content includes gender, sexuality, and women's studies.

SM 290. (AFRC290, ENGL290) Topics in Women and Literature. (C) Staff. This course is not open to freshman.

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 complete description of the current offerings.

SM 310. (COML310, ITAL310) The Medieval Reader. (M) Kirkham. 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 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. (STSC329) 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.

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.

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 356. (COML356, FREN356) Early Modern Women's Writing: Italy, England, France. (M) DeJean.

We will compare the three powerful traditions of women's writing that developed in the 16th and 17th centuries: in Italy, in England, and in France. We will read works

by Franco, Moderata Fonte, Aphra Behn, Margaret Cavendish, Marie-Madeleine de Lafayette, and Madeleine de Scudery. We will concentrate on works in prose and, in particular, on the two genres whose development was shaped by women writers: novels and treatises defending women's rights. We will think about what it meant to be a woman writer in these countries and at this period. We will also try to understand the conditions that made it possible for these traditions to develop. French and Italian works will be read in translation.

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 371. (ENGL356, THAR375) Feminist Theatre. (M) Staff. When crosslisted with ENGL 356, this is a Benjamin Franklin Seminar.

What is feminist theatre? This course will explore that deceptively simple but hotly debated question by focusing on the creative and political efforts of female playwrights and performers. Our readings will provide background on feminist theatre history and theory, from which we will examine diverse-and divergent-approaches to feminist playwriting, acting, and directing. We will consider a wide range of artists from the Pulitzer prize-winning Wendy Wasserstein to the NEA grant-losing Holly Hughes, we will also examine the recent

phenomenon of Eve Ensler's *THE VAGINA MONOLOGUES*. The course will be conducted in seminar format with heavy emphasis on discussion; readings will be supplemented by shared viewing of live and video performances.

SM 381. (HSOC381, STSC381) Nonstranger Violence. (A) Sorenson.

The purpose of this course is for students to learn about the definitions, conceptual frameworks, myths, processes, consequences and societal interventions regarding violence in relationships. Using a life course perspective, addressing abuse from childhood through late life, the course will examine how gender and generational differences in resource distribution, role expectations, etc. shape the occurrence, experience and response to violence in relationships.

SM 390. (ENGL390) Topics in Women 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 393. (ENGL393) Topics in Literature and Society. (M) Staff. Benjamin Franklin Seminar.

This course is cross-listed with ENGL 393 (Topics in Postcolonial Literature and Society) when the course content is related to women and gender issues. Topics vary. Consult the Program for a detailed course description.

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?

SM 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. (CINE492, COMM430) Lesbian, Gay, Bisexual, and Transgender Representation. (A)

Staff. Prerequisite(s): COMM 123 or SOCI 137/FOLK 137 or Permission from the Instructor.

An examination of the role of cultural institutions in shaping the images and self-images of homosexuals in Western culture. Because of their "invisibility", sexual minorities provide a unique example of the role of cultural stereotypes in socialization and identity shaping and can thus illuminate these basic communicational processes. Definitions and images to be analyzed (within a historical and

cross-cultural context) are drawn from religious, medical, and social scientific sources, as well as elite and popular culture.

SM 431. (SOCI425) Women and Political Activism. (M) Leidner.

This seminar explores the conditions under which women become politically active and the relevance of gender to forms of activism, organizational practices, and choice of issues. Contemporary and historical case studies will examine women's activism in feminist and anti-feminist movements and organizations, in single sex-organizations devoted to a broad range of goals, and mixed-gender movements, including civil rights and trade unions.

SM 432. Family Dramas, Family Players. (M) Burnham.

Though families have been the subject of literary scrutiny at least since Oedipus Rexm Eugene O'Neil'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)**503. MLA: Love, Politics and Myth in Popular Cinema. (M)** Mackey-Kallis.

Master in Liberal Arts course.

Looking at such popular English language films as *Titanic*, *The Piano*, *Reds*, *Cold Mountain*, *Gone with the Wind*, and others, this course explores images of romantic love set against the background of often turbulent political times. Using Homer's *The Illiad* and the *Odyssey* and Dante's *The Divine Comedy* as a classical and medieval frame, respectively, for romantic love in a "dangerous time," and the writings of Carl Jung, Joseph Campbell, Carl Kerenyi, Luce Irigaray, and others, the course explores the relationships among romantic love, spiritual transformation, individuation and cultural and political evolution.

513. (CINE215, 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 an interdisciplinary workshop sponsored by Peggy Reeves Sanday (Dept of Anthropology), Michael Delli Carpini (Dean of Annenberg), and Ira Harkavy (Director, Center for Community Partnerships). 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 Dept. of Anthropology's commitment to developing public interest research and practice as a disciplinary theme. The workshop will be run as an open interdisciplinary forum on framing a public interest social science that ties theory and action. Students are encouraged to apply the framing model to a public interest research and action topic of their choice. Examples of public interest

topics to be discussed in class and through outside speakers include how education and the media reify public interests, the conflation of race and racism in the public sphere, the role of diversity, community action and service learning in higher education, and the contradictory relationship between individual and ethnic identity.

518. (NURS518) Nursing, Health and Illness in the U.S., 1860-1985. (B)

Wall. Summer Session II.

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 534. (COML534, ITAL534) Woman in Poetry: From the Troubadours to the Petrarchans. (M) Kirkham.

Prerequisite(s): Reading knowledge of Italian. Conducted in English, undergraduates by permission only.

The course explores female voices in medieval and early modern literature from

Italy and France. We shall begin with the foundations of the "courtly" lyric tradition, reading the "trobairitz" (female troubadours). Next we shall turn to early Italian texts in which woman is the object of a male gaze. We shall consider both the classical "high" style that idolizes woman (Petrarch) and programmatic departures from it (Dante's "Stony Rhymes," satirical dialogues, and humorous misogyny). Our point of arrival will be the Petrarchan poetesses of 16th-century Europe, with an emphasis on the Italians (Vittoria Colonna, Gaspara Stampa, Laura Battiferra degli Ammannati). What were the literary and philosophical traditions that shaped notions of female identity? How do women establish their own textual space when appropriating a genre that had been the vehicle for a masculine first-person voice? How do the images of women as scripted by men, or staged through male cross-voicing, differ from those in poetry written by women? What are problems and issues in constructing a national history of women poets?

Course conducted in English, with texts available both in English and in the original. Undergraduates by permission. Requirements: class participation; a final oral presentation on a woman poet of the student's choice, and a term paper of not more than 20 pp. or a take-home final.

SM 537. (COML521, ITAL537) Boccaccio. (M) Kirkham.

Boccaccio's life and work in the context of Italian and European culture and society.

SM 540. (ANTH544, FOLK540) Masculinities in Narrative and Performance. (M) Dautcher.

In this seminar we will read and discuss fieldwork-centered approaches to understanding the individual and collective lives of men in communities around the world. Through a perspective that emphasizes masculinity as performed and narrated in everyday life, we will seek to integrate concepts of: (1) the self - the experiencing and embodiment of personhood, subjectivity, and emotion; (2) spatiality and power - public and private forms of masculine self-presentation such as bodily disciplines, sporting events, leisure spaces; and (3) the state - relations between gender ideology, governmentality and power in political theatre, media control, warfare and military memorials. Familiarity with theoretical works on performance and narrative approaches to the study of everyday life will be addressed through additional recommended readings.

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 550. (COML550, ENGL550) Topics: Women & Literature. (M) Staff.

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 553. (COML554, ENGL553) 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.

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. (CINE556, 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.

This seminar will explore the relationship between two of our most powerful forms of social discourse, literature and the law. The two share conspicuous similarities: a tendency to represent, interpret, and criticize flesh-and-blood interactions; a reliance on story-telling; a fondness for precedent, evidence, and testimony. Yet the two are perhaps even more frequently in conflict with one another, particularly over questions fundamental to both -- how language works, what constitutes evidence and truth, and what kinds of advocacy and representation are desirable or harmful. Readings will begin in the ancient world and move forward chronologically to the present day. For the first weeks of the course, we'll explore the literay and legal bases of the ancient and medieval world in authors like Homer, Aquinas, Dante, and Machiavelli. How did these writers define fundamental terms like authority and jurisdiction? How did their different legal codes conceptualize issues still controversial today, like habeas corpus, trial, and and torture? Around week five or six we'll move from these foundational texts foward in time to that most powerful legal and literary fiction, that underwrites our sense both of an independent judiciary and what we most often call "the public sphere" or "the court of public opinion."

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. 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. (ARTH590, CINE590, COML599) Women's Cinema, World Cinema. (M) Staff.

The concept of women's cinema, with its ambiguities--by women, or for women? popular or feminist?--has been debated within feminist film scholarship for three decades. The concept of world cinema--curricular component, brand, or transnational formation?--currently

undergoing an intensified interrogation. With a focus on internationally circulating films directed by from the global North and South, this course looks at authorship and aesthetics, film policy and financing, festival and art-house programming, and questions of national identity and human rights as they intersect with feminist theory and practice.

599. Independent Study. (C) Staff.

SM 610. (COML610, HIST610) Colloquium in American History. (A) Staff.

This is a topics course. This course explores differences and theoretical perspectives on difference as related to gender, race, class, and sexuality. We will examine, in addition to the work of historians, historical studies of social diversity in America developed by scholars of race, gender, philosophy, literary theory, black studies and feminist studies.

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 652. (COML652, FREN652) Women's Writing in Early Modern France. (M) Staff.

Topics of discussion will vary from semester to semester. One possible topic is: "The Female Tradition and the Development of the Modern Novel." We will discuss the most important women writers--from Scudery to Lafayette--of the golden age of French women writers. We will be particularly concerned with the ways in which they were responsible for generic innovations and in particular with the ways in which they shaped the development of the modern novel.

SM 676. (COML676, GRMN676) Readings 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 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 748. (COML748, ENGL748, FREN660) Eighteenth-Century Literature. (M) 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.

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

SM 750. (ENGL750) Topics: Romanticism. (M) Staff.

This course is an advanced seminar on writings of the Romantic period, not restricted to English Romanticism. This is a topics course and the content may vary.

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, SAST769) Feminist Theory. (M) Loombia.

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 more 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, as explore the different forms of dissent - individual, collective, urban, rural, nationalists, pannationalist, 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.

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

SM 773. (AFRC773, ENGL773) Feminist Introduction to Literary Modernism. (M) Mahaffey.

This is an English topics course. When the title is "Feminist Introduction to Literary Modernism" the course will be cross-listed with Gender Culture and Society (GSOC).

SM 778. (COML778, ENGL778) 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 787. (ARTH787, COML787) Seminar in Contemporary Art. (C) Staff.

Topics vary, when the course description includes women, gender and sexuality the it will be will cross-listed with GSOC.

SM 790. (COML790, ENGL790) Recent Issues in Critical Theory. (M) Staff.

Course varies with instructor. Recent versions have been "Critical Theory: Legacies of the Frankfurt School" and "Auteurism and Artificiality in Film Studies".

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 513. (CAMB513) Evolution in Cancer. (A) Dr. Carlo Maley and Dr. Lauren Merlo. Prerequisite(s): Permission of the Instructor.

Cancers evolve by mutation and natural selection. This is the basis for both why we get cancer and why it is so hard to cure. We will survey the cancer literature through the lens of evolutionary and ecological theory and review how that theory does and does not apply to cancer biology. This course is restricted to graduate students.

This course is a graduate seminar course with both student and faculty presentations and discussions.

531. (PHRM531) Introduction to Genome Science. (A) J. Hogenesch.

This course introduces theoretical and laboratory aspects of genomics. Main topics include genome sequencing, large-scale genomics projects, expression analysis, proteomics, functional genomic screens, epigenomics, systems approaches, and integration and application of these methods.

L/L 535. (CIS 535, MTR 535) Introduction to Bioinformatics. (B)

S.Master S.Hannenhalli. Prerequisite(s): Equipment Prerequisite - IMPORTANT To accommodate an increasing demand for this class, we now require that all students bring a laptop to the lab sessions on Fridays. TAs will provide help with the material, but you should be well-versed with your own laptop and should be willing/capable to download and install free software off the internet.

This course provides a board overview of bioinformatics and computational biology

as applied to biomedical research. Course material will be geared towards answering specific biological questions ranging from detailed analysis of a single gene through whole-genome analysis, transcriptional profiling, and systems biology. The relevant principles underlying these methods will be addressed at a level appropriate for biologists without a background in computational sciences.

This course should enable students to integrate modern bioinformatics tool into their research program.

Should I take this course? This course will emphasize hands-on experience with application to current biological research problems. However, it is not intended for computer science students who want to learn about biologically- motivated algorithmic problems; GCB/CIS/BIOL536 would be more appropriate for such individuals. 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.

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) S.

Hannenhalli, L. Wang.

A discussion of special research topics.

585. (BMB 585) Wistar Inst Cancer Biol.

SM 752. (CAMB752) Genomics. (B) Dr. Riethman.

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 set of cellular instructions encoded in the DNA of specific organisms, including dozens of bacterial species, the yeast *Saccharomyces cerevisiae*, the nematode *C. elegans*, and the fruit fly *Drosophila melanogaster*.

The goals of the course are to 1) introduce the basic principles involved in mapping and sequencing genomes, 2) familiarize the students with new instrumentation, informatics 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 specific research problems.

999. Independent Study. (C)

GERMANIC LANGUAGES (AS) {GRMN}

GERMAN (GRMN)

SM 001. Water Worlds: From Noah to New Orleans and Beyond. (M) Richter. Freshman Seminar. All lectures and readings in English. No knowledge of German is required.

Judging from the news about the likely impact of global warming, the world that will take shape in the course of this century will be decidedly more watery than we're comfortable with. The polar ice caps are melting, glaciers are retreating, ocean levels are rising at increasing rates, polar bear habitat is disappearing, and countries are already jockeying for control over a new arctic passage.

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. (COML003) 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 004. Germany and the Holocaust. (M) Staff. Freshman Seminar. All readings and lectures in English. No knowledge of German is required.

We know much about the Holocaust. Countless document collections, memoirs, and testimonies have shed light on the worst chapter of 20th century history. Less is known about how Germans have dealt with this cataclysm since 1945. How have writers, politicians, and teachers, young and old people, perpetrators and bystanders, East and West Germans reacted to this event which is still haunting this country? This seminar will illuminate the developments since 1945 with special emphasis on literature, which has been a catalyst for inquiries into memory and guilt.

SM 006. Monsters and Marvels: "Tabloid" Broad­sides of Early Modern Europe. (M) Staff. Freshman seminar. All readings and lectures in English. No knowledge of German is required.

"Monstrous" creatures - both human and non-human - have fascinated Europeans since the days of the Greek republic. In the late Middle Ages and early modern period, a new communications medium, the printed broadside, opened the door to a flood of "tabloids," small, cheap texts with lurid pictures and graphic descriptions of two-headed babies, deformed animals and exotic creatures from distant lands. We will read some of these texts firsthand and try to understand from them the ways that Westerners viewed the world around them and beyond the seas. We will discuss the war of words between Martin Luther and the pope, whom he called the anti-Christ, and we will consider the role of women and the increased misogyny that, by the seventeenth century, led to the madness of the witch craze. Most of all, we will discover how to use old texts, historical both in their form and content, as windows into a culture quite different from our own.

SM 007. Food for Thought; Cannibalism and Gastronomy in Literature and Film. (M) Richter. Freshman Seminar. All readings and lectures in English. No knowledge of German is required.

Focuses on works of literature and film that explore the philosophical, aesthetic and cultural meanings of hunger, cooking, and eating. Topics include history of

gastronomy, culinary ethnic diversity, gender and eating, digestion as philosophical concept, cannibalism and the sublime, hunger and narrative, erotics of food.

SM 008. Superstition & Erudition: Daily Life in the Middle Ages. (M) Brevart. Freshman Seminar. All readings and lectures in English. No knowledge of German is required.

Individuals in medieval times lived basically the same way we do today: they ate, drank, needed shelter, worked in a variety of ways to earn a living, and planned their lives around religious holidays. They talked about the weather and had sex, they had to deal with cold, hunger, illness, epidemics and natural catastrophes. Those fortunate few who could afford the luxury, went to local monastic schools and learned how to read and write. And fewer still managed to obtain some form of higher education in cathedral schools and nascent universities and became teachers themselves. Those eager to learn about other people and foreign customs traveled to distant places and brought back with them much knowledge and new ideas. The similarities, we will all agree, are striking. But what is of interest to us are the differences, the "alterity" (keyword) of the ways in which they carried out these actions and fulfilled their goals. This course concentrates on two very broad aspects of daily life in the Middle Ages (12 th - 16 th centuries). The first part, Erudition, focuses on the world in and around the University. The second part, Superstition, revolves around astrology, medicine and pharmacy.

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)

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) 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 Artsmedia, 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) 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) 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: Thomas Brussig *Am kirzeren Ende der Sonnenallee* 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)

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)

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 abridged and glossed version of 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.

215. (GRMN506) Conversation and Composition. (C) Prerequisite(s): GRMN 104 or the equivalent. Required for the major, also carries credit for the minor in German.

Offers students the opportunity to improve significantly written and spoken discourse strategies and to raise language competence to an academic register. In addition, the course familiarizes students with several reading strategies. Students write several essays, weekly reaction pieces, lead discussions, and create short in-class presentations. During the second half of the semester, students create a common course web site in connection with their readings of an authentic literary text. In collaborative group work, students create the contents for different components: biography, text analyses, historical background, geography and didacticizations emphasizing integrated skills and discourse competence. Their work is posted to a web site, which in turn, is incorporated in the 4th-semester syllabus, where students use the peer-generated information and comprehension checks for their understanding of an abridged version of the authentic literary text.

SM 216. (COLL225, COML216) Introduction to German Literature. (B) Arts & Letters Sector. All Classes. Staff. Prerequisite(s): GRMN 215 or the equivalent. Required for the major, also carries credit for the minor in German. All readings, lectures and discussions in German.

Develops students' basic skills of literary interpretation. Exposure to various reading

techniques (e.g. close reading, reading for plot, etc.) and to literary terminology and its application. Readings will include selections from prose, drama and lyric poetry.

Why a course on German literature for the student learning language? Literature is where language is at its most versatile, inventive, and entertaining. Literature knows no shame in putting the fantasies, hopes, fears, and desires of a culture on display. This is a course for students intent on further developing their abilities in language and their knowledge of German culture. Ranging widely across the literary genres--from the fable, the aphorism and the joke to poems, songs, stories, and plays--students will discover what language and literature can do. Focus on speaking and writing.

219. Business German: A Macro Perspective. (A) James. Prerequisite(s): GRMN 215 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 215 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.

229. German Business Culture. (C)

All readings and discussions in English.

This course is designed to broaden perspectives on cross-cultural issues related to international business and international relations. In addition, the course will enhance analytical decision-making skills in resolving cross-cultural issues. The course will focus on global issues such as leadership, communication, negotiations and strategic alliances, cultural impacts on international business, effective performance in a global marketplace, and doing business with various nationalities.

SM 233. (COML233) Censored! The Book and Censorship Since Gutenberg. (M) Wiggins.

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).

234. (COML232) Literature and Revolution. (M) Wiggin. Common parlance proclaims the pen mightier than the sword. Peaceniks demand books not bombs. The tools of literacy are usually considered to be in opposition to the tools of war. But are they? Our seminar troubles this binary as we consider literature across space and time as an agent of social change at its most radical: revolution. Central to the class are the varied and creative answers to the long question about how to write a progressive literature. Is the concept of a revolutionary literature useful today? We begin by turning to the legacy of Plato's banishment of poets from the good state as well as Aristotle's spirited defense of poets. Writers and readings may also include: pamphlets by Martin Luther, essays by Thomas Paine and Friedrich Schiller; Buechner's drama *Woyzeck*, Marx and Engels' Communist Manifesto, Trotsky's *Literature and Revolution*, Mariano Azuela's novel of the Mexican Revolution, *The Underdogs*, plays by Bert Brecht (*Mother Courage and Her Children*), and others.

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.

240. (COML243, HIST270) Goethe and His Age. (M) Weissberg. All readings and lectures in English.

Johann Wolfgang Goethe (1749-1832) is known as Germany's pre-eminent writer. He was also a leading scientist, artist, and politician; a person who represented, as well as shaped, his time like no other. He was praised as a genius by some, and hated as a domineering figure by others. This course will engage in an exploration of his life and times, and of the notions of culture and *Bildung* that he has helped to popularize. Readings will include texts by Goethe and his contemporaries, as well as a discussion of the art, architecture, politics, popular culture, and philosophy of the "Goethe Age."

L/R 242. (COML126, ENGL102) The Fantastic and Uncanny in Literature. (M) Arts & Letters Sector. All Classes. Weissberg. All readings and lectures in English.

What is the "Fantastic"? And how can we describe the "Uncanny"? This course will examine these questions, and investigate the historical background of our understanding of "phantasy" as well as our concepts of the "fantastic" and "uncanny" in literature. Our discussions will be based on a reading of Sigmund Freud's essay on the uncanny, a choice of Friedrich Schlegel's and Novalis' aphorisms, and Romantic narratives by Ludwig Tieck, E.T.A. Hoffmann, Edgar Allan Poe, Nathaniel Hawthorne, and others. All of the texts will be available in English and no knowledge of a foreign language is required.

L/R 244. (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, Döblin, Marx, Engels, Benjamin, Kracauer. Films include Fritz Lang's *Metropolis* and Tom Tykwer's *Run Lola Run*.

245. (COML231) Literature and Culture of Central Europe. (M) Staff.

It is difficult to imagine the current century without the remarkable contributions of Central European culture. Central Europe is the birthplace of Freud and psychoanalysis, Schoenberg and twelve-tone composition, Kafka, Kraus, and Musil. It is also a combustible world theater for raging conflicts among political ideologies, nationalisms, and world views. This course examines the many legacies of Central Europe to the present. Through literature, cinema, and other arts, it explores a unique history that extends from the Habsburg and Ottoman empires, through two world wars, to communism and beyond. Readings are in English and include representative works from Albanian, Austrian, Bosnian, Czech, Hungarian, and Polish fiction.

246. Heroes Minstrels Knights: Epics and Lyrics of the Middle Ages. (C)

Brevart. All readings and lectures in English.

In this course we will read medieval works of international literary importance, such as the Arthurian novels of Hartman von Aue Erec and Iwein, the German Song of the Nibelungs and the Old French Song of Roland as examples of heroic literature, and the tragic love story of Tristan and Isolde by Gottfried von Strasburg. We will also read two Spielmannsepen which have as their central theme the international motif of the bridal quest, namely Sankt Oswald and Koenig Rother, and compare these works with the *Nibelungenlied* and *Tristan*, which themselves also involve the bridal quest as one of their principal structural elements.

There is, however, a major and critical distinction between the traditional happy ending of the bridal quest epics and that of *The Nibelungs* and of *Tristan and Isolde*, for

those two German works culminate in the total destruction and disintegration of entire peoples and values, or with the utter misery of the ideal couple. With our readings of the love poems of the French Troubadours and those of their German counterparts, the Minnesaenger, our final genre of medieval literature, we will not only discuss the ubiquitous and timeless love theme in all its variations, but also the socio-political implications of such poetry.

247. (COML247, PHIL247) Free Radicals: Marx, Marxism, and the Culture of Revolution. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Jarosinski.

"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) 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, 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. (COML248, ENGL259) 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.

252. (COLL004) The Emergence of the Individual. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Weissberg/Samuels.

The concept of the modern "individual" was, as many would argue, an eighteenth century invention. This course will discuss the period of Enlightenment that gave rise to it, and follow its development until the twentieth century. Why would it be suddenly important to think of separate human beings with particular desires and needs, rather than a more uniform group of subjects? And what are the consequences of such a move?

Adopting a broad but focused historical perspective, this course will examine the ways in which the individual has been theorized, represented, and understood across various countries and disciplines. Two professors--one from German, and one from French--will provide lectures and lead discussions on the position of the individual in specific historical and cultural contexts, beginning with the French Revolution and ending with Freud and the psychoanalytic revolution.

L/R 253. (COML253, ENGL105, GSWS252, 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.

254. The Self-Portrait. (M) Arts & Letters Sector. All Classes. MacLeod & Coates (The class will be taught by two professors). All readings in English.

Who am I? What makes the creative act of representing the self different from representing another? Can the essential self be depicted authentically? Or is what is essential precisely that which can never be represented? Does the act of self-representation change the subject? Is a picture worth a thousand words, or can words provide more scope for self-representation? These are the questions at the heart of humanistic studies and questions that every university student wrestles with in some form. "The Self-Portrait" will consider these questions from literary and visual perspectives, and will track these issues from the Renaissance to the twentieth century.

The class will be taught by two professors, and will include both lectures and discussion sections. Students will be exposed to a wide range of self-portraits in literature, the fine arts, and film. Within this framework, we will emphasize the literary and visual examples of Cellini, Goethe, and the Surrealists. In addition to analytical assignments and a final exam, students will prepare their own self-portraits during the semester in the medium of their choice, and our course will culminate in an exhibition of their work.

255. (COML255) Mann-Hesse-Kafka. (M) Arts & Letters Sector. All Classes. Jarosinski. All readings and discussions in English.

Based on considerations of the cultural tradition and the intellectual currents of the twentieth century, the course presents a survey of the achievements of Mann, Hesse, and Kafka. The extensive study of representative works focuses on the problems of the artist in the modern age.

L/R 256. (CINE352, COML241, RELS236) The Devil's Pact in Literature, Music and Film. (C) Arts & Letters Sector. All Classes. Richter. All readings and discussions in English.

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.

257. (CINE250, COML269) Nazi Cinema. (C) 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 1000 films during the Nazi era. 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 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 (Lubitsch, Wilder). All lectures and readings in English. Weekly screenings with subtitles.

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 such as Helmut Kaetner 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.

258. (CINE250, COML270) 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 1960s.

SM 259. (CINE201, ENGL291) 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. (CINE059, ENGL079, ENGL279, JWST261) Jewish Films and 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.

262. (GSWS162, JWST102, NELC154) 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)

SM 263. (COML277, ENGL079, JWST261) Jewish American Literature. (M) 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 264. (COML260, JWST264) Translating Cultures: Literature on and in Translation. (M) Arts & Letters Sector. All Classes. Hellerstein. Benjamin Franklin Seminar.

"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, 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?

265. (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.

269. Introduction to German Culture. (A) Jarosinski. Prerequisite(s): GRMN 104 or equivalent. Readings and lectures in German.

In this course, we examine and explore over a thousand years of cultural history of the German-speaking lands with an eye toward clarifying the key cultural knowledge shared by German speakers. From the Holy Roman Empire in the Middle Ages to the twentieth century, we examine what makes the German nations -- and peoples -- what they are today. We will pay attention both to mainstream tendencies as well as oppositional political and cultural movements. Special emphasis will be placed on cultural achievements such as literature, music, and architecture as well as on a basic understanding of the politics, economics and cultural formations of Germany, Austria and Switzerland in the 20th century. The language of instruction, readings, and discussion is --with few exceptions -- German.

318. (GRMN536) Foreign Exchanges: German Travel Literature and the East. (M) Wiggin. Prerequisite(s): GRMN 216 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 215 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 Ginther 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?

349. Maerchen. (M) MacLeod. Prerequisite(s): GRMN 215 or equivalent. All readings and lectures in German.

Many of us grew up with Disney's commercialized and formulaic versions of classic fairy-tales. This course will trace tales such as Hansel and Gretel and Little Red Riding Hood back to nineteenth-century German culture and the famous collections of the Brothers Grimm.

The rich cultural legacy of the Grimms and other German Romantics will be considered, including feminist and postmodern revisions of the fairy tale. We will also look at the fairy tale as a mechanism for enchanting, improving, or disciplining children.

355. Jugendliteratur: From the Third Reich to the Present. (M) Staff.

This course takes a critical look at Jugendliteratur ranging from the Nazi award-winning TECUMSEH by Steuben to the internationally acclaimed Austrian Kaethe Recheis and her radical account of fascism in Austria. The discussion includes West and East German authors such as Plenzdorf and deals with post-unification reality, including the latest Wunderkind author of age 16. The course will investigate the power and function of Jugendliteratur in various German-speaking settings.

356. Crime and Detection - Dark Deeds. (M) Frei. All readings and lectures 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. Prose of the Twentieth Century. (M)

Lectures and discussions of major works of modern German prose narrative, including Kafka, Mann, Hesse, Seghers, Grass, and Boell.

373. Dancing on the Volcano: Modern German Writers Confront Evil. (M) Jarosinski. Prerequisite(s): GRMN 215 or equivalent. Taught in German.

This course will discuss some of the most fascinating texts of German literature that reflect Germany's precarious history in the 20th century with two world wars and Nazi totalitarianism. Central is the individual's reaction to a situation of danger or threat and the ability to preserve dignity and identity.

Readings will include shorter pieces and plays by Kafka, Brecht, Boell, Stefan Zweig, Wolf, Weiss, Jurek Becker and others.

Through this course, students will be able to improve their reading and speaking abilities in German on an advanced level.

375. German Literature after 1945.

(M) Jarosinski.

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 215 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 215 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 215 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 215 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) Jarosinski. Prerequisite(s): GRMN 216 or equivalent. This course is 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.

382. The German Media Landscape.

(M) Richter. Prerequisite(s): GRMN 215 or equivalent. Taught in German.

An interactive course that introduces students to the world of German media (journalism, television, and radio). Analysis of major newspapers and magazines, editorial policy, history of media in the postwar period, types of television programming. Content-specific language instruction stressing complex language usage.

383. German Political Landscape.

(M) This course will provide an overview of the emergence and development of political parties in Germany since the 19th century. We will start with Robert Michels' classical study "Die Soziologie des Parteiwesens," first published in 1910. The course will cover the Weimar Republic, National Socialism, the founding of political parties in West and East Germany after 1945, the emergence of the Green party and the Republikaner in the 1980s, and developments after unification.

SM 395. Thesis Writers' Colloquium.

(B) Wiggin / MacLeod. Prerequisite(s): Limited to seniors writing thesis.

In the true spirit of a colloquium (= an informal meeting for the exchange of views), this course provides you with the opportunity to engage in a series of conversations about your thesis project.

Our discussions will focus on research tools and methods and on the writing process. It is tailored as much as possible to meet individual needs. Most importantly, the colloquium should not add to the burden of writing a thesis but should facilitate its completion. Thus, its primary goal is a successfully completed senior thesis. To assist you in obtaining this goal, several short written assignments will be required.

499. Independent Study.

(C)
SM 507. Elementary Middle High German.

(M) 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 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, ROML512, SLAV500) 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. Prerequisite(s): GRMN 216 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?

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).

SM 550. (ARTH550, CINE550, COML552, ENGL592) 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) Guyer.

A study of Kant's epistemology, criticism of metaphysics, and theory of science. A close reading of the *Critique of Pure Reason* and associated texts.

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, JWST560, PHIL551) Topics in Philosophy and Literature. (M) Weissberg. Topics vary.

565. (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, CINE515, 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. (ARTH701) Seminar in Method in the History of Art. (M) Staff.

Topics vary.

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, ENGL590, JWST582, PHIL480) Topics In Aesthetics. (M) Staff. Topics vary.

SM 581. (COML584, HIST490, JWST490, RELS429) 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 582. (PSCI582, PSCI584) Topics in Political Science. (M)

Topics vary.

SM 602. (LING610) Seminar in German Philology. (M)

Topics vary annually.

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 (Freitag, 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 Doebelin, 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, CINE591, 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. (ARTH678) 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.

SM 679. (ARTH662, ARTH762, DTCH601) German Art. (A) Staff.

SM 680. (MUSC760) Studies in Contemporary Music. (M)

Seminar on selected topics in the music of the twentieth century.

SM 691. Travel in German Literature. (M) Wiggin.

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. (ARTH260, ARTH262, ARTH263, COML229, GRMN230) Topics in Dutch Studies. (C) Taught in English.

This seminar will focus on area studies of Belgium and the Netherlands. Topics may include political science, history, folklore or film studies. Students will read about and discuss major developments in the Low-Lands.

SM 330. Advanced Topics in Dutch Studies. (M)

Topics vary.

SM 458. Selected Topics in Dutch Literature. (M) Naborn.

Topics vary according to the needs and interests of students. The focus will be on specific literary and cultural issues of the Flemish and Dutch tradition. Advanced knowledge of Dutch is required to read original texts.

SM 463. (ARTH463, HIST406, RELS416) Society, Art & Devotion. (M)

This course will deal with the history of the Low Countries during the "Golden Age" of Burgundian rule. The immensely rich resources in art, religion, and history will be treated from the points of three disciplines: history, art history, and religious studies.

473. (ARTH473, HIST407, RELS415) Dutch Art, Religion and History - Baroque Painting in Northern Europe. (M) Silvers / Peters.

Emphasis on the "Golden Age" of painting traditions of Holland and Flanders the outset of the Dutch Revolt in the 1560s to the French invasions around 1670. Principal artist include: Pieter and Jan Brueghel, Rubens, Van Dyck, Goltzuis, Hals, Rembrandt, Ruisdael, Vermeer, and Steen. Attention to the rise of pictorial genres: landscape, still life, tavern scenes, portraiture, well as relationship of art to the rise of Absolutist rulers, religious conflicts, and the Thirty Years War.

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.

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) 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.

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

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available in English translation. Authors Moyshe-Leyb Halpern, and Kadya
include I.L. Peretz, Isaac Bashevis Singer, Molodowsky.

GOVERNMENT ADMINISTRATION (AS) {GAFL}

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.

SM 139. (PSCI139) Poverty and Development in the United States. (B) 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. Students will evaluate contemporary policy debates and programs in the light of selected historical case studies and their own experience working with community groups, institutions and federal groups in West Philadelphia. A focus on the role of leadership in politics, theory, institutions and organizing efforts will include several guest speakers.

SM 240. (PSCI240) Religion and U.S. Public Policy. (D) DiIulio.

Religion matters politically in America, and always has. Religious ideas----and ideas about religion-punctuate both early debates about the U.S. Constitution and present-day debates about civil rights and civil liberties. Religion influences opinion, voting, and lawmaking. Religious congregations, service agencies, and charities, many with public funding, predominate in the nation's vast and growing nonprofit sector. Religious leaders influence U.S. public policy and programs, both domestic and international. This seminar explores the historical, intellectual, constitutional, electoral, and institutional dimensions of religious leadership and U.S. public policy.

Core Courses

589. Policy Development. (B)

Martinez/Pearson.

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.

621. Economic Analysis in the Public Sector. (D) Madden/Bognanni.

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. Politics and Public Leadership. (D) Thornburgh/Mulhern.

This course is designed to orient students to the constraints that characterize leadership and management in the public service. The course traces the origins of these constraints, illustrates their durability, and suggests ways in which public agents may deal with them more effectively. Key historical documents and recent classics are examined for their bearing on contemporary views on topics such as public goods, the role of science in governing, individualism and the theory of rights, factions and interest groups. The main areas of inquiry are the environment of public service, policy analysis, politics, and political realism.

L/L 703. Statistics for Public Leadership. (D) Pearson/Perrins.

This course will present students with the tools to use statistical information to analyze and measure the performance of public programs.

L/R 732. Public Management. (D)

DiIulio/Mulhern.

In this course, students focus on bureaucracy and related institutional features of government. Differences in organizational culture are examined along with their implications for public managers. Students establish an understanding of leadership issues including incentives, performance, accountability, and program management. Four areas of inquiry are pursued: bureaucracy, centralization and decentralization, performance, and privatization.

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.

783. Public Financial Management. (D) Fraint and Soderburg.

This course prepares students to manage cash and debt in the public sector through a study of theory and operations. Where public finance differs from corporate finance, the difference is highlighted. Students examine current financial management techniques from a strategic perspective and learn to identify the impacts on economic development of tax policies as well as of capital projects which may draw on both public and private sources of funds. The course focuses on five main areas of inquiry: public finance theory and practice; government finance functions; public pensions, enterprises and revenue analysis; municipal bonds; and special project financing.

Representative Electives

SM 502. Public Speaking. (C) Benedict.

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.

SM 510. (CLST310) Ancient and Modern Constitution making. (B) Mulhern.

This course looks to the constitution making tradition as it developed from classical antiquity forward in an attempt to understand the causes of relative success. Students read representative Greek and Latin texts in translation and trace the influence of this tradition into modern times, ending with contemporary constitution making efforts in Europe, Central Asia, and the Middle East.

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 Methods for Fiscal Decision-Making. Mullin.

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 role of government in our market economy, accounting/budgeting basics, and the Philadelphia metro area economy and government.

521. Fundraising for Nonprofits. (B) Pearson and Sanchez.

This course provides students with concepts and tools that can help nonprofit organizations better achieve their organizational objectives by securing the resources necessary to do so. Students will, for example, learn how to assess an organization's fundraising capabilities, conduct an annual fund drive, solicit grants from corporations and foundations, conduct prospect research, cultivate and secure major gifts, design planned giving instruments to meet the needs of donors, carry out a capital campaign, and set up information technologies to track fundraising efforts and assist you in the stewardship of gifts. The course is also designed as a study guide for taking (and passing) the examination required to become a Certified Fundraising Executive (CFRE) by the Association of Fundraising Professionals (AFP).

528. Marketing for Nonprofit Organizations. (A) Pearson.

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.

532. Urban Government in Action. (A) Kenney and Hawkins.

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.

560. Women Leaders and Emerging Democracies. (C) Margolies.

In this course you will explore ways to provide women with practical, 'real world' skills--political and community organizing, communications, fundraising, advocacy and media experience--that will enable them to achieve meaningful political, economic, and civic participation in the life of their countries. Students may also be involved with an international trip with Women's Campaign International. The course is designed to give the theoretical background and tools to put together an insightful international training to politically empower women.

561. Dealing with the Media. (C) Margolies.

This course explores the role of media in politics and discusses strategies for using media resources for greatest effect. The design of the course allows for a flexible workshop format and includes guest lectures by media personalities and politicians as well as a trip to meet with media professionals in Washington. The course also provides regular opportunities for students to implement what they have learned through in-class media trainings, mock editorial board interviews, governing strategy scenarios, campaign strategy scenarios, and political advertisement assessments.

569. (CPLN625, URBS451) The Politics of Housing and Urban Development. (A) Kromer and Landis.

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 downtowns and neighborhoods. A special emphasis this year will be the Obama Administration's response to the foreclosure crisis and the implementation of neighborhood

reinvestment strategies by state and local governments.

SM 625. (DYNAM606) Understanding and Managing Complex Organizations. (L)

Today's organizations are highly complex workplaces; made up of traditional and interconnected departments, professional and technical employees with wide variations of education and training, and are spread out geographically and intellectually. The class intends to explore the interplay between all these elements by introducing the students to the basics of organizations and challenge them to explore their own beliefs and approaches. The course will equip students with the various organizational theories and the current scholarship on organizational management. To put theory within a practical framework, the course will systematically go through the aspects of leadership and management including governance, mission/vision, strategic planning, day-to-day management, conflict management, change management, and crisis management.

SM 626. Developing, Managing, and Leading Talent for Nonprofit and Government Organizations. (M)
Nunery.

This course will take a holistic approach in exploring the critical issues that impact how your organization recruits, hires, develops, and assesses its pool of talent. Students will examine a range of economic, legal, social, technological, and political factors that affect the management of today's workforce, with attention paid to the particular challenges facing public and nonprofit sector leaders. There will be special focus on organizing volunteers, working with unions, providing effective professional development opportunities, and other human resource strategies that drive better results.

642. (CPLN642) Downtown Development. (A) Levy.

City Planning 642 will take a brief look back at the first major period of federal intervention in cities between the 1930s and the 1960s to see what lessons are relevant to today's efforts to revitalize downtowns. The course will provide an overview of the changing role of the downtowns, how and why they have evolved, diversified and been redeveloped and how they are repositioning themselves in a new regional and global context. There will be a focus particularly on the role of business improvement districts in the United States, Canada and a few international cities, how they relate to municipal government and redevelopment

efforts, the types of services they provide, and the possibility that their roles could be transformed and expanded in a renewed federal era.

652. Auditing Government Performance. (A) Maurer.

Topics covered include auditing principles, performance audits, and financial audits. Guest lecturers from the PA Department of the Auditor General visited the fall 2007 class.

SM 655. (DYNAM655) Using the Political Process to Effect Organizational Change. (M) Brady and Gale.

At one time or another, each of us has said something like, "I know what to do to make some really effective 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, or governmental) simply obstructs our ability to make a difference. Frustrations notwithstanding, politics is anything but an impediment; it is the art and science of coordinating individuals, departments, management, markets - the entire organizational environment - to effect a balance of objectives and methods. Congressman Brady and Dr. Gale will explore and assess the foundations of organizational politics--change, exit, voice, loyalty, and valuation of relationships--and discuss the use of politics to promote effective change.

713. The Practice of 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.

715. Local Elective Politics. (B) Kenney and Hawkins.

This course explores how people get elected to public offices in city government. Success in getting elected may depend as much upon political institutions, processes, and people as upon the issues, interests and values that appear to be at stake. This course studies both, with special attention to a set of congressional and local government contests in the Philadelphia area. We will focus on the tools needed to run for a big city office in the 21st century, and feature

guest appearances from media consultants, press secretaries, pollsters, and other political professionals to help you learn how to use these campaign tools properly.

SM 719. Advanced Budgeting. (A)

724. Infrastructure and Economic Growth. (M) 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.

725. Development Projects in Cities. (B) Hartling.

This is a skill-based course, teaching students how to conduct market studies and to determine operational, physical, and financial feasibility of urban and economic development proposals. It gives specific attention to feasibility studies for retail, hotel, industrial, and office development projects.

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.

729. Financial Management of Nonprofit Institutions. (B) Rosenzweig.

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

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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 747. Social Innovations. (M) Torres and Hansen-Turton.

During this course, students will examine the business planning process, elements of social innovation, and marketing/messaging. 'Social innovation' seeks new answers to social problems by identifying and delivering new services that improve the quality of life of individuals and communities; and identifying and implementing new labor market integration processes, new competencies, new jobs, and new forms of participation, as diverse elements that each contribute to improving the position of individuals in the workforce. As part of the course requirements, students will write an article about a social innovation in Philadelphia with the possibility of publication in the Philadelphia Social Innovations Journal.

748. Grant Writing. (L) Burd.

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.

SM 749. Leading Nonprofit Organizations. (D) Torres and Hansen-Turton.

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.

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}**

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.

HEALTH AND SOCIETIES (AS) {HSOC}

000. Study Abroad.

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. Cowan/Ensmenger.

"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. Barnes. 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 016. (STSC016) Islamic Science. (M) Mukharji.

SM 018. Medicine in Africa. (M) Feerman.

The story of health, healing and disease on the African continent in its historical context. What is the relationship between the growth of cities and the spread of AIDS, or between globalization and malnutrition? Is biomedicine practiced on the African continent the same way it is in the U.S., or

are there important differences? What are the major African healing traditions, and how do they work? What are the forces, in our world today, that lead to malnutrition and disease in Africa, or to health and well-being?

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 048. Epidemics in History. (M) Barnes.

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 049. (ANTH049) Aids and Power. (M) Staff.

Epidemics demonstrate the connections between people and places in dramatic and often tragic ways, with routes of contagion and intervention often throwing social, economic and political inequalities into sharp relief. In the last three decades AIDS has gone from an unknown and localized illness in central Africa to a mysterious "gay cancer" among young men in California and New York, to a worldwide pandemic that is transforming global health funding, pharmaceutical regulation, national demographic, international science, and social movements. This course examines how power disparities have shaped disease risk, prevention, and access to treatment, and how people and communities have become empowered via HIV/AIDS, giving rise to a new identities and social movements.

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 051. (STSC051) Ethics, Technology & the Life Sciences. (M) Moreno.

In this seminar we will explore the roles and functions of the bioethicist, a new profession that has only emerged in the past quarter century or so, and the new field of bioethics. Bioethicists work in hospitals on clinical ethics, in medical schools and research facilities on experimentation ethics, in public policy and, more recently, in the political arena. We will also explore bioethical theories and specific issues and cases like stem cell research and the Schiavo controversy, and discuss the history of bioethics. And we will pay close attention to bioethical issues in the media during the semester.

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 058. What is Cancer? Disease, Society, History. (M) Aronowitz.

What is cancer? What causes cancer? What do its high prevalence and devastating effects tell us about ourselves and our society? What can we do about it? Laboratory researchers, epidemiologists, public health officials, medical specialists, environmental activists, and cancer patients have offered different and incomplete answers to such questions. Students will learn about these difference perspectives by analyzing historical documents and scholarship from different disciplines and professions, meeting with health professionals and others, and doing writing and research assignments.

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. (SOC1100) Introduction to Sociological Research. (C) Staff.

This course surveys the different sociological methods, including: survey, content analysis, historical-comparative, participant observation and ethnographic perspectives. It reviews research design, experimental design, evaluation methods, research ethics and the uses of research. Students explore these methods and perspectives in class assignments and exercises. A brief introduction to SPSS (statistical package for the social sciences) is also provided.

L/R 101. (PHIL072, PPE 072) Biomedical Ethics. (M) Society Sector.
All classes. Lindee.

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.

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.

SM 109. (GSWS108) Topics in Health in South Asia. (M) Staff.

Drawing upon theoretical and empirical evidence, the course uses a socio-medical approach for understanding the health status and health behaviors of women in South Asia. Gender is a crucial explanatory variable of women's survival experience; burden of disease; nutritional status; and access to and utilization of health services. Girls and women face health and disease problems over their life course related to nutrition needs, reproductive health, work conditions, as well as to infectious disease. This course places the experience of women's health in South Asia in contemporary, historic, and comparative

frameworks. Lectures, discussion, and assignments provide entry to greater understanding of both the specialized nature of South Asian women's health problems, as well as those common to women worldwide.

L/R 110. (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) Preston.

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.

118. (SOC118) Sociology of Bioethics. (M) Staff.

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 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.

SM 135. (PSCI135) The Politics of Food. (M) Summers.

This academically based community service seminar will explore the many different politics that shape food production and consumption and problems like food insecurity and obesity here in West Philadelphia and around the world. Students will be encouraged to think broadly about how people engage in politics --articulate goals, form alliances, struggle for power, respond to and engage in leadership- in many different areas: cities, farms, factories, kitchens, markets, schools, churches, research institutions, social movements, elections, legislatures. A focus on case studies of leaders who have made a difference in the politics of food will include guest speakers, who work on food related issues.

L/R 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.

SM 141. (STSC141) A Zombie's History of Medicine and Technology. (M) Deanna Day.

From/28 Days Later/to the Center for Disease Control's "Zombie Apocalypse Preparedness Guide," zombies express our cultural anxieties and how we deal with them. Many of these fears focus on "Cybernetic Utopianism: The Politics of the systems of knowledge and expertise that

we use to know and control them. Using centuries of "zombie culture" as a lens, this course surveys the history of western medical knowledge and practice from antiquity to the present, with a particular focus on the technologies that have been used to manage bodies. We will read primary sources (including elite medical texts, patients' accounts, and devise advertisements) to examine the history of medical knowledge and medical tools. This approach provides historical and anthropological context for zombie media, and it uses entertainment and cultural fears as a way to understand the concerns and experiences of historical figures -- including patients, caregivers, and policy-makers -- on their own terms.

L/R 145. (HIST146, STSC145) Comparative Medicine. (A) History & Tradition Sector. All classes. Feerman.

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.

L/R 150. (SOC152) American Health Policy. (C) 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 the present day. Some of the themes addressed include: American public health movements and hospitals, private health insurance (such as Blue Cross/Blue Shield), industrial health and workmen's compensation, the welfare state (in Europe and the U.S.), women's health, especially maternal and infant care programs, Medicare/Medicaid, the Clinton Health Plan, injured soldiers and the Veterans Administration.

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!

L/R 154. (ANTH154) The Medical Anthropology of Alcohol Use. (M) Chrzan.

The morality, rights, and responsibilities of alcohol use are hotly debated in the United States. The rhetoric of appropriate use ranges from Puritan-inspired abstinence campaigns, through health-promoting moderation arguments, to discourses legitimizing hedonism. The result of a lack of clear cultural paradigms for intoxicant use is clearly seen on college campuses, where movements for zero-tolerance alcohol bans coexist with social rituals that include binge drinking. This course will utilize medical anthropology theory to: 1) contextualize the phenomenon historically and cross-culturally; 2) encourage students to critically analyze existing paradigms which determine acceptable usage and treatment modalities; 3) use the University of Pennsylvania campus as a local case study/field site to investigate alcohol use. Students will move from theory to action through creation of a feasible proposal addressing alcohol-use education on Penn's campus, or will participate in the modification and implementation of existing proposals to promote rational and low-risk use of alcohol in the college community.

157. (STSC152) Chinese Science. (C)

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.

SM 179. (ENVS179, HIST320, STSC179) Environmental History. (B) 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) Staff.

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.

206. (STSC247) Health and Disease in the Developing World. (M) Staff.

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.

SM 216. (GSWS216) Women and Health. (M) Mason.

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 226. (SAST289, STSC226) Science, Medicine and Technology in South Asia. (M) Petrie.

This course examines the history of science, technology and medicine in the Indian subcontinent from ca. 1750 to the present. The first half of the semester will focus on the period of British dominance, considering such topics as: the role of science, medicine and technology in colonial rule and anti-colonial nationalism; Western understandings of and impacts upon Indian environments; the relationship between Western and indigenous forms of knowledge. The second half of the course will examine the post-colonial period, with a particular focus on development and environmental issues and the policies of the governments of India, Pakistan and Bangladesh.

SM 230. Fundamentals of Epidemiology. (B) Kanetsky.

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.

SM 232. Social Epidemiology. (M) Cannuscio.

L/R 238. (ANTH238) 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) Globalization and Health. (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.

SM 249. (ANTH209) Anthropology and Everyday Bioethics. (M) Mason.

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?

SM 250. Social History of Mental Illness. (M) Tighe.

This course will explore the history of mental illness in the United States, from the eighteenth century to the present. It will focus on a set of questions: to what extent is mental illness socially constructed? How does society arrive at its concepts of and attitudes towards both emotional and behavioral disturbance as well as notions of adjustment and normality? The asylum movement of the nineteenth century, the rise of psychiatry as a medical specialty, the role of the media and lay public in shaping its identity, legal issues such as commitment and competence, as well as the development of psychopharmacology & an increasingly biologically based psychiatry in the twentieth century will be examined.

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. By focusing on key methodological (epidemiology, biostatistics) and content (environmental health, social and behavioral sciences, health policy) areas, students will gain an understanding of the field. In addition, we will focus on topics of particular relevance to the current health of the public; topics under consideration as the syllabus is being developed include obesity, immigration, health care and 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.

273. (SOCI273) Law, Medicine, and Public Policy. (B) Bosk.

First the course will develop a perspective for viewing social problems drawn largely on my own work as well as that of Gusfelds and Edelman. Next we will explore the domains to which a physician's expertise is limited using Weber, Rosenberg and others. We will then develop a perspective from anthropological and sociological literature on the courts as public arenas for articulating Durkheimian collective conscience. All of this theory building is in the first half of the seminar. The second half of the course will involve intensive case study of a few dilemmas which have wended their way through the courts. I intend to look at "Baby Doe Regulations" and the Intensive Care Nursery; the problem of the cessation of life-supporting treatment; the legitimacy of mass screening - be it for genetic defects or substance abuse; and the propriety of surrogate motherhood.

275. (SOCI275) Medical Sociology. (C) 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.

299. Independent Study.**302. (STSC302) Regen Bio. (M)****SM 305. (SAST285, SAST335, SAST635) Health and Society in South Asia. (M) Staff.**

The countries of South Asia have traditional medical systems like Ayurveda and Unani, major public health traditions and problems, as well as the global issues of health delivery and costs for aging populations, in addition to changing threats like HIV. Health service delivery is highly uneven by income and education group as well as by gender and region, and is heavily conditioned by the cultures of the area which influence attitudes to preventive measures like nutrition and hygiene. This course provides an overview of these issues.

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 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 310. (ANTH310) Anthropology and Biomedical Science. (M) Staff.

An examination of the role of anthropology in biomedical research, focusing upon health and disease as outcomes of biocultural systems. Where possible, students will engage in collection and analysis of data and the dissemination of the results.

SM 311. (STSC311) Science, Medicine & Media. (A) Wolfe.

This course is an introduction to the history and the contemporary state of science journalism. Public understanding of

science, medicine and technology is critical to a society that must make informed decisions about health, the environment and economic growth, but the relationship between science and the public is complex. This course explores not only how books, newspapers, television, films, podcasts and blogs have shaped our understanding of science and scientists, but also the contexts in which these media are created.

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 323. (ENGL275, STSC323) Writing Science. (M) Mills.

This course surveys the interdisciplinary field of Science and Literature Studies, with an emphasis on the modern life and physical sciences (19th century to the present). During the first part of the semester, we will examine literary responses to science: the "two cultures" debate; the impact of scientific and technical changes on literary practices; representations of science in fiction. In the second half of the course, we will consider science as literature: scientific rhetoric and standards of authorship; inscription or writing technologies in laboratories; scientists as authors of popular literature; the impact of futurism and speculative fiction on science. Course readings will be drawn from fiction, the life

and physical sciences, literary theory, and the history of science.

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.

SM 330. Community Based Research on Health Disparities. (M)

SM 331. Genes, Medicine and Politics. (M) Cowan.

This course explores how human heredity has been scientifically constructed as a political resource. Topics include the rise of eugenics movements around the world, the role of genetics in scientific racism, the social meaning of genetic disease, and the development of the human genome project.

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 member of the school administration, teachers, staff, parents and community member 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 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 th 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 ca 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)

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.

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 369. (STSC369) Nanotechnology and Society. (M) Roberts.

One nanometer is about ten hydrogen atoms long. So "nanotechnology" is the art of building useful tools out of very small numbers of atoms. This class will investigate what is being done in nanotechnology, and what is being forecast for its potential. We will take a long look at the prehistory of nanotechnology, then map out what institutions and groups have a stake in the field. Throughout the course, will discuss the ways that nanotechnology is a product of society, and the ways its products in turn change society. Topics include: microelectronics and Moore's Law; futurism and science fiction; controversies and public perception; government sponsorship of nano;

SM 379. (STSC379) Animals in Science Medicine Technology. (C)

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 387. (HIST387, SAST388) Health Environments in Asia. (A) Staff.

A comparative social history seeking to explain today's nutritional deficits among third world peoples. Based on an eco-system approach, it considers contending theories, traces the rise of the world food system, and compares detailed case studies covering the period 1800-1980.

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 405. (ENVS405) Urban Environment II. (A) Pepino.

Prerequisite(s): HSOC 404 or permission of instructor. ABCS Course. Local middle school visits required.

A detailed analysis of urban environmental issues.

SM 407. (ENVS407) Urban Environments: Prevention of Tobacco Smoking in Adolescents. (B) Pepino.

ABCS Course. Local middle school visits required.

This course will examine the short and long term physiological effects of smoking, social influences, the effectiveness of cessation programs, tobacco advocacy and the impact of the tobacco settlement. Penn Students will work with middle school students on a campaign to prevent addiction to tobacco smoke.

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.

411. (SAST386, SAST686) Contemporary Issues in South Asian Health. (C) Staff.

This course will focus on birth, aging, as well as selected chronic and infectious diseases in South Asia. For each health condition/lifestyle a framework of analysis will develop incorporating the complex set of factors that come into play. Sociocultural beliefs; status markers--gender, class, caste, occupation; availability and accessibility of public and private health services; state, national, and international plans and policies will be considered. An overview of South Asian demography, health problems and services will introduce the course.

412. Traditional Medicine in South Asia: Historic Origins and Contemporary Use. (G) Staff.

In South Asia, traditional medical systems (Ayurveda, Unani, and Siddha) have deep affiliation with the scientific, philosophical, religious, and cultural systems. This course will examine the historic origins and socio-cultural dimensions of these systems. Topics will include the encounter between traditional and Western medicine in the nineteenth century; twentieth century revival and professionalizing activities in the traditional systems; state and central government support for education, services, and research in traditional medicine; their role in the overall health care system; and their use by patients in urban and rural areas. The world-wide interest in complimentary and alternative medicine as it relates to the Indian medical systems will be considered.

SM 413. (STSC413) Perfect Bodies. (C) Linker.

SM 420. Research Seminar. (B) Staff.

This seminar in research methods is required in the spring term for all juniors planning on writing a senior thesis in HSOC or STSC.

SM 421. (HIST471) 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 428. (STSC428) Genetics & Social Policy. (M) Cowan.

The focal topic for the semester will be genetics and race. Race will be interpreted broadly to include populations that might be defined by geography, religion, or language, rather than by skin color and facial features. Various social policies were once designed by people who had definitive views about the genetics of race. We will begin with some background reading about the beliefs of Social Darwinists (late 19th century), eugenicists (first half of the 20th century) and sociobiologists and human geneticists (second half of the 20th century; and will then proceed to consider how this history affects current social concerns about genetic testing, personalized and pharmacogenetics.

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 431. (STSC431) Cold War Science and Medicine. (B) Wolfe.

During the Cold War, science, technology and medicine occupied a central place in the developing and maintaining state power. The incorporation of science into the apparatus of the Cold War state changed the ways that scientists studied, worked, and communicated with each other and the public. But beyond such practical concern, scientists in both the United States and the Soviet Union had to confront the question of what it meant to pursue natural knowledge in a militarized state. No nation or political system could survive without the weapons, medicine, foodstuffs, and consumer products made possible by modern scientific research--yet science was supposedly an international system free from the dictates of politics. This course explores the contradictions of Cold War science and medicine.

SM 437. (ANTH437, SOCI437) Cultural Models & Health. (B) Barg.

There is a great deal of variation among population groups in the incidence of and mortality from most major diseases. Biological and social factors can account for some of this variation. However, there is

increasing evidence that behavior- and the cultural models that are linked to health behavior- play an important role too. Cognitive anthropology is the study of how people in social groups conceive of objects and events in their world. It provides a framework for understanding how members of different groups categorize illness and treatment. It also helps to explain why risk perception, helpseeking behavior, and decision making styles vary to the extent they do. This seminar will explore the history of cognitive anthropology, schema theory, connectionism, the role of cultural models, and factors affecting health decision making. Methods for identifying cultural models will be discussed and practiced. Implications for health communication will be discussed.

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.

SM 449. Vertical Global Health Movements. (M) Mason.

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 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)

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 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)

Kolstad/Starc. Prerequisite(s): Economics 1 & 2 or consent of instructor.

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. Students who take HCMG 202 may not also take HCMG 302, ECON 039, or ECON 236 for further credit.

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 1/7th 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 OECD countries--Germany, Canada, Japan, and the United Kingdom--but we also look at other countries with interesting systems - including Italy, Chile, Singapore and developing countries including China and India. We will draw lessons for the U.S. from foreign experience and vice versa.

211. (HCMG854, LGST211, LGST811) Legal Aspects of Health Care. (A)

Rosoff.

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 course or one Economics course or equivalent experience with permission of instructor.

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. (A) 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. (HCMG850) Health Policy Analysis.**302. (ECON236) Economics and Financing of Health Care Delivery. (B) David.** Prerequisite(s): ECON 001 and ECON 002 OR BPUB 250.

This course provides an application of economic principles to the health care sector. By recognizing the importance of scarcity and incentives, this course will focus on the critical economic issues in producing, delivering, and financing health care. In particular, the course will analyze determinants of demand for medical care, such as health status, insurance coverage, and income; the unique role of physicians in guiding and shaping the allocation of resources in medical care markets; and competition in medical care markets, especially among hospitals. Special emphasis will be placed on the evaluation of policy instruments such as government regulation, antitrust laws, 'sin taxes' on cigarettes and alcohol, and public health programs. This course is similar to HCMG 202, but uses more advanced quantitative

methods and formal economic theory; knowledge of calculus and basic microeconomics is recommended. Students who take HCMG 302 (ECON 236) may not also take HCMG 202 (ECON 039) for further credit.

841. Health Services System. (A)

Burns. Prerequisite(s): HCMG 603, offered during the Wharton Pre-Term program, serves as important background material for this course. The instructor presumes you know this material when the regular course begins. 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.

Please note that during the Wharton Pre-term program, there are three additional sessions that serve as important background material for this course. The instructor presumes you know this material when the regular course begins.

845. Managed Care and the Industrial Organization of Health Care. (B)

Burns. Lectures, cases, exam, and orally presented term project.

This course, co-taught with Brad Fluegel (former Senior VP of Wellpoint, Inc.) 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 601 or equivalent. Lecture, cases, midterm, and final.

This course focuses on the application of financial analysis to financial and operating decisions in the health care industry. Valuation methods covered include: net present value of free cash flows, decision tree analysis, real options, and multiples. The cases allow students to apply these skills to examine the following types of decisions/situations: estimate the value of a drug that is being developed using both traditional NPV and option pricing; evaluate an R&D limited partnership as an alternative to traditional methods of financing biotech R&D; estimate the value of a pharmaceutical company using publicly available data; identify the best way for a new medical device company to price its products and raise funds; determine why a Medicare HMO is losing money, recommend whether the plan should remain in the market, and recommend changes in benefit design and reimbursement methods if the plan decides to remain in the market; analyze a health system's profitability by product line and discuss the implications for pure play or carve-out companies.

852. 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,

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.

854. (HCMG211, LGST211, LGST811) Legal Aspects of Health Care. (A) Rosoff.

This course offers a current and historical overview of the regulation of health care delivery and financing 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 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 drugs and medical device industry) or (2.) selected issues of patients' rights (e.g. abortion, treatment of terminal patients, etc.). 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)

Mahadevan. Lecture, case discussion and presentations by industry experts.

This course examines key marketing issues in the pharmaceutical, biotech and medical device industries. The focus is on aspects that distinguish marketing in the pharma-biotech-device industries from more general (CPG-type) marketing in non-health care industries. After reviewing the similarities and differences, we focus in depth on the following topics: product launch and growth, from a strategic and tactical execution perspective; regulation, direct-to-consumer advertising, and off-label usage; unique features of medical device marketing, including hospital and GPO purchasing, role of sales reps etc.; biotechnology marketing, for both niche and blockbuster products; marketing mix optimization; global brand management. The class ends with an examination of industry evolution and current state of flux inclusive of relatively new marketing expectations such as social media and relationship marketing.

859. (HCMG204) Comparative Health Care Systems. (A) Danzon.

Prerequisite(s): Format: HCMG841 or similar background or experience in health care systems.

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

main focus is on the systems in four large OECD countries- Germany, Canada, Japan, and the United Kingdom - but we also look at other countries with interesting systems - including Italy, Chile, and Singapore and developing countries including 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 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.

866. E-Health: Business Models and Impact. (B) Glaser.

This course will introduce students to the roles health information technologies (HIT) can play in improving the performance of health care delivery, financing and innovation. The course will discuss the portfolio of health information technologies; the opportunities to apply these technologies to improve health care safety, quality and efficiency; the challenges of HIT implementation and value realization; and emerging HIT areas. While this course will not prepare students for primary information technology management positions, it will provide a foundation that will prepare them as managers in, and consultants to, the health care industry. The course relies heavily on industry leaders to share their ideas and experiences with industry leaders.

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.

This course explores entrepreneurial and other private sector solutions for both health services and access to medicines and technology in the developing world and other underserved areas. The course also encompasses study of creative solutions such as drug development partnerships, public-private partnerships, and other incentive programs to engage the private sector in development of vaccines and medicines for tropical and neglected diseases, as well as therapeutic approaches and care systems for the rapidly growing problems of chronic diseases in populations in the developing world. The course goal is not to duplicate a conventional international public health course, but to build upon what is conventionally known and taught in such courses from a managerial solutions-oriented perspective. Learning is driven through readings, class discussions and a series of guest speakers representing the full range of global health issues. The major assignment in the course is a group student project.

890. Advanced Study Project Seminar: Management of Health Care Service Businesses. (A) Present.

Prerequisite(s): HCMG 841.

This course examines issues related to managing or investing in Health Care Services Businesses. Defined as companies that manage, distribute or provide health care services, the Health Care Services sector touches almost every other portion of the health care system. We will study the 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 make extensive use of outside speakers who will be current industry leaders within different sectors of the health care services industry and will address the current management issues they face in running their businesses. We will also hear from Private Equity professionals and people involved legislatively in Washington with health care services. Students will then be asked to develop a plan to both buyout and subsequently manage a specific health care services business. Students will present their plans to a panel of leading Health Care Private Equity investors. The prerequisite for this course is HCMG 841.

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) Pauly.

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. Kolstad.

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}

516. Building Diagnostics. (B) Henry.

Building diagnostics pertain to the determination of the nature of a building's condition of performance and the identification of the corresponding causative pathologies by careful observation and investigation of its history, context and use. 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 or past or potential pathologies in a building and building systems, thus informing the development of buildings, the process informs the selection of interventions that satisfy the stewardship goals for cultural resource.

521. American Architecture. (A) De Long.

The development of modern architecture and its descendant modes in the United States is presented through an examination of work by leading architects. Major designs are related to influential stylistic patterns as a basis for historic evaluation of more anonymous examples, and current stylistic terminology is critically evaluated.

SM 528. (FOLK518, HIST510) 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 After 1850. (C) Winkler.

The American domestic interior after 1850 with emphasis on the social, economic, and technological forces, as well as

consideration of European influences 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 and heating. In addition to the identification of period materials, the course will give special emphasis to recreating historical finishes.

538. Fundamentals of the American Landscape. (M) Mason.

The course presents the history of common American landscapes and surveys of the field of cultural landscape studies. The cultural-landscape perspective is a unique lens for understanding holistically the historical evolution of the built environment 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. Class discussions, readings, and projects will draw on work from several disciplines--cultural geography, vernacular architecture, environmental history, art, and more.

540. American Building Technology. (C) Falck.

Presentation of traditional construction materials and methods of the eighteenth, nineteenth and early twentieth centuries in North America. Structural and decorative building components including brick and stone masonry, terra cotta, wood framing, millwork, metals, roofing, and plaster will be discussed.

551. (ARCH739) Building Pathology. (A) Henry. Prerequisite(s): HSPV 555 or one technical course in architecture.

This course addresses the subject of building deterioration and intervention, with the emphasis on the technical aspects of deterioration. Construction and reconstruction details and assemblies are analyzed relative to functional and performance characteristics. Lectures cover subsurface conditions, structural systems, wall and roof systems, and interior finishes with attention to performance, deterioration, and stabilization or intervention techniques.

L/L 555. Conservation Science. (B) Matero. \$30 Lab Fee.

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 characterization. A 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.

An exploration of the intersection between historic preservation, design, and public policy. 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 interconnecting, are not necessarily mutually supportive. The fundamental assumption of the course is that the preservation professional must understand the capabilities and deficiencies 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 field exercises.

600. Documentation. (A) Staff.

As in past iterations of the course, a centerpiece of the class will be first-hand exposure to the actual materials of building histories. We will visit a half-dozen key archival repositories, and students will work directly with historical evidence, both textual and graphic, exercising their facility through projects. We will explore various forms of documentation, discussing each in terms of its nature, especially 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 extremely rich in such institutions that hold over three centuries worth of such materials, and students will find here both an exposure to primary documents of most of the species they might find elsewhere, as well as a sense

of the culture of such institutions and the kinds of research strategies that can be most effective.

601. Recording and Site Analysis. (B) Staff.

Introduction to documentation and recording of historic buildings and their sites. Assignments will include field investigations, interpretation of architectural evidence, determination of construction chronology, analysis of the restoration process, written descriptions, and preparation of measured drawings.

606. Historic Site Management. (M) Mason.

This course focuses on management, planning, and decision-making for all types of heritage sites- from individual buildings to historic site 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. Seminar in American Architecture. (M) Staff.

This seminar explores connections between the historical evolution of the built environment and the social, economic, and political forces shaping society as a whole. Drawing on the extensive literature on the history of urban places and processes in North America, the class will cover issues spanning the preservation, architecture, planning, and landscape architecture fields. Following a series of lectures and guided discussion of readings, students will research and present selected topics and themes of their own. Written summaries of seminar reports will be required.

L/L 624. Digital Media for Historic Preservation. (A) Hinchman.

The fundamental tools and techniques associated with the use of digital media and information technology as applied to Historic Preservation. Techniques will be introduced according to preservation uses of graphic and textual data such as 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. The Seminar on the Common American Landscape. (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.

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) Staff. Prerequisite(s): HSPV 555, Conservation Science or Permission of the Instructor.

A methodological approach to the examination and analysis of historic building materials. Practical analytical techniques appropriate for conservation practice include: optical microscopy, wet chemical procedures for qualitative and quantitative analysis of organic and inorganic materials, such as microchemistry, histochemistry, titrimetry, etc. Theoretical and practical applications of advanced procedures for instrumental analysis including atomic and molecular spectroscopies, thermal analysis, and X-Ray techniques will be discussed. Course material will be taught through lectures, laboratory sessions, and readings.

SM 660. Theories of Historic Preservation. (A) Matero.

An examination of theoretical issues governing the field of historic preservation. Accepted concepts are questioned, selected examples of current practice evaluated, and professional ethics reviewed. The instructor's permission is required for any student not in the Historic Preservation Program.

671. Historic Preservation Law. (B) Staff.

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.

The studio is a practical course in planning urban and regional conservation areas, 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, the studio undertakes planning exercises for an historical area, carries out documentation and historical research, and creates policies and projects. The studio seeks to demonstrate how, through

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 area in need of comprehensive preservation effort, most often in Philadelphia proper. Student's work in consultation with local preservation and planning groups, community representatives, and faculty advisors to research and analyze the study area, define major preservation planning problems and opportunities, formulate policies, and propose preservation plans and actions.

SM 703. Historic Preservation Studio IV. (M) Staff.

A continuation of HSPV 702.

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. (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 740. Conservation Seminar. (C) Staff.

Advanced study of historic building materials and techniques focusing on a different material each semester including masonry, metals, wood and surface finishes. Seminars will examine research methods and documentary sources, chemical and physical properties, deterioration mechanisms, specific methods of analysis, and conservation treatments.

SM 741. Special Problems in Preservation. (M) Staff.

Problems in the theoretical and practical issues surrounding the conservation of

historic structures and sites. Both thematic and site-specific topics will vary each year to allow students with different backgrounds and interests the opportunity to develop multi-disciplinary approaches to conservation.

SM 743. (ANTH508) Conservation Seminar. (C) Staff.

Advanced study of historic building materials and techniques focusing on a different material each semester including masonry, metals, wood, and surface finishes. Seminars will examine research methods and documentary sources, chemical and physical properties, deterioration mechanisms, specific methods of analysis, and conservation treatments.

744. Architectural Archeology. (B) Milner.

This course will introduce the procedure and techniques employed for analyzing an historic building to establish and document its original appearance, and the chronology of physical change that has occurred over its history. The process will be demonstrated through in-depth, on-site investigations of a specific building, supplemented by archival research designed to provide information relevant to the chronology of the building's construction and modification. Evidence

of construction campaigns will be identified, analyzed and documented using archival references, sketches, measured drawings, photographs, written descriptions and laboratory analysis.

750. Conservation Praxis. (L)**760. Heritage Planning Praxis. (L)****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.

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.

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 002. Europe in A Wider World. (B) History & Tradition Sector. All classes. STAFF.

An examination of European social, economic, political and cultural development from 1500 to the present, with attention to Europe's impact on the rest of the world.

003. (EALC103, EALC503) 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. Prepares for Hist 004 and for upper level courses in Asian and world history.

004. Asia in a Modern World, 1600-Present. (B) Waldron.

Asia in a Modern World examines the histories and interactions of the states of Asia from roughly 1600 to the present, laying stress on both internal change and international rivalry and cooperation. Although there are no prerequisites, History 004 is the natural continuation of History 003, Asia in a Wider World. History 004 is intended as an introduction to the fascinating and complex history of Eurasia, taken as a whole, from 1600 to the present. It seeks to make this mass of complex events intelligible by clarifying the interrelationships that bind it together.

007. (AFRC001) Introduction to Africana Studies. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Zuberi, Beavers, Charles, Savage, Shaw.

See primary department (AFRC) for a complete course description.

010. (LALS010) The World 900-1750. (C) History & Tradition Sector. All classes. Feros.

An introduction to world history before the industrial revolution. Coverage varies each year, but every year the focus will be on the world outside Europe and the U.S. Focus each semester on comparative and connective themes, such as trade and civilization, empires, agrarian societies and livelihoods, slavery and the slave trade, and expansion of world religions.

L/R 011. Deciphering America. (C) 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.

L/R 020. History of the United States to 1865. (A) History & Tradition Sector. All classes. Richter.

An analysis of American society from the founding of the Colonies to the outbreak of Civil War. Topics to be emphasized include: the interaction among European, Indian and African cultures in the New World; the shaping of the distinctive American character; the creation of an independent nation-state; and the crisis of the Union. Special attention will be given to biographical profiles of the men and women who helped shape American history during this period.

L/R 021. United States History 1865 To Present. (B) History & Tradition Sector. All classes. STAFF.

This course covers the social, political, and economic history of the United States from the end of the Civil War to the present. Topics to be discussed include Reconstruction, politics in the Gilded Age, late nineteenth-century urbanization and immigration, Populism, Progressivism, the rise of the United States to world power, the culture and politics of the twenties, the New Deal, the Cold War, post-World War II America, the turbulence of the sixties, the conservative resurgence, and the move toward a more pluralistic society.

023. (NELC102) Intro to Middle East.

L/R 024. (ANCH025, NELC101) Middle Eastern Civilizations. (D) History & Tradition Sector. All classes. Staff.

See primary department (NELC) for a complete course description.

L/R 031. Europe 1000-1500: World of the Middle Ages. (C) History & Tradition Sector. All classes. Goldberg.

The course will consider the creation of a distinctive European civilization from the economic, political, and cultural revolution of the late tenth and eleventh centuries to the beginning of the extension of European power into the non-European world around the turn of the sixteenth century. The course will consider change and continuity on both large and small scales, emphasizing such themes as power and order, the complexities of a pre-industrial economy, the formation of ethnic identities, and the worlds of formal thought and learning as well as those of the imagination and the arts. The course will also consider relations between Europe and the Islamic and Byzantine worlds as well as

the role of northern and eastern Europe. A substantial part of the required reading will be original source materials in translation.

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) 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. Britain Since 1688. (C) STAFF.

The course traces British political and social development since the later seventeenth century. Main themes include the creation of a multi-national state through war, revolution, and conquest, the rise and fall of empires, development of parliamentary government, transitions to democracy, urban and industrial growth. Readings include novels, newspaper articles, and other primary sources.

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?

L/R 071. (LALS071) Latin American Survey 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. (LALS072) Introduction to Latin American and Latino Studies. (B) 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 to 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 naturalism and pan-Africanism, issues of ethnicity and "tribalism" in modern Africa.

L/R 081. (NELC031) History of the Middle East Since 1800. (C) 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. (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.

090. (EALC070) Pre-Modern Japan. (A) History & Tradition Sector. All classes. Staff.

This course will survey the major political, economic, social and intellectual trends in Japan from the earliest epoch through the 16th century.

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 Mummies 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) History & Tradition Sector. All classes. 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.

L/R 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.

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. (AFRC103, ASAM013) Freshman Seminar: America after 1800. (C) Staff.

SM 105. (EALC073) Freshman Seminar: The World before 1800. (C) Staff.

SM 106. (AFRC107, LALS107) Freshman Seminar: The World After 1800. (C)

L/R 135. (RUSS135) Cold War: Global History. (C) 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".

SM 232. (AFRC233, AFST232, CINE233, NELC282) World History: Africa or the Middle East. (A) Staff.

Topics vary

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.

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) Korean History before 1864. (C) History & Tradition Sector. All classes. Park.

A general survey of the history of Korea to the 1860s. Focuses on internal sociopolitical development, major cultural trends, and foreign relations. Students will be introduced to various interpretive approaches in the historiography. No prior knowledge of Korea or Korean language presumed.

121. (EALC082) Korean History After 1864. (C) History & Tradition Sector. All classes. 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) 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 surfeits 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.

126. Europe in the 19th Century. (C) Steinberg.

This course covers the social, political, and cultural history of Europe during the "long" nineteenth-century from 1789-1890.

Beginning with the French Revolution and ending on the eve of the First World War, the class focuses on long term developments such as the industrial revolution, urbanization, and imperialism as well as key events like the revolutions of 1848 and the Paris Commune. Readings draw on both primary and secondary material so as to introduce students to the many divergent perspectives necessary to an understanding of the past.

127. Europe: 1890-1945. (C) Steinberg.

This course, designed for first and second year students, continues the history of modern Europe from the high point of Empire and world domination at the end of the nineteenth century to collapse and ruin in 1945. The grand societies and rich states which composed the European state system in 1890 destroyed themselves in these fifty-five years. As many as eighty million Russians, Germans, Poles, Yugoslavs, Greeks, Italians and other Europeans died in slave labor camps, and six million Jews were systematically murdered. Europe's flourishing Jewish community east of the Rhine was wiped out. On the 9th of May 1945, the day Nazi Germany surrendered, the once prosperous continent was a smoking ruin, covered by rubble, pock-marked by craters and full of miserable starving people. This course will try to explain how and why Europe committed suicide in such a horrific way. It will cover Fascism, Nazism, Stalinism, the two world wars, the great economic depression and the Holocaust.

128. Europe since 1945. (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?

129. European History - 1890 to the Present. (C) STAFF.

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 137. Europeans & Environment. (C) Pritchard.

What did the landscape of Europe look like ten thousand, one thousand, and one hundred years ago? What political, economic, and cultural processes help to explain these environmental changes? And what happened when Europeans left Europe? How were the regions that they explored, settled, and exploited transformed? How were Europe and European societies reshaped, in turn, by the nature of conquered lands? This course explores interactions between Europeans and the environment within and outside Europe, focusing on the past five centuries. It is organized around three main themes: ecological circulation, exchange, and transformation; ties between environmental management and political, economic, and social power; and globalization. Topics covered include: religious, scientific, and literary representations of nature in early modern and modern Europe; the role of "New World" products in shaping "European" taste, cuisine, and fashion; the relationship between European imperialism, resource extraction, and economic growth; conflicts between political and ecological boundaries in debates over forests, pollution, and water management; and the emergence of the Greens.

139. (JWST156, NELC051, NELC451, RELS120) History of Jewish Civilization I. (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) History of Jewish Civilization: Early Middle Ages to the 17th Century. (A) History & Tradition Sector. All classes. Ruderman.

A broad introduction to the history of Jewish civilization from the early Middle Ages to the 17th century. An overview of Jewish society and culture in its medieval and Renaissance settings.

141. (JWST158, NELC053, NELC453, RELS122) 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.

L/R 146. (HSOC145, STSC145) Comparative Medicine. (C) History & Tradition Sector. All classes. Feierman.

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) Urban Crisis: American Cities Since WW II. (C) Society Sector. All classes. Staff.

See primary department (URBS) for a complete course description.

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.

L/R 159. Technology, Policy & War. (C) History & Tradition Sector. All classes. 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 Clausewitz, 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.

L/R 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.

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. American Social History. (C) Staff.

Social history is a broad label that signals a profound recent transformation in how many historians approach the study of the past. It implies a general commitment to understanding the lives of ordinary people and often challenges historical literature based upon elite sources. This introductory survey draws on some of the best examples in this new tradition in order to understand the concerns and historical experiences of common people in the United States from the American Revolution through the middle of the twentieth century. A persistent concern of the course will be to evaluate whether or not our reading, discussion, and writing are true to the spirit of the past in its own terms while still being meaningful to the present.

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."

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) History & Tradition Sector. All classes. 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.

175. (AFRC175, LALS175) Society and Culture in Brazil. (C) Walker, T.

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.

179. (LALS179) 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) Markets, Health and Hunger. (C) Ludden.

This course explores hunger, health and poverty in market economies. It concentrates on empirical evidence, case studies, and quantitative analysis. Case studies are drawn from Asia, Africa, and the Americas, so we can learn to think about famine in Bangladesh and food insecurity in Philadelphia inside a single historical framework. The course teaches students how to find data, analyze statistics, and use various computer programs that make the worldwide web a creative venue for academic research and writing. At the end of the term, students have practical skills to help their careers as well as a better understanding of how deprivation works in our global economy. (The course can also

be taken for graduate credit, upon approval of the instructor.)

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, 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. 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, JWST215, 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 most U.S. cities are no longer thought of as "industrial cities," metropolitan areas today are all products of industrial economies, technologies, and social systems. This course explores the ways in which industrialization and deindustrialization have shaped North American cities over the past two centuries. Major themes include economic geography, ecology, labor and production, suburbanization, outsourcing, energy, and cities' place in the world economy. The class will take regular walking tours of Philadelphia neighborhoods.

SM 223. (ASAM203) Topics in Asian American History. (C) Azuma.

Topics include immigration patterns, adjustment to the new society, exclusion, racism, and economic activities.

SM 227. (SAST163) Topics in S. Asian Hist. (C)

SM 230. (GSWS230, JWST230, RUSS212) Topics in European History. (C) Staff.

Topics vary

SM 231. (AFRC229, ASAM203, GSWS229, JWST215, RELS209) Topics in US History. (C) Staff.

Topics vary

SM 233. (AFRC234, EALC141, GSWS233, LALS233, URBS260) 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.

277. (EALC270) Tpcs in Premod Jap History. (C)

306. Mediterranean World, 1000-1300. (C) Goldberg.

A medieval ship plying the Mediterranean was often a frail thing: as a paying customer, you might find yourself helping to bail for eight days only to be dumped back on the coast where you started. In this course, we explore a period when increasingly, everyone, from every side of the Mediterranean, whatever the danger, was on the sea. Whether it is Maimonides fleeing Spain to become chief judge in Cairo, Richard the King of England conquering Cyprus but not quite getting to Jerusalem, Marco Polo seeking his fortune but telling his tales from prison in Genoa, a Parisian scholar traveling to Spain to learn the science of the Arabs, a work-a-day Arab businessman trying to get a shipment of cheese from Sicily to Alexandria, or maybe just a black rat carrying the plague, we will be looking at the reasons and ways people and things were on the sea. We will also look at what happened when cultures that mostly ignored each others' existence came into constant contact across and around the Mediterranean.

308. Renaissance Europe. (C) History & Tradition Sector. All classes. 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) History & Tradition Sector. All classes. 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) History & Tradition Sector. All classes. 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.

318. (ITAL300) 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.

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/Vinitsky.

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.

339. Making Money before Columbus. (C) Goldberg.

Monday: bought olive oil. Tuesday: hid indigo from custom officials. Wednesday: attacked by pirates. Thursday: sold water-logged flax. This course explores the history of trade in the Mediterranean before the discovery of the New World. We will examine how trade and patterns of trade fit into both the broader economies of the ancient and medieval worlds. We will also look at the culture of traders and merchants: how they organized their work; and their social and cultural role in their societies. Secondary readings for the course are a mix of readings from historians and economists; these will be used to help understand the varied documents of traders themselves--accounts, letters, contracts, and court documents that illuminate the day-to-day struggles and satisfactions of pre-modern business life.

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.

345. (GSWS345) Gender in American History, 1500-1865. (A) Brown.

From the sixteenth century, when Native American populations flourished on the North American continent, to the Civil War, when North and South collided over the question of slavery, women have played a critical role in American society. This course traces the history of women and gender in America during this period with special emphasis on the importance of women's reproductive and economic roles to the emergence of ethnic, racial, regional, and socio-economic categories in the United States. Slides, lectures, and readings drawn from primary documents introduce students to the conditions of women's lives during the colonial and revolutionary periods and to the rise of women's activism in the nineteenth century. In addition, we will consider how dramatic changes in housework, wage labor, female access to public forms of power, and ideas about female sexuality make it difficult to generalize about what is commonly thought of as women's "traditional" or "natural" role.

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.

347. (CINE308, GSWS347) Gender History and American Film. (C) Peiss.

More than any other medium, the motion pictures fostered new ideals and images of modern womanhood and manhood in the United States. Through the twentieth century, gender representations on the screen bore a complex relationship to the social, economic, and political transformations marking the lives and consciousness of American men and women. This course explores the history of American gender in the last 100 years through film.

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.

353. (AFRC353) Slave, 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.

355. Classic Texts in American Popular Culture. (C) Zuckerman.

Before there were movies and radio and television, books were mass media. Over the course of American history, some of them reached extraordinary audiences and achieved extraordinary influence. We will consider a number of those books, from Benjamin Franklin's *Way to Wealth* to Stephen King's *Carrie* in an effort to assess continuity and change in the character and concept of America.

361. American Politics and Society, 1877-1933. (C)

American society as we know it emerged in the late nineteenth and early twentieth centuries. This course examines the profound transformations in government, urban development, and the economy from the Gilded Age to the Great Depression. Themes include the growth of the state, the Populist movement, the rise of big business, the new consumer culture, immigration, urban change and Progressive reform.

L/R 363. (AFRC363) The Civil War and Reconstruction. (B) McCurry.

Investigation of the major ingredients-political, social, and economic-leading to the sectional crisis and war, an analysis of the Civil War, leadership on both sides and the major issues of Reconstruction.

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) The 1960s in America. (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.

L/R 395. (EALC105) 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. (EALC442) Topics in World History. (C) Waldron.

SM 414. Human Rights and History. (B) 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 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.'

L/R 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.

L/R 421. European International Relations Since World War I. (D) Ogle.

This course will examine the international politics of Europe in the 20th Century, the period during which Europe, beset by two devastating wars and the horrific experience of genocide, lost its dominant international position and was forced to adjust to a world dominated by extra-European forces. We will examine the decline and (partial) recovery of Europe's international position with special attention to the contrast between international competition and transnational cooperation within Europe, the impact of the two World Wars, the ambivalent legacy of the Cold War, and

Europe's developing role in the post-Cold War world.

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) Russian Culture. (C) Rieber.

This course provides students with an opportunity to consider the major spatial processes in 20th century Philadelphia history using historical maps, Geographic Information Systems (GIS), and spatial analysis techniques. Specific topics will include industry, immigration, segregation, housing, public transportation, and urban renewal. Students will learn to develop and test research questions as well as the foundations of Geographic Information Science. The instructor and students will collaborate to build an historical GIS around

a particular theme. Class sessions will be organized as weekly seminars and will combine lecture, discussion, lab, and studio time.

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.

443. American National Character. (C) Zuckerman.

Who ARE the Americans, anyway? And are they still what they once were? The course will consider some classic and modern theories of American identity. It will address some allegedly quintessential expressions of this elusive, perhaps essential idea, in Puritanism, Jefferson, Franklin, and Whitman. And it will examine contemporary West Philadelphia to see if the old characterizations still apply in a new day (or ever did apply outside small-town American among affluent white males). Work in, and observation of, a local school will be an integral part of the course.

SM 449. (JWST449, RELS422) Jewish Intellectual and Cultural History in the Early Modern Era: From the Spanish Expulsion to Spinoza. (C) Ruderman.

Major Jewish ideas and ideologies from the fifteenth to the seventeenth centuries in the context of the Renaissance, the Reformation, the scientific revolution, and

religious skepticism. Topics include Jewish reflections on catastrophe in the post 1492 era. Jewish and Christian study of the Kabbala, Lurianic messianism, Sabbatianism, Hasidism, and cultural developments in the Marano community of Amsterdam.

L/R 451. United States War and Diplomacy. (C) STAFF.

A study of United States diplomacy during four critical periods: World War I, World War II, the Cold War and Korean War, and the war in Vietnam. Lectures and discussions will center around the exercise of power, the limits placed on its use, and problems of political morality. Readings in secondary sources, papers, and exam.

452. (INTR290) Topics in International Relations. (C) STAFF.

SM 455. Urban Social Structure. (C) STAFF.

Analysis of social organization in European and North American cities as it has changed since the 18th century. The impact of economic changes and mass migration upon urban space, social groups, city institutions, and distributions of power.

SM 474. The Comparative History of Genocide. (C) STAFF.

In this seminar we will study modern genocide with an emphasis on the causes of genocidal processes, possible preventative measures, and social healing after the fact. Particular focus will be on the Holocaust, Rwanda, Bosnia- Herzegovina and Darfur, but other cases will also be examined, including the Herero and Armenian genocides, the genocide of Iraqi Kurds, Guatemala and Cambodia. Using scholarly texts, fiction, film and other media, we will discuss the definition of genocide and its representation, the long- and short-term historical contexts that enable genocide, the question of the uniqueness of the Holocaust and the value of comparative genocide studies, the problem of international response, and the relationship between genocide and other forms of social and political violence.

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.

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 525. (JWST524, RELS524) God and Nature: Readings on the Encounter Between Jewish Thought and Early Modern Science. (C) Ruderman.

Readings of texts chosen to shed light on the relationships between Judaism, magic, and science, primarily in the sixteenth and seventeenth centuries. An attempt to compare the Jewish pattern of response to science, medicine, and the natural world with Protestant and Catholic responses in

the age of "The Scientific Revolution." Knowledge of Hebrew recommended but not required.

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. (JWST529, JWST551, RELS529) Topics in Jewish History. (C) Staff.

Reading and discussion course on selected topics in Jewish history.

SM 608. (SOCI608, URBS608) Proseminar in Urban Studies. (E) Katz.

This seminar is required for students in the Urban Studies Graduate Certificate Program. They will be given preference for enrollment, which is limited to 15. The course is designed for Ph.D. students who intend to do urban-related research. It is not open to undergraduates. Master's Degree students will be allowed to enroll only in special circumstances and with the permission of the instructor. To earn credit for the Graduate Certificate Program, students must enroll for both fall and spring semesters. Other students may take only the fall semester. Enrollment for the spring semester alone is not permitted. In the fall, the seminar will focus on inter-disciplinary readings concerned with the history of American cities in the twentieth-century. In the spring, students will write a major research paper and meet with scholars and practitioners who exemplify a variety of careers in urban research.

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, SLAV623) Topics in European History. (A) Staff.

Reading and Discussion course on selected topics in European History.

UNIVERSITY COURSE REGISTER

SM 630. (EALC774, EALC780) 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. (AFRC620, AFST650) Topics in African History. (C) Staff.

Reading and discussion course on selected topics in African history

SM 660. 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. (EALC541) 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) Research Seminar in Middle Eastern History. (C) Staff.

Research seminar on selected topics in Middle Eastern history.

SM 750. 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.

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 509. ORAL HISTORY. (M)

SM 510. Science and Populr 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 511. Science and Literature. (M) Adams.

SM 515. The History of Computing. (M) Ensmenger.

The history of computing is about more than just the electronic digital computer. It is the story of a wide range of human activities, scientific practices, and technological developments. The story begins in the early 19th century with the emergence of new demands for information management -- from scientific researchers, expanding government bureaucracies, and increasingly national and international corporations. It includes not only "computers" (itself a large and diverse category) but data processing, communications, and visualization technolgoeis, as well as people, practices and organizational structures. In this course we will explore the history of computing in all of its forms and varieties. We will situate the computer in the broader history of technology, but also consider it from the perspectives of the history of science, labor history and social history.

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 rethinking 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 520. Scientists and the State. (M) Staff.

This course explores the relationship between the scientist and the State by studying important 20th century scientists in Britain, America, Nazi Germany and the Soviet Union. Topics include the "Galileo myth," and institutional, ideological, and ethical dimensions of the relationship. Scientists to be studied will include J.B.S. Haldane, H.J. Muller, T.D. Lysenko and A.D. Sakharov.

SM 521. Science and Politics. (M)

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 533. Folk and Unorthodox Health Systems. (B) Hufford.

An examination of theories concerning the origin and function of folk beliefs, and investigation of the expression of folk beliefs in legend, folk art, custom and ritual. Ritual is the focal genre for explanatory purposes, and introduction to the social symbolic approach to analysis and interpretation is primary for exploration and application.

SM 535. Biology in the Last Century. (M) Adams.

A research seminar focusing on some aspects of the history of biology during the last hundred years.

SM 545. (FOLK548, HIST512) Health and Medicine in the Non-Western World. (M) Feierman.

This seminar explores current readings 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 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) Ensmenger.

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/Ensmenger.**SM 565. Environmental History. (M)** Staff.

A reading seminar in recent environmental or ecological history. Topics include epidemics and history, the Columbian exchange, the ecology of land-use and settlement, cultural perceptions of nature, cities and their regions, and ecology and environmentalism.

SM 581. Social Science and American Culture. kuklick.**SM 584. Ethnography of Belief. (B)****SM 588. Readings in the History of the Human Sciences. (M)** Staff.**SM 598. (ANTH532) Theory in Med Anth. (C)****SM 610. (HIST610) Colloquium in American History. (M)** Staff.

Reading & discussion course on selected topics in American history.

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)** Cowan/Ensmenger.

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 665. Research Seminar in the History of Medicine. (M)** Aronowitz.**SM 677. Scientific Careers. (M)** Kuklick.**SM 690. Publish or Perish. (M)** Kuklick.**999. Graduate Independent Study. (C)**

Available to doctoral students only.

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. Tresch/Ensmenger.

"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

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 016. (HSOC016) Islamic Science. Mukharji.

SM 021. From Darwin to DNA. (M) Lindee.

In this seminar, we consider the history of genetics and genomics, from the Darwinian theory of evolution (1859) to the completion of the mapping of the human genome (2004). We will look at how Darwin thought about heredity, how Mendel's work was interpreted, how ideas about heredity changed in the early twentieth century, how experimental organisms like mice and flies became important to genetics research, how technologies for manipulating genes opened up new possibilities and new ethical questions, and how mapping and sequencing human genes facilitated the rise of genomic medicine and consumer genomics today. This course will help students understand the importance of genetics and genomics in our contemporary world by providing them with critical historical perspectives.

SM 022. (HSOC022) Race, Genetics and Social Policy. (M) Cowan.

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 023. Transformation and Power in the Industrial Age; Europe 1750-1900. (M) Tresch.

Victor Frankenstein created a monster. But he didn't make it out of nothing: he found body parts in operation rooms and graves, sewed them together, and invested the new whole with life following scripts laid down by thinkers both ancient and new. Likewise, in creating Frankenstein, one of the greatest novels of all time, Mary Shelley put together elements from gothic fiction, moral and political philosophy, romantic poetry and contemporary science. What were the books that Victor Frankenstein read? What ideas animated Shelley's act of creation? In this seminar we will read from

the primary texts that made up Frankenstein and Shelley's libraries, along with closely related works from this period, ranging from Renaissance magic, modern electrochemistry and physiology, through to Rousseau, Smith, Milton, Poe and Balzac. These readings will bring to life a crucial moment in the history of the West--after the French Revolution and at the start of the industrial age--which will give us perspective on today's anxieties about technology and science.

SM 024. Lives in Science. (M) Cowan.

026. (PHIL026) Relativity and the Philosophy of Space and Time. (A) Natural Science & Mathematics Sector. Class of 2010 and beyond. Domoter. 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)

SM 051. (HSOC051) Ethics, Technology and the Life Sciences. (M) Moreno.

In this seminar we will explore the roles and functions of the bioethicist, a new profession that has only emerged in the past quarter century or so, and the new field of bioethics. Bioethicists work in hospitals on clinical ethics, in medical schools and research facilities on experimentation ethics, in public policy and, more recently, in the political arena. We will also explore bioethical theories and specific issues and cases like stem cell research and the Schiavo controversy, and discuss the history of bioethics. And we will pay close attention to bioethical issues in the media during the semester.

SM 079. Animal City: Humans & Animals in Urban America 1850-present. (C) Greene.

SM 088. Who Owns the Past. (M) Kuklick.

Stories told about the past have long been understood as moral lessons. An historical narratives have also inevitably been susceptible to partisan construction--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 selection of courses of 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 all manner of purposes. 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 100. History of American Science. (M) Staff.

Scientific knowledge has been crucial to the United States' development as a nation and as a global power. This course examines the changing ways Americans have known about the natural and social world from the eighteenth to the twentieth century. We will follow three strands to understand the history of American science. First, we will trace encounters with new landscapes as white settlers migrated from the eastern shores to the prairies to the Rockies. We will examine their efforts to map and categorize nature and to control working landscapes. Second, we will examine changing theories of race, from scientific justifications of slavery and theories of Indian decline to the construction of 'whiteness' and the spread of eugenics. Finally, we will examine the interaction between scientific knowledge and forms of military and industrial production, from the development of industrial gunpowder, to the making of the Atomic bomb, to the building of the "gun belt" across the Southern states. Throughout the course we will also take advantage of our location at the heart of early American Science, using Philadelphia's rich museums and collections of scientific instruments, specimens, and rare texts to illuminate major themes.

107. (HSOC107) Science, Technology & Medicine in Colonial India. (C) P. Mukharji.

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. (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 118. (ENGL158) Adv Journalistic Writing. (C)

L/R 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.

128. (PHIL226, PHIL521, PPE 225) Introduction to the Philosophy of Biology. (M) Natural Science & Mathematics Sector. Class of 2010 and beyond. Domotor, Weisberg.

This course covers the basic philosophical problems of biology, including reductionism, status of teleological reasoning, the problem of species, units of selection, biological function, and levels of organization

SM 135. (HIST035) Emergence of Modern Biology. (C) Natural Science & Mathematics Sector. Class of 2010 and beyond. Adams.

This course will explore the emergence of evolutionary biology, the ways it has reflected our concepts of life and nature, and the human and social implications of biological theories and ideas. We will focus on some of the central historical figures that have shaped our understanding--Linnaeus, Lamarck, Darwin, Mendel, Galton--and the implications of their ideas for who we are, where we come from, and where we are going.

SM 141. (HSOC141) Zombie's Hist Med & Tech. (M)

L/R 145. (HIST146, HSOC145) Comparative Medicine. (A) History & Tradition Sector. All classes. Feierman.

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. Ensmenger.

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--from telephones to computers to video games--as well as their larger social, economic and political context. To understand the roots of these ideas we look at the pre-history of the computer, at the idea of the "post industrial" or "information society," at parallels with earlier technologies and at broad currents in the development of American society.

162. (HSOC152) Technology and Medicine in Modern America. (L) Staff.

SM 179. (ENVS179, HIST320, HSOC179) Environmental History. (B) 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.

182. (GSWS182) Social Science and American Culture. (C) Kuklick.

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)

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 Viet Nam; and "television war" in the 1990s.

SM 226. (HSOC226, SAST289) Science, Medicine and Technology in South Asia. (M) Petrie.

This course examines the history of science, technology and medicine in the Indian subcontinent from ca. 1750 to the present. The first half of the semester will focus on the period of British dominance, considering such topics as: the role of science, medicine and technology in colonial rule and anti-colonial nationalism; Western understandings of and impacts upon Indian environments; the relationship between Western and indigenous forms of knowledge. The second half of the course will examine the post-colonial period, with a particular focus on development and environmental issues and the policies of the governments of India, Pakistan and Bangladesh.

SM 242. (HSOC242, GSWS242) Science of Sex and Sexuality. (M) Lundeen.

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?

247. (HSOC206) Health and Disease in the Developing World. (M) Staff.

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 253. (COML253, ENGL240, GRMN253, GSW252, HSOC253)**Freud: The Invention of**

Psychoanalysis. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Weissberg. Pilot Curriculum Course 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. (SOCI260) Cyberculture. (C)

Ensmenger.

Free speech, free software, MOOS, MUDs, anime and cyberpunk. All of these are elements of a broad set of social, technical and political phenomena associated with the emergence of a nascent "cyberculture". In this seminar we explore the ways in which recent developments in information technology -- the computer and the Internet in particular -- relate to changing contemporary notions of community, identity, property and gender. By looking at an eclectic collection of popular and scholarly resources including film, fiction and the World Wide Web, we will situate the development of "cyberculture" into the larger history of the complex relationship between technology and Western society.

SM 269. Computers, Ethics, and Social Values. (M)

Ensmenger.

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.

271. (ENVS271) Law, Environment and Technology. (M)

Staff.

This course will survey episodes in the history of the United States, especially in the twentieth century, that illustrate technology's central role of shaping environments, that illustrate the uses of the law in mediating social conflict concerning technologies and the environment. An important intent of the course will be to lead students to consider various environments along the spectrum of human manipulation, ranging from wilderness to agricultural

landscapes and from designed gardens to urban and industrial environments. The main focus of the course will be on uses of the law by competing groups to mediate environmental conflicts through negotiation of treaties; lobbying legislative bodies to pass laws; influencing regulators to stiffen or weaken regulations; drawing police authorities into the fray; and seeking favorable rulings from the courts.

272. (ENVS272) Energy in American History. (M)

Staff.

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. (SOCI282) Knowledge and Social Structure. (C)

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

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.

SM 301. Science and Religion. (M)

Adams.

This seminar focuses on the relationship between science and religion in history and the present through the exploration of these topics: Galileo and the Roman Catholic Church, Newton's religion, Natural Theology, Darwinism, the Scopes Trial, Creationism and Intelligent Design. Course requirements include active class

participation, short weekly papers, class reports and a final research paper.

302. (HSOC302) Regen Bio. (M)**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 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 and theoretical interventions in Cultural Theory and Postcolonial Studies.

SM 311. (HSOC311) Science, Medicine and Media. (A)

Wolfe.

This course is an introduction to the history and the contemporary state of science journalism. Public understanding of science, medicine and technology is critical to a society that must make informed decisions about health, the environment and economic growth, but the relationship between science and the public is complex. This course explores not only how books, newspapers, television, films, podcasts and blogs have shaped our understanding of science and scientists, but also the contexts in which these media are created.

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)

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 323. (ENGL275, HSOC323) Writing Science. (B) Mills.

This course surveys the interdisciplinary field of Science and Literature Studies, with an emphasis on the modern life and physical sciences (19th century to the present). During the first part of the semester, we will examine literary responses to science: the "two cultures" debate; the impact of scientific and technical changes on literary practices; representations of science in fiction. In the second half of the course, we will consider science as literature: scientific rhetoric and standards of authorship; inscription or writing technologies in laboratories; scientists as authors of popular literature; the impact of futurism and speculative fiction on science. Course

readings will be drawn from fiction, the life and physical sciences, literary theory, and the history of science.

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 362. Lives in Technology and Science. Cowan.

SM 379. (HSOC379) 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 381. (GSWS381, HSOC381) Non-Stranger Violence. (C) Sorenson.

The purpose of this course is for students to learn about the definitions, conceptual frameworks, myths, processes, consequences and societal interventions regarding violence in relationships. Using a life course perspective, addressing abuse from childhood through late life, the course will examine how gender and generational differences in resource distribution, role expectations, etc. shape the occurrence, experience and response to violence in relationships.

SM 400. Undergraduate Seminar in Science Technology and Society. (B) Staff.

An introduction to important themes, approaches, and interpretations in the history and sociology of science, technology and medicine. Emphasis will be on the variety of ways historians of science have interpreted their material, through analysis of topics ranging from the Scientific Revolution to current scientific controversies.

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 425. Philosophy of Science. (M) Domotor. Prerequisite(s): Background in elementary logic and some rudiments of science.

Historically oriented survey and contemporary analysis of the basic concepts and arguments in philosophy of science. An in-depth examination of the nature of scientific theories, their confirmation and theory-world relations, laws of nature and their role in unification and explanation, causation, and teleology, reductionism and supervenience, values and objectivity. Additional topics covered include arguments concerning scientific realism, the ontological status of theoretical entities, the Quine-Duhem thesis, Kuhn's paradigm shifts, Bayesianism, and the success of science.

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 428. (GAFL477, HSOC428)

Genetics & Social Policy. (M) Cowan.

The focal topic for the semester will be genetics and race. Race will be interpreted broadly to include populations that might be defined by geography, religion, or language, rather than by skin color and facial features. Various social policies were once designed by people who had definitive views about the genetics of race. We will begin with some background reading about the beliefs of Social Darwinists (late 19th century), eugenicists (first half of the 20th century) and sociobiologists and human geneticists (second half of the 20th century; and will then proceed to consider how this history affects current social concerns about genetic testing, personalized and pharmacogenetics.

SM 430. Disease and 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 431. (HSOC431) Cold War Science and Medicine. (B) Wolfe.

During the Cold War, science, technology and medicine occupied a central place in the developing and maintaining state power. The incorporation of science into the apparatus of the Cold War state changed the ways that scientists studied, worked, and communicated with each other and the public. But beyond such practical concern, scientists in both the United States and the Soviet Union had to confront the question of what it meant to pursue natural knowledge in a militarized state. No nation or political system could survive without the weapons, medicine, foodstuffs, and consumer products made possible by modern scientific research--yet science was supposedly an international system free from the dictates of politics. This course

explores the contradictions of Cold War science and medicine.

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. (A) 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, "ROI" 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

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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.

999. Independent Study. (C) Terri Laufer, M.D. Prerequisite(s): Permission of Graduate Group Chairperson. 1 h. 1 c.u.; taught Fall term.

Directed readings, with or without laboratory research, in various fields of immunology arranged individually with members of staff. Mandatory attendance at weekly research presentations by graduate group faculty.

INSURANCE AND RISK MANAGEMENT (WH) {INSR}

205. (INSR805, LAW 741) Risk Management. (C) Staff. Prerequisite(s): None.

This course describes the concepts and techniques available to corporations, non-profit organizations, and other organizations in their efforts to manage pure risks. The costs associated with such pure risks as product liability, environmental impairments, property losses, work-related injuries, and employee benefits (e.g., pensions, health insurance, etc.) affect the daily management of organizations. Managers who make decisions without appropriate consideration of risk management issues can jeopardize the long-term survival of their organizations. The course examines a common set of techniques which can be used by managers in dealing with these problems, including risk assumption, prevention, diversification, and transfer via insurance and non-insurance market mechanisms. In turn, students learn to recognize that the institutional structure of the organization itself influence its own risks and their corresponding treatments.

210. (INSR835) Financial Strategies and Analysis: Insurance. (C) Staff. Prerequisite(s): Good understanding of capital markets, insurance markets, and statistics.

This course is designed to apply and expand upon the theories and methodologies taught in finance to the complex and specific needs of managing financial risk in the insurance enterprise. The types of financial risks that today's insurance professionals face come from both the asset and liability sides of the balance sheet and thus require a wide range of modeling tools. Concurrently, the tools used in the modeling of interest-rate risk, equity risk, and default risk have become increasingly important in an era of increasing convergence between the insurance industry and financial capital markets. This course will introduce several risk management models designed to allow insurance professional to measure and manage each source of risk. We develop and critique theoretical models for each type of risk while strong emphasis is placed on the implementation and calibration of various models. Projects include the risk management and pricing of Variable Equity Indexed Annuities and Guaranteed Investment Contracts.

This course is intended for students with concentration(s) in Insurance, Finance, and Actuarial Science considering a career in the insurance industry or financial services sector.

221. (INSR822, INSR922) Employee Benefit Plan Design and Financing. (C) Hammond. Prerequisite(s): None.

Large U.S. employers devote up to 40% of payroll on non-wage benefits, and in other countries, the ratio is higher. What rationales justify such a substantial budget commitment to employee benefits? How are benefit packages designed and how do they evolve to achieve multiple ends? Course units cover aspects of life insurance, health and disability insurance, and deferred compensation plans along with the economic consequences of and regulatory environment shaping each. Executive compensation is also covered. This course is useful to anyone interested in health care, insurance and retirement planning, for either professional or personal reasons.

222. (INSR823) Business Insurance and Estate Planning. (C) 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.

230. (INSR825) Managing Pure Risks: Operations and Markets. (A) staff. Prerequisite(s): None.

This course deals with property-liability insurance company financial management

"alternative market" mechanisms for managing pure risks such as captive insurance companies, and the securitization of risk-linked bonds and other instruments. It involves extensive discussion of insurance company financial strategies including investments, asset-liability management, value-at-risk, capital estimation, and financial reporting. Additional topics include product distribution and marketing systems, underwriting operations and policy, reinsurance, rate-making and reserves, claims, accounting, and other functions of insurance risk pools. The regulation and taxation of insurance and captive insurance companies are also covered. A number of public policy issues affecting the management of property-liability insurers are discussed including: insurer solvency and state guarantee funds, discrimination in property-liability insurance pricing, the effect of the underwriting cycles, and the convergence of the financial services sector. The characteristics of the property-liability insurance industry also are studied within the framework of the financial services industry.

232. (INSR827, INSR927) Risk Management and Treatment. (B) staff. Prerequisite(s): None.

Nature and objectives of corporate risk management. Primary consideration devoted to the recognition, evaluation, and treatment of pure risks to which the corporation is exposed.

299. Independent Study. (C) Staff.

451. (INSR851, STAT451, STAT851) Fund of Act Sci I. (A)

452. (INSR852, STAT452, STAT852) Fundamentals of Actuarial Science I. (B) 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. (INSR853, STAT453, STAT853) Actuarial Statistics. (A)

454. (INSR854, STAT454, STAT854) Appl Stat Methd For Actu. (B)

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.

805. (INSR205, LAW 741) Risk Management. (C) Staff. Prerequisite(s): None. None.

This course describes the concepts and techniques available to corporations, non-profit organizations and other organizations in their efforts to manage pure risks. The costs associated with such pure risks as product liability, environmental impairments, property losses, work-related injuries, and employee benefits (e.g., pensions, health insurance, etc.) affect the daily management of organizations. Managers who make decisions without appropriate consideration of risk management issues can jeopardize the long-term survival of their organizations. The course examines a common set of techniques which can be used by managers in dealing with these problems, including risk assumption, prevention, diversification, and transfer via insurance and non-insurance market mechanisms. In turn, students learn to recognize that the institutional structure of the organization itself influence its own risks and their corresponding treatments.

811. Risk and Crisis Management. (C) Lamm-Tennant. Prerequisite(s): None.

The success of any firm depends jointly on its ability to create value and on its ability to preserve value. The creation of value arises when a firm is able to identify and execute investments with a positive net present value. The creation of value invariably exposes the firm to risk and this value can easily be jeopardized. A fall in demand for its product, a sudden rise in production or financing costs, a technological failure, destruction of assets or information, a liability suit, or the activities of a rogue trader, each can squander the value created. In extreme cases these risky possibilities can bankrupt the firm. Risk management is becoming increasingly important and firms are

devoting increasing time, attention and resources to deriving strategies for preserving value. These strategies include, hedging, insurance, contingent financing and changes in organizational design which make the firm more robust to shocks. Risk and Crisis Management will look at these and related strategies.

812. Markets for Pure Risk. (C)

Lamm-Tennant. Prerequisite(s): Basic microeconomics and finance.

This course examines the supply side of global markets for pure risks. Pure risks can be broadly defined as risks that are beyond the core competencies of the majority of firms in the economy. These are risks that must be managed or avoided in order to enable management to add value by focusing on the firm's primary activity. An important category of pure risks encompasses those risks that traditionally were managed by purchasing insurance - the risk of reduction of firm value due to fires, natural disasters, liability lawsuits, work injuries, and other types of accidents or legal actions. However, pure risks also include other sources of volatility that have not traditionally been traded in insurance markets. The latter category includes weather risk, credit risk, and foreign exchange risk, among others. The course examines insurance and financial markets, "alternative market" approaches to dealing with pure risks such as captive insurance companies, the global market for reinsurance, and markets for securitized risk products such as catastrophe bonds, mortality index bonds, and life insurance reserve financing securitizations.

This course is intended to complement Insurance 811, "Risk and Crisis Management." INSR 811 focuses on how firms can use various types of hedging instruments to manage pure risks, i.e. its emphasis is primarily on the demand side of markets for pure risks, whereas INSR 812 examines the supply side of these markets.

822. (INSR221, INSR922) Employee Benefit Plan Design and Financing. (C) Hammond. Prerequisite(s): None.

Large U.S. employers devote up to 40% of payroll on non-wage benefits, and in other countries, the ratio is higher. What rationales justify such a substantial budget commitment to employee benefits? How are benefit packages designed and how do they evolve to achieve multiple ends? Course units cover aspects of life insurance, health and disability insurance, and deferred compensation plans along with the economic consequences of and regulatory environment shaping each. Executive compensation is also covered. This course

is useful to anyone interested in health care, insurance and retirement planning, for either professional or personal reasons.

823. (INSR222) Business Insurance and Estate Planning. (C) 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.

824. (INSR924) Social Insurance. (A)

Smetters. Prerequisite(s): Micro economics; statistics or basic econometrics.

This course presents and evaluates economic rationales for social insurance programs in the developed and developing world. We explore how social insurance programs are designed and implemented in theory and practice, and examine what their economic effects are on key players' behaviors. Topics include systems protecting against unemployment, disability, poverty, old age, and medical care expenses. We examine the relative roles of private versus governmentally-provided benefit programs, focusing on financing and benefit provision. Special attention is devoted to recent and ongoing real-world experiments with privatization.

825. (INSR230) Managing Pure Risks: Operations and Markets. (A) staff.

Prerequisite(s): None.

This course deals with property-liability insurance company financial management "alternative market" mechanisms for

managing pure risks such as captive insurance companies, and the securitization of risk-linked bonds and other instruments. It involves extensive discussion of insurance company financial strategies including investments, asset-liability management, value-at-risk, capital estimation, and financial reporting. Additional topics include product distribution and marketing systems, underwriting operations and policy, reinsurance, rate-making and reserves, claims, accounting, and other functions of insurance risk pools. The regulation and taxation of insurance and captive insurance companies are also covered. A number of public policy issues affecting the management of property-liability insurers are discussed including: insurer solvency and state guarantee funds, discrimination in property-liability insurance pricing, the effect of the underwriting cycles, and the convergence of the financial services sector. The characteristics of the property-liability insurance industry also are studied within the framework of the financial services industry.

827. (INSR232, INSR927) Risk Management and Treatment. (B) staff. Prerequisite(s): None.

Nature and objectives of corporate risk management. Primary consideration devoted to the recognition, evaluation, and treatment of pure risks to which the corporation is exposed.

835. (INSR210) Financial Strategies and Analysis: Insurance. (C) Staff. Prerequisite(s): Good understanding of capital markets, insurance markets, and basic statistics.

This course is designed to apply and expand upon the theories and methodologies taught in finance to the complex and specific needs of managing financial risk in the insurance enterprise. The types of financial risks that today's insurance professionals face come from both the asset and liability sides of the balance sheet and thus require a wide range of modeling tools. Concurrently, the tools used in the modeling of interest-rate risk, equity risk, and default risk have become increasingly important in an era of increasing convergence between the insurance industry and financial capital markets. This course will introduce several risk management models designed to allow insurance professionals to measure and manage each source of risk. We develop and critique theoretical models for each type of risk while strong emphasis is placed on the implementation and calibration of various models. Projects include the risk management and pricing of Variable Equity

Indexed Annuities and Guaranteed Investment Contracts.

851. (INSR451, STAT451, STAT851) Fund of Act Sci I. (A)

852. (INSR452, STAT452, STAT852) Fund of Actuarial Sci II. (B)
Prerequisite(s): INSR 829.

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. (INSR453, STAT453, STAT853) Actuarial Statistics. (A) Lemaire.

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. (INSR454, STAT454, STAT854) Appl Stat Methd For Actu. (B)

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.

890. Advanced Study Project. (C) Staff.

891. Thesis Supervision. (C)

899. Independent Study. (C) Staff.

922. (INSR221, INSR822) Employee Benefit Plan Design and Financing. (C) Mitchell. Prerequisite(s): None.

Large U.S. employers devote up to 40% of payroll on non-wage benefits, and in other countries, the ratio is higher. What rationales justify such a substantial budget commitment to employee benefits? How are benefit packages designed and how do they evolve to achieve multiple ends? Course units cover aspects of life insurance, health and disability insurance, and deferred compensation plans along with the economic consequences of and regulatory environment shaping each. Executive compensation is also covered. This course is useful to anyone interested in health care, insurance and retirement planning, for either professional or personal reasons.

924. (INSR824) Social Insurance. (A) Smetters. Prerequisite(s): Some economics and econometrics desirable.

This course presents and evaluates economic rationales for social insurance programs in the developed and developing world. We explore how social insurance programs are designed and implemented in theory and practice, and examine what their economic effects are on key players' behaviors. Topics include systems protecting against unemployment, disability, poverty, old age, and medical care expenses. We examine the relative roles of private versus governmentally-provided benefit programs, focusing on financing and benefit provision. Special attention is devoted to recent and ongoing real-world experiments with privatization.

926. Markets for Pure Risk. (C) Staff. Prerequisite(s): INSR 825, preferred but not required.

This course deals with economic and financial issues in property-liability insurance. The focus is on the economics of the property-liability insurance industry and on economic and financial aspects of property-liability insurance company management. The course begins by studying the structure of the property-liability insurance industry and its role in the economy. Among the key issues are profit cycles, insurance stock performance, and price and availability problems. The course then moves to a micro level, analyzing the economics of insurance company operations. The role of underwriting is discussed in the context of economic models of asymmetric information and adverse selection. The efficiency of alternative marketing technologies is considered. A major course segment is devoted to financial models for

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pricing property-liability contracts and their implications for company management and market behavior. A final major course segment deals with the impact on insurance markets of price and solvency regulation.

932. Contract Theory and Applications. (B) Kartasheva and 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, reindustrial organization.

934. Economics of Risk and Time. (A)

Nini and Smetters. 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.

999. Independent Study. (C)

INTEGRATED PRODUCT DESIGN (EG) {IPD}

403. (ARCH403) Design Fundamentals. (L)

An introduction to the basic concepts of applied arts in the design of simple three-dimensional objects of use. The description, projection, and fabrication of objects are studied through a series of workshop exercises and seminar discussions. Hand sketching, parametric solid modeling computer-aided design software, and fabrication technologies are used to create and develop virtual models, drawings, and simple prototypes.

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.

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)

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, OPIM415) 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 teaches advanced mechatronics concepts that include the design and implementation of networked embedded systems, large-scale actuation, advanced sensing 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 collection of short performance pieces inspired by Shakespeare's A Midsummer Night's Dream with both mechatronic and human performers from the Pig Iron Theater Troupe, A final paper will be required that is ready for conference proceedings.

517. (OPIM416) Des & Dev Web-Based Prod. (C)

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.

528. (ARCH728, ARCH729) Industrial Design: Design of Contemporary Products. (C)

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.

SM 530. (ARCH730) 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, 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 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.

544. (ARCH744) Digital Fabrication. (C)

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

SM 561. (ARCH561) IPD Theories/Methods I.**SM 562. (ARCH562) IPD Theories/Methods II.****599. Master's Independent Study. (C)****SM 699. IPD Seminar. (C)****799. Studio Project Thesis. (C)****899. Independent Study.**

INTERNATIONAL RELATIONS (AS) {INTR}

101. Transnational Issues in Global Politics. (C) McGann.

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. 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) Staff.

Prerequisite(s): ECON 01 & ECON 02 - recommended.

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. (HIST365, HIST452) 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 101. 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. Department Honors.

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.

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 I. (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 Hebrew: Reading & Comprehension. (C) Engel. Prerequisite(s): HEBR 054 or permission of instructor.

Further development of reading, writing, and speaking skills in modern Hebrew. The course is designed for students who have completed the basic language courses and passed the proficiency examination (or passed the Department's placement test at

the appropriate level). The readings are based on literary texts and poetry. Special attention is given to the recurrence of biblical themes in modern Hebrew writing.

083. (AFRC083, ENGL083) 20th-Century Literatures in Dialogue. (M) Staff.

What dialogues have defined and constituted American and other literatures? This course examines critical intersections between different literatures, addressing questions of race, ethnicity, and culture. Previous versions of this course have included such titles as "African-American and Jewish-American Literature." Our readings will consider a range of literary interactions, and will take a self-consciously comparative and intertextual approach.

See the Jewish Studies Program website for a description of the current offerings.

SM 100. (ANTH129, NELC252, RELS129) Themes in Jewish Tradition. (M) History & Tradition Sector. All classes. Staff.

Course topics will vary; have included The Binding of Isaac, Responses to Catastrophies in Jewish History, and Concepts of Jewishness from Biblical Israel to the Modern State (Stern); Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann); Women in Jewish Literature (Hellerstein).

See the Jewish Studies Program website for a description of the current offerings.

SM 103. (HIST101) Jewish Medieval History. (C) Schur.

This Freshman Seminar explores narratives about dreams and their interpretations in the Bible, rabbinic texts, medieval texts (e.g. mystical, philosophical works, stories, etc.) and in the works of modern Jewish writers and artists such as Freud, Kafka, and Chagall.

113. (GSWS113, RELS113) Major Western Religious Thinkers. (M) 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.

L/R 122. (RELS002) Religions of the West. (C) History & Tradition Sector. All classes. Matter/Fishman.

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) Fishman.

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 theosophical 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.

128. (RELS128) Jews, Judaism, and Modernity. (M) Staff.

A survey of Jewish thinkers and movements of the modern period focusing on the historical, intellectual, and social foundations of modern Judaism. Through careful reading of primary sources in translation, students will be exposed to seminal writings that respond both to new challenges and the broader issues of religious continuity and discontinuity.

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. (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.

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. Stern.

The study of four paradigmatic classic Jewish texts so as to introduce students to the literature of classic Judaism. Each text will be studied historically -- "excavated" for its sources and roots -- and holistically, as a canonical document in Jewish tradition. While each text will inevitably raise its own set of issues, we will deal throughout the semester with two basic questions: What makes a "Jewish" text? And how do these texts represent different aspects of Jewish identity? All readings will be in translation.

SM 152. (NELC152, RELS127) Introduction to Jewish Law. (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.

SM 153. (COML257, NELC158, NELC458, RELS223) Jewish Literature in the Middle Ages. (C) Fishman.

An introduction to medieval Hebrew literature, with special attention to poetry, narrative, and the interpretation of the Bible, and to the varieties of Jewish experience that these literary works touch upon. All readings in translation.

154. (CINE159, COML282, NELC159) Modern Hebrew Literature and Culture in Translation. (M) Arts & Letters Sector. All Classes. Gold.

The course is taught in English and the texts are in translation. The content of this course changes from year to year, and therefore, students may take it for credit more than once.

This course analyzes modern and post modern film fiction and poetry that highlight dreams, fantasy and madness in the Israeli context. The Zionist meta-narrative tells of an active, conscious, and rational enterprise of Israeli nation-building. Yet, its subversive shadow-side lurks in literary and cinematic nightmares, surrealist wanderings and stories packed with dreams. This tension exists in the Hebrew Literature of the twentieth century and persists in contemporary films and writings that question the sanity of protagonist and artist alike. Although S.Y. Agnon, the uncontested master of Hebrew literature, denied ever reading Freud, his works suggest otherwise. His literary heirs, A. O. and A.B. Yehoshua, the pillars of the Israeli canon, often speak in the symbolic language of the subconscious. Israeli film classics like *The Summer of Avia*, as well as newly released works like *Sweet Mud*, also confront similar issues. English and German works by Kafka, Woolf and Plath play a comparative role.

156. (HIST139, NELC051, NELC451, RELS120) Jews and Judaism in Antiquity: History of Jewish Civilization I. (A) History & Tradition Sector. All classes. Dohrmann.

An overview of Jewish culture and society in its Biblical, Hellenistic-Roman, and Rabbinic settings. It will trace the political, social, and intellectual-religious development of Judaism from its biblical beginnings through the Second Temple period to the formation of the rabbinic class and its literature. Some topics to be covered include: Biblical thought and religious practice; varieties of Judaism, the Dead Sea sect and the birth of Christianity; the emergence of the rabbinic class and institutions; Babylonian Judaism and the composition of the Talmud; the role of the Geonim and the solidification of normative religious practice.

157. (HIST140, NELC052, NELC452, RELS121) The Middle Ages: History of Jewish Civilization II. (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.

158. (HIST141, NELC053, NELC453, 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. 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.

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.

179. (ENGL079) Jewish-American Literature. (M) Staff.

From vaudeville comedy to modernist poetry, from Tin Pan Alley to the postwar novel, from Yiddish theater to midrashic approaches to literary interpretation, Jewish American literature and thought have been central to, and on the cutting edge of, the fabric of American culture -- high, low, and, especially, in between. This course will examine the many facets of Jewish American literature, both secular and observant, assimilationist and particularist -- from films such as *The Jazz Singer* (1927) to the fiction of Roth and Bellow to the poetry of Bob Dylan and Adrienne Rich. While we will focus on significant works of fiction and poetry, we also will read within the wider world of philosophy, criticism, radio, film, theater, and television that surround them.

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

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.

200. (EDUC200) Teaching Jewish Texts. (M) Staff.

This course is designed to provide you with opportunities to develop the intellectual and practical tools and skills crucial to teaching Jewish texts. We will focus on two main questions over the course of the semester. First, what does learning entail, and what does it mean to "know" something? Second, what do teachers need to do to prepare content for teaching? How is this different from what one does to learn content oneself? How do teachers move from thinking about content, to designing lessons, to creating ways to assess their students? This course will focus on the teaching of Humash and rabbinic texts. The ability to read these texts in the original is strongly desirable.

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.

203. (EDUC245) Jewish Education and Developmental Psychology. (M)

Staff. Prerequisite(s): No previous background in psychology or Jewish education is required for the course. Students will be introduced to pertinent material from both fields through the class.

Education, to be successful, must be closely attuned to the psychological development of students. This course applies theories and empirical data from the field of lifespan developmental psychology to issues in Jewish education. For example, how can contemporary research on spiritual development inform the teaching of Jewish prayer and theology at different ages? What should educators in Jewish settings consider about adolescent social learning when they plan their curricula and programs? What are the implications of recent research on adult development for adult Jewish learning? Students will have opportunities to observe learners in a variety of Jewish education settings.

SM 213. (COML205, NELC383, RELS203) The Religious Other. (M) Fishman.

This course explores attitudes toward monotheists of other faiths, and claims made about these "religious others" -- their bodies, habits and beliefs -- in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Primary source readings from law, theology, literature, art and polemics. Attention will be paid to myths about the other, inter-group violence, converts and cases of cross-cultural influence both conscious and unconscious.

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 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 236. (SOCI231) 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 239. (PHIL239) The Golden Age of Jewish Philosophy. (M) Staff.

The course will examine three hundred years of Jewish philosophy from Maimonides to the expulsion of the Jews from Spain. Attention will be paid to Maimonides and the post-Maimonidean thinkers Abner of Burgos, Moses of Narbonne, Levi Gersonides, Hasdai Crescas, and Joseph Albo. Topics to be discussed will be: the existence of God, creation, providence, prophecy, free will, and Divine knowledge. Of special interest will be the increasing influence of Christian philosophy on Jewish philosophy during this period.

SM 241. (NELC280, RELS241) Topics in Judaism and Islam. (M) Staff.

SM 255. (COML380, NELC250, NELC550, RELS224) The Bible in Translation. (C) Staff. 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.

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: Talmudic Literature. (D) Stern.

This course will introduce students to the modern study of Talmudic literature-- Mishnah, Tosefta, and the Palestinian and Babylonian Talmuds. The first part of the course will deal with the history of the concept of the Oral Law (Torah shebe'al peh) and its practice, and the history of the literature that eventually comes out of that oral tradition, including the history of its transmission in medieval manuscripts and printed editions, and the ways in which the material shape of the text influenced its study and reception in Jewish culture. The second part of the course will consist of an intensive analysis of one chapter in the Talmud, Berakhot 8, by tracing its history through the documents of Talmudic literature (the Mishnah, Tosefta, and two Talmuds). No previous experience in Rabbinic literature is required (although it is recommended), but all students must be able to read unpointed Hebrew texts. If you have a question as to whether this course is appropriate for you, please contact the professor.

SM 259. (COLL227, COML266, HEBR259, HEBR559) Introduction to Modern Hebrew Literature. (A) Arts & Letters Sector. All Classes. Gold.

Prerequisite(s): Near-advanced or advanced knowledge of Hebrew. The content of this course changes from year to year; and, therefore, students may take it for credit more than once.

This course is designed as a first course in Hebrew and Israeli literatures in their original forms: no re-written or reworked texts will be presented. It aims to introduce

major literary works, genres and figures. Texts and discussions will be in Hebrew. Depending on the semester's focus, fiction, poetry or other forms of expression will be discussed. Personal, social, and political issues that find expression in the culture will also be examined. This course is meant to provide methods for literary interpretation through close reading of these texts, and thus falls under the umbrella of the College's "Literatures of the World" course. Past topics include: "Poem, Song, Nation;" "Israeli Drama," "The Israeli Short Story;" "Postmodernist Israeli Writing;" and "Literature and Identity in Israel."

Check the Jewish Studies Program website for current semester offerings.

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.

261. (CINE059, COML277, ENGL079, 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. (CINE261, ENGL261) Jewish Literature in Translation. (M) Staff.

The course explores an aspect of 20th-century literature intensively; specific course topics will vary from year to year.

SM 263. (ENGL255) Topics in Jewish Literature. Staff.

265. (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.

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 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 Piyyut. (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 358. (FOLK355, NELC358) Readings in Jewish Folklore. (M)

Ben-Amos.

For the last forty five years folklorists in Israel have been recording and transcribing folktales told by Jews who came to Israel from many countries. In this course we will read - in Hebrew and English translation - tales that were submitted to the Israel Folktale Archives. We will try to interpret them by employing comparative, historical, literary and cultural analyses.

SM 359. (CINE359, COML359, HEBR359, HEBR659, JWST556) Seminar Modern Hebrew Literature. (B)

Arts & Letters Sector. All Classes. Gold. Prerequisite(s): Near-advanced or advanced knowledge of Hebrew. This course fulfills the Language and Literature component of the English major.

The purpose of this seminar is to analyze Hebrew and Israeli literary texts through the framework of various theoretical approaches. The original text will be our point of departure for both, the above analysis and our broader discussion of the writer's relationship to society and political issues. Prerequisite for this course is HEBR259 or permission of instructor, as the texts are more complex, linguistically and artistically. This course is designed for students seeking to further their acquaintance with this literary corpus and who are in advanced to native levels. Past topics include: "Hebrew Poetry and Identity: 1900-1948;" "He and She in Modern Hebrew Literature;" "Rebel Children of Israeli Literature;" and "Giants of Hebrew Literature."

Check the Jewish Studies Program website for current semester offerings.

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 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.

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.

430. (HIST150, JWST130, 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.

435. (GRMN425) Women in Jewish Literature. (M) Hellerstein.

This course will introduce undergraduate and graduate 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 relations 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 and poetry from the past century.

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. Authors include I.L. Peretz, Isaac Bashevis Singer, Moyshe-Leyb Halpern, and Kadya Molodowsky.

SM 448. (HIST448) Jews and Christians in the Renaissance. (C) Ruderman.

Intensive study of aspects of Jewish cultural history during the periods of the Renaissance and Baroque [the period of the ghetto] in Italy, with special emphasis on Jewish-Christian interaction. Reading of primary documents in order to define the special character of the era in the Jewish experience. Topics include:

Jewish/Christian polemics, the influence of rhetoric and humanism on Jewish culture, Jewish historical writing, Jewish and Christian study of magic and kabbalah, Jewish messianism, Jewish scientific writing, and more. Course will consider the impact of the erection of the ghetto on the formation of Jewish religion and culture.

SM 449. (HIST449) Jewish Historical Writing. Ruderman.

The seminar will consider Jewish reflections on the meaning of the past from the Bible until the present. It will present a survey of the history of Jewish historical writing including Josephus, medieval chronicles written both in the Moslem and Christian worlds, Jewish histories of the Renaissance and Early Modern Europe, and the rise of the academic study of Judaism in the 19th century. It will conclude with a consideration of modern and contemporary historical trends. The alleged tension between Jewish notions of memory and the modern writing of history, as articulated in Yosef Yerushalmi's well-known book *Zachor*, will be a consistent theme throughout the course. Considerable reading of primary sources. A reading knowledge of Hebrew is helpful but not required.

457. (ANEL575, ANEL576) Aramaic. (E) Golomb. Prerequisite(s): For the Spring semester, completion of the first semester or permission of the instructor.

An introduction to the grammar of the Aramaic language with emphasis on developing skills in reading Aramaic texts.

465. (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 512. (RELS512) Comparing Judaism to Christianity. (M) Staff.

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 525. (COML580, RELS525) Varieties of Judaism in the Greco-Roman Era. (H) Kraft.

An examination of the varieties of Jewish Thought current from ca. 300 B.C.E. to ca. 200 C.E., and of the ways in which the early Christian church adapted and/or reacted to this Jewish heritage.

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).

545. (HEBR555) Hebrew Epigraphy. (D) Staff. Ability to read an unpointed Hebrew text and facility in the Hebrew Bible.

This course is a seminar covering inscriptions in Hebrew of the Biblical period, such as the Gezer Calendar, the Arad and Lachish letters, and numerous other inscriptions. We will read these texts and examine their linguistic features, but primarily we will focus on the ways these texts are useful in Biblical studies. The historical and linguistic information we glean from these texts, and the use of this

information in studying Biblical history and interpreting the Hebrew Bible will be central to the course.

SM 550. (HEBR550, JWST351, RELS521) Book of the Bible. (A)

Tigay. Prerequisite(s): Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Qualified undergraduates are welcome but must contact the instructor for permission to register and show how they meet the requirements. Language of instruction is in English.

In-depth study of a book of the 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.

SM 551. (HIST550) Topics in Jewish History. (C) Staff.

Reading and discussion course on selected topics in Jewish history.

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. (HEBR553, 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. (COLL227, COML359, HEBR359, HEBR659, JWST359) Seminar Modern Hebrew Literature. (M) Gold. Prerequisite(s): Near-advanced or advanced knowledge of Hebrew. The content of this course changes from year to year; and, therefore, students may take it for credit more than once.

The purpose of this seminar is to analyze Hebrew and Israeli literary texts through the framework of various theoretical approaches. The original text will be our point of departure for both, the above analysis and our broader discussion of the writer's relationship to society and political issues. Prerequisite for this course is HEBR259 or permission of instructor, as the texts are more complex, linguistically and artistically. This course is designed for students seeking to further their acquaintance with this literary corpus and who are in advanced to native levels. Past topics include: "Hebrew Poetry and Identity: 1900-1948;" "He and She in Modern Hebrew Literature;" "Rebel Children of Israeli Literature;" and "Giants of Hebrew Literature."

The purpose of this seminar is to analyze Hebrew and Israeli literary texts through the framework of various theoretical approaches. The original text will be our point of departure for both, the above analysis and our broader discussion of the writer's relationship to society and political issues. Prerequisite for this course is HEBR259 or permission of instructor, as the texts are more complex, linguistically and artistically. This course is designed for students seeking to further their acquaintance with this literary corpus and who are in advanced to native levels. Past topics include: "Hebrew Poetry and Identity: 1900-1948;" "He and She in Modern Hebrew Literature;" "Rebel Children of Israeli Literature;" and "Giants of Hebrew Literature."

558. (ANEL572) Northwest Semitic Epigraphy. (M) 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.

SM 560. (COML559, GRMN560, PHIL551) Topics in Philosophy and Literature. (M) Weissberg. Topics vary.

SM 580. (COML578, ENGL592, CINE544, ITAL580) Holocaust in Italian Literature & Film. (M) Staff.

Topics for discussion may vary from semester to semester. One possible topic is: "The Literature of the Holocaust in Italy". Taking Primo Levi as a focal point, the first part of the course will center on his work. Through the study of a range of texts drawn from different genres, using memoir, fiction, poetry, and historiography, we will consider major aspects such as incarceration in Auschwitz, the annihilation of the personality versus the "liberation" of poetic expression, linguistic plurality, miscomprehension as a basis for condemnation and death, the language of violence as a universal language and the jargon of the camps. Analysis of these themes will lead us to consider such issues as the drama of survival and the inadequacy of the therapy of writing. We will also look at other intellectuals, among them Jean Amery, who wrote about their experiences in the concentration camps, from the perspective of the question of limits of intellect and his theory of suicide. We will contrast the experience of Levi and Amery with that of Paul Celan. The second part of the course will deal both with the Italian women writing about the Holocaust (Edith Bruck, Giuliana Tedeschi) and Italian Jewish writers introducing the Holocaust in their fiction (Giorgio Bassani, Carlo Levi, Elsa Morante).

SM 582. (ARTH560, COML582, GRMN580, PHIL480) Hannah Arendt: Politics and Literature. Weissberg.

The course will study Arendt's political theory, as developed in *The Origins of Totalitarianism*, and her writings on

literature in the essays collected in *The Jewish Writings and Men in Dark Times*, as well as relationship between both. We will also consider literary examples by Lessing, Heine, Melville, Kafka, and others.

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) Mathur/da Cunha.

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. 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; Great Falls in Paterson, N.J.; and the Wissahickon Creek in Philadelphia. Projects involve the making of pathways, platforms, and markings in these otherwise undesigned environments.

502. Studio II. (B) M'Closkey/Faculty.

This foundation design studio explores the relationship between sites, drawings, and the making of landscape architectural projects. The sites are typically urban, complex, and large in scale. Students begin with a series of site interpretations (ranging from photographic recordings and sketches to measured surveys and documentation). They are then asked to build a large model of the site, emphasizing its topographical form. The first design project is for an enclosure, "a civic garden," where the emphasis is upon the relationship of "inside" to "outside" and the architecture of spatial fabrication. The second project is for a large urban park that is to accommodate a diverse series of urban events and gatherings. Students work with a wide-range of conceptual, graphic, and projective techniques. At the end of the studio, each student is asked to graft each of their individual projects into a large plan of the existing precinct, presenting the urban landscape as an interactive field of accretive forces and entities. Past studios have

proposed new urban gardens and parks for Tacony, PA; the Schuylkill Waterfront surrounding the Philadelphia Museum of Art; the Camden Waterfront, NJ; the derelict Venice Island territory of Manayunk, PA; and the North Delaware Riverfront in Philadelphia; and Bergen Point in Bayonne, NJ.

511. Workshop I: Ecology and Materials (Module 1 and 2). (A) Willig and Falck.

Module 1: Land, Water and Vegetation Systems; This workshop examines particular sites within the major physiographic regions in the vicinity of Philadelphia (inner and outer coastal plains, piedmont plateau, etc.) where the inter-connections between the underlying geology, hydrology, vegetation, and human interventions are discussed. Field trips to both natural and constructed sites introduce students to the substance and ecology of these places; there are trips to bogs, forests, flood plains, dunes, and uplands, etc. A vocabulary (recognition, identification and nomenclature) of the materials of landscape, its substance, its ecology, and its changing nature owing to place and time is developed.

Module 2: Transformation of Materials; This workshop examines the transformation and production of materials used in the construction of landscapes. The relationship between rock type, landform assemblages and stone extraction and manufacturing; the production of plants, their modes of cultivation, propagation, and plant management (coppice, polarding, etc.); and the transformation of wood from forest plantations to standard size lumber are examined both in their sites of production and in built landscapes. Field trips to nurseries, quarries, lumber yards, as well as to urban sites where the students observe those materials, seen in Module 1 in their natural state, now transformed to comply with the aesthetic and functional requirements of urban landscapes.

L/L 512. Workshop II: Landform and Planting Design (Module 1 and 2). (B) Olgay. Corequisite(s): Summer Field Ecology Laboratory/Willig.

Module 1: Landform; This foundation workshop focuses on the means by which landscapes are shaped by earthwork grading. Lectures and exercises develop the student's sensibility toward three-dimensional form given by ground-plane manipulation. Students explore the formal, textural, and scalar differences between naturally-occurring landform types, such as eskers, drumlins, etc., and human scaled landform types, such as stairs, ramps, and terraces. Related

environmental considerations, such as drainage, aspect, growth, and the relationship between planting and landform are also covered in this workshop. Teaching in Workshop II emphasizes hands-on work with modeling and drawing, and field trips to sites that are especially appropriate for observing, measuring, and experiencing the sculptural qualities and capabilities of landform.

Module 2: Planting Design; This workshop focuses on both the cultural and the technical aspects of planting design. Through a series of short design projects students investigate the characteristics of basic plant typologies, such as bosque, grove, glade, allee, hedgerow, etc., their origins in productive landscapes, and their application to contemporary landscape architecture. Students also learn technical aspects of planting such as basic horticulture, hardiness zones, and soil requirements. Planting details, planting plans and plant lists, specifications, plant inspection and selection criteria, and site inspections are also covered at this time. During the first week of May, a five-day field 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) Mathur/da Cunha.

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. Theory I: Case Studies in Landscape Architecture. (A) Fabiani Giannetto.

Reading and Writing the Site: A Historical Survey - The objectives of the course are to allow the students to acquire familiarity with some major episodes of (largely western) landscape architecture through a study of selected key sites and their designers, and to understand the historical

contexts for their creation and continuing interpretation; and to advance the profession of landscape design by a critical understanding of built works from different times and cultures. By "critical understanding" is meant the ability to research a site on the ground, in libraries and in archives, to "read" it fully, to grasp the different ways in which it has been or can be represented, to isolate some of its significant aspects, and to be able to communicate that understanding verbally and visually. The students are expected to acquire a sufficient knowledge of the key moments or milestones in landscape architectural history to undertake the conceptual and synchronic enquiries of visually and verbally an understanding and assessment of a given site and its cultural production.

540. Theory II: Topics in Contemporary Landscape Architecture. (B) Fabiani Giannetto.

This course builds upon the historical survey of Theory I by focusing upon recent, contemporary built works, their designers, and the issues that these raise for professional theory and practice today. It also addresses the topic of how we talk about - how we criticize - recent built work: what criteria do we invoke, what modes of description can we adopt, and what kind of commentary or conclusions are we concerned to elaborate as a result? The agenda is a mixed one, and the structure of the semester mirrors that: there are presentations by visitors as well as by other Penn faculty, and these focus both on built work and on topics arising there from. Students begin the course by brain-storming about the issues, topics, designs and designers that should be at the center of the discussions.

542. Media II: Digital Visualization: AutoCAD. (B) Weidner Astheimer.

Continuing the sequence of Landscape Architecture Media classes, this course will develop the student's aptitude for working with digital media in creative and effective ways. While the course will devote time to learning the necessary techniques and skills to work with a variety of visualization software, the primary focus throughout will be on the development of a critical eye - that is, the capacity to discern between visual economies of means (saying much with little) and visual noise (or imprecise excess). Just as in a drawing class, one must learn not only the techniques of rendering but also the skill of visual judgement and discernment.

The course will begin by introducing 2-D digital presentation techniques, primarily as afforded by AutoCAD and the more fluid Adobe Illustrator. Students will

then progress to working with some advanced imaging techniques in Adobe Photoshop. The final section of the course will concentrate on working fluently and in an integrated way amongst each of these three programs, developing imaginative potentials within each.

543. Media III: Digital Modeling. (A) VanDerSys.

This course is the third in the media sequence and is required of all MLA students at the 600 level. Commanding the ability to seamlessly utilize a vast array of virtual applications and design media provides incredible potential to develop, test, produce and communicate spatial ideas with great clarity. This course is geared to fine-tune the fundamental skills and cultivate the necessary tools required to productively work in a 3-dimensional modeling environment, and extract data for communication purposes. Demonstrations of essential tools and techniques will be made at the outset of each session and the corresponding weekly exercises will be presented in class. Exemplary and relevant precedents will be presented and discussed in the lab, along with the content of assigned readings. Most time this semester, however, will be spent rigorously sharpening essential tools and skills through hands-on practice - ultimately, it will become second nature to work in an inter-operable, 3-dimensionally driven environment.

601. Studio III. (A) Sanders/Gouverneur/Marcinkoski.

This studio brings together both two-year and three-year MLA students for a term-long studio problem that emphasizes a wide range of fundamental and traditional landscape architectural issues and professional skills ranging from site analysis and site planning, to the siting of structures (buildings, paths, drives, walls, pavements) grading and storm water management, the creation of spaces for human use, vegetation and planting for environmental and cultural purposes, and their design development and realization in form and construction. The studio introduces students to issues of collaboration with clients and other professionals and of the realization of program and ideas in physical construction. The students work in a variety of scales and media, with a sequence of exercises and products. Instruction includes conventional desk critiques with group pin-up presentations and discussions approximately every three weeks and several field trips to the site and other related locations.

Past studios have proposed new urban landscapes for the Mill Creek community neighborhood in West Philadelphia; grounds for a new school in Philadelphia; the reclamation of a large brownfield and waste-land-fill site in Pennsbury, PA; the redesign of the Woodstock concert site in Bethel, NY as a performing arts park; the transformation of the Philadelphia Naval Base and Shipyard to civilian use; the Delaware Riverfront in Bensalem, PA; and the former steel mill site of Roebing, NJ; the Camden, NJ Waterfront North; and sites in Baltimore, MD and Pittsburgh, PA.

602. Studio IV. (B) Olin/faculty.

This elective option studio is designed for work at an advanced level, introducing students to advanced problems in landscape architectural design. Typically sites and programs tend to be large in scale, entailing the design of urban parks, waterfront developments, residential/community developments, urban renewal projects that also address territories in transition. Models are also typically emphasized in this studio. Students develop design strategies through the processes of mapping and fieldwork as well as specific proposals and projects that emerge from these. They are also expected to develop their design work through a series of construction documents (grading, planting, details) and to present these alongside strategic and conceptual drawings/models at the end of the semester.

Past studios have included the design of new urban landscapes for the Naval Shipyard in South Philadelphia; the lower suburban fringes of Philadelphia; the lower Mississippi floodplains; and low income housing and community development in Camden, NJ; the Valles Caldera in New Mexico; the Beijing Yuan-Ming Yuan District revitalization study; a park in East Stroudsburg, PA; urban design strategies for Chengde, China; Children's Island in Prague; U.S. and Mexican borderlands; Jones Point in Alexandria, VA; vacant lands in Philadelphia; Lisbon, Portugal's Portela Airport site; Slavonice in the Czech Republic; and infrastructure projects in Phoenix, AZ.

611. Workshop III: Site Engineering and Water Management (Module 1 and 2). (A) Olgyay.

Module 1: Site Engineering: Landform and grading. This intermediate workshop continues the study of landform manipulation with particular emphasis on the design of infrastructure. Students explore more complex exercises of contour manipulation, vehicular and pedestrian circulation systems, road and path

alignment, and drainage and utility planning.

Module 2: Water Management: This workshop focuses on the study of water in the landscape, with particular emphasis on the role it plays as a determining factor on the functioning and viability of landscapes. Students learn to assess the drainage characteristics of a site as a basic tool for understanding landscapes. Direction and expression of water flow, storm water management, swales, retention and detention basins, riparian plantings, and wetlands restorations are addressed in this workshop.

Teaching in both of these workshops includes illustrated lectures, case studies, and field trips. Students are asked to develop grading and circulation schemes as well as water management solutions for their projects in design studio, thus incorporating the workshop into the design activities of the curriculum.

612. Workshop IV: Advanced Landscape Construction (Module 1 and 2). (B) Ryan/Falck.

Module 1: Construction Documentation: This first module of Workshop IV introduces students to contracts, project management and site preparation through an overview of the construction process and contractual relationships; construction phase services from bidding through punch list and how design is refined through that process; and site preparation for documentation. Layout and materials: layout systems and when to use them, the role of layout plans, communicating design intent, eliminating conflicts and potential conflicts on documents, graphic clarity, material and detail coordination. Grading and planting: inter-relationships between grading, planting and layout. Details: what makes a good detail, aesthetics, function, constructability, durability, and developing details from precedents. Specifications: structure, proscribed vs performance, master specs and contract administration. Consultants: lighting, fountain design, structural, civil, electrical, etc with the sequence of drawings and design process.

Module 2: Advanced Construction: Materials, Methods of Assembly and Performance Criteria: This second module of Workshop IV introduces students to the design and construction of a range of built elements as used by landscape designers in the creation of the man-made environment. The course focuses on the various materials available for these designs, their physical characteristics, their modes of production, sequences of assembly either off or on-site, their life-in-use, maintenance needs, and ultimate re-cyclability where appropriate.

The assignments undertaken by the students in Workshop IV build on studies of existing structures and materials done by students in Workshop I Module 2 "The Materiality of Landscape" course. The Workshop IV coursework focuses on students' designs and construction of new assemblies in the land. The course is comprised of lectures and a visit to New York to see the studios of designers who are working in specialized areas related to particular materials and construction systems and to visit a built project - the Highline elevated park - to study construction and materials in detail.

There will also be site walks at the end of the morning lecture periods or in the afternoons to look at local examples of constructed landscapes on the University of Pennsylvania campus, the Drexel University campus and in the city of Philadelphia. The materials covered in the lectures and assignments will be as follows: reinforced concrete and "in-earth" retaining wall systems, amphitheatres, pavings, steps, etc.; reinforced concrete superstructures; wood and steel frame superstructures; and brief reference will also be made to glass and tensile membranes, cable nets, etc. as appropriate to landscape design.

701. 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 (Corner, Gouverneur, Marcinkoski, Mathur, M'Closkey, Olin, 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 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 (Corner, Gouverneur, Marcinkoski, Mathur, M'Closkey, Olin, 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 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).

Elective Courses

SM 720. Topics in Representation. (B)
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: Seeing & Imagining Landscapes (fall annually) instructors: Valerio Morabito, Paolo Burgi; Landscape Drawing (spring annually) instructors: Laurie Olin, Trevor Lee, David Gouverneur; 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. (B) Sanders.

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. These courses are open to all interested PennDesign students. Recent topics have been: Office Practice (spring annually) 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, digital fabrication, 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: Interoperable Terrains (fall 2010, 2009, 2008) instructor: Keith Kaseman; Digital Fabrication (spring annually), instructors: Keith VanDerSys, Keith Kaseman; Geometry Clouds, Fluid Landscapes (fall 2006, 2005, 2004, 2003, 2002), instructor: David Ruy; and Tactical Surfaces / Topographic Modeling (fall 2002), instructor: Charles McGloughlin.

741. (CPLN632) Modeling Geographic Space. (A) 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) Cartographic Modeling. (A) Tomlin.

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 (GIS) in a variety of application settings. The course is open to any student with experience equivalent to that of an entry-level class on GIS.

745. (CPLN680) Topics in Digital Media: Advanced Topics in GIS. (M) 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: Building New Urban Landscapes (fall 2009) instructor: Tom Ryan; Urban Horticulture (fall 2010, 2009) instructor: David Ostrich; Advanced Design with Plants (fall 2006), instructor: Dennis McGlade; Urban Horticulture: Designing and Managing Landscape Plantings in Stressful Environments (fall even years), instructor: Paul Meyer; Advanced Planting Design (spring annually), instructor: Rodney Robinson, (fall 2004) instructor: Sheila Brady; and Sustainable Large Scale Planting of Trees, Shrubs, Perennials and Grasses (fall 2001), instructor: Wolfgang Oehme.

755. Issues in Arboretum Management I (internship). (A) Arboretum Staff.

The Morris Arboretum of the University of Pennsylvania provides a case study in public garden management. Aspects of horticulture, landscape design, education, conservation, history, preservation, and management are considered. Work often includes seminars followed by outdoor practical sessions. For more information contact Jan McFarlan at the Arboretum, 215-247-5777, ext. 156. (This course is an internship that meets at the Morris Arboretum in the Chestnut Hill section of Philadelphia on Thursday afternoons during the Fall term.)

756. Issues in Arboretum Management II (internship). (B) Arboretum Staff.

A continuation of LARP 755. Students research, design, complete and present a project as part of their work. For more information contact Jan McFarlan at the Arboretum, 215-247-5777, ext. 156. (This course is an internship that meets on Thursday afternoons during the Spring term.)

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 course explores 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: Green Roof Systems (spring 2011, 2010) instructor: Susan Weiler; Large-Scale Land Reclamation Projects (spring annually) instructor: William Young, (spring 2004) instructor: James Ludwig; Restoration Ecology (fall 2010, 2008, 2006, 2004), instructor: David Robertson; 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. (COML776, ITAL371, LARP370) Topics in Landscape Architecture History and Theory. (C) Hunt/Fabiani Giannetto.

This advanced seminar explores central issues in the history and theory of landscape architecture from the Renaissance to the present day. The focus will be 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. These courses fulfill the Landscape Architecture Theory III requirement and are open to all interested students in the PennDesign and elsewhere in the University.

Recent Topics taught by professor Hunt have been: The Role of History in Contemporary Landscape Architecture (fall 2010); Understanding Venice Seminar

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(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; Franch Landscape Architecture: Case Studies (spring 2003); Picturesque as Modernism (spring 2002).

L/R 780. (ARCH411, ARCH711, CPLN673) 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 PennDesign students.

Recent topics have been: Concepts & Theories in Contemporary Landscape Architecture, instructor: Anita Berrizbeitia; Environment Regimes, instructor: Dilip da Cunha; Case Studies in Urban Design, instructor: David Gouverneur; Contemporary European Landscape Architecture, instructor: Joseph Disponzio; Max Ernst's Liminal Nature, instructors: Linda Pollak and Sandro Marpillero; Active Time in Cinema and Landscape, instructor: Ed Keller; Metropolitan Landscapes: Design, Leisure, and Regeneration, instructor: Ray Gastil; Nature, Society and Cities, instructor: Neil Smith; Land, Art and Criticism, instructor: Sebastien Marot; Landscape Architecture and the Art of Hope, instructor: Sebastien Marot; Organizational Ecologies: Emergent Forms and Practices in Complex Landscapes, instructor: James Corner; Surrealism and Nature: Liminality, instructors: Linda Pollak and Sandro Marpillero; One Two Paradox: Strategies for Building City Landscape, instructors: Linda Pollak and Sandro Marpillero; Landscape Production

and Visual Culture, instructor: Claudia Taborda; Landscape and Globalization, instructor: Claudia Taborda.

796. Independent Studio. (B) 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. (C) Faculty.

And 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.

LATIN AMERICAN AND LATINO STUDIES (AS) {LALS}

010. (HIST010) The World 900-1750. (C) History & Tradition Sector. All classes. Feros. HIST 010 is a topics course. LALS 010 will be cross-listed only when the subject matter is relevant to Latin American and Latino Studies.

An introduction to world history before the industrial revolution. Coverage varies each year, but every year the focus will be on the world outside Europe and the U.S. Focus each semester on comparative and connective themes, such as trade and civilization, empires, agrarian societies and livelihoods, slavery and the slave trade, and expansion of world religions.

SM 016. (ENGL016) 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.

129s 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.

L/R 070. (HIST070) Colonial Latin America. (A) History & Tradition Sector. All classes. Walker, T. Fulfills History & Tradition Distribution Requirement.

The development of Latin America from pre-Columbian times to 1850. Emphasis is on the interaction between European, Indian and African elements in colonial society, the growth of national consciousness, and the related phenomena of political instability and economic underdevelopment.

L/R 071. (HIST071) Latin America 1791-Present. (B) History & Tradition Sector. All classes. Farnsworth-Alvear.

What has nationhood meant in 19th and 20th century Latin America? Colombians and Venezuelans lived through a devastatingly constitutional monarchy that developed into a republican tradition embracing "Order and Progress," the slogan emblazoned on their flag. Mexicans and Argentines emerged from the 19th Century with social splits that then shaped political upheavals with implications for the region as a whole: the Mexican Revolution of 1910-1934 and the political storm that propelled Juan and Evita Peron to power. This course provides a regional overview that links the crises of the 1800s and 1900s to the violence and deep inequalities of the 2000s. Throughout, we ask questions about sovereignty, foreign investment, and anti-imperialism. A focus on the cold war area, from Che Guevara's sojourns in Guatemala (before 1959) to the terror years of Sendero Luminoso in Peru, allows students to understand the ideological splits that resulted in the paradox of the 1970s-1980s, when strong hand methods enjoyed deep-seated support from key sectors even as journalists found proof of massacres, disappearances, lists of disappeared persons, and now a former armed militant who has transformed herself into the first woman president of Brazil, even as Fidel Castro's Cuba seems to outsiders to remain unchanged.

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 107. (AFRC107, HIST106) Freshman Seminar. (C) Staff.

Topics Vary

116. (AFRC116, ANTH116) Caribbean Culture & Politics. (M) Thomas, D.

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.

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)

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.

175. (HIST175) Society and Culture in Brazil. (C) Walker, T.

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.

Study of the empirical and logical validity of some of the main arguments that connect the economy and politics in Latin America. The course focuses on themes such as the agro-exporting economy, the oligarchic state, import-substitution industrialization, bureaucratic-authoritarian regimes, transition to and consolidation of democracy, and structural reforms.

SM 220. (CINE224, PRTG222) Literature, Film and Music of Brazil. (M)

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.

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. (C) Staff.

Topics vary from semester to semester. Some which have been offered in the past include: Media, Culture & Society, African Urbanization, Latinos in the US and Schools and Neighborhoods.

251. (PSCI251) Inter-American Relations. (C) Staff.

Patterns of inter-American conflict and cooperation: United States-Latin American relations, regional and subregional organizations. Problems of development, dependency, and security.

SM 252. (COML252, SPAN250) Spanish American Literature in Translation. (C) Arts & Letters Sector.

All Classes. Staff. All readings will be offered in English.

This course -- taught in translation -- is devoted to literary masterworks of Spain and Latin America.

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, ANTH227, FOLK259, MUSC258) 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)

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.

This course -- taught in translation -- is devoted to literary masterworks of Spain and Latin America.

SM 271. (URBS270) Ethnicity. (M) Vitiello.

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 trans-national 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.

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 understand 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)

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."

SM 291. (COML284, ENGL270, ROML290) Latin American Literature. (M) Ellis, R. 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)

Awkard/Dayan. 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.

294. (AFRC294, ARTH294, CINE293) 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. (CINE294, COML294, ROML296) Latin American Film. (M) Ellis, R.

Arguably, the Caribbean's best export continue to be the image of the islands themselves. One looks at a map and traces the curvature of possible pleasures from the warm, lush spot to another. What others from outside (and some from within) want, pay, destroy and exploit to see and what is experienced and seen by inhabitants is both the crisis and the bounty of the Caribbean—not just a blessing or curse, but something that invokes both. Throughout the 20th century, Caribbean poets have worked within this crisis of the image, and Caribbean filmmakers have progressively joined the mimetic fray. What repeats from one island to another, and from poetic to cinematic form, is an intense concern about historic and contemporary representation. In this course, we will study the crisis and the fecundity of the image in 20th Century Hispanophone, Angl- phone and Francophone Poetry and Film, and will approach the arc of the Antilles with different desires. The final list of poets could include: Luis Pales Matos, Julia de Burgos, Jose Lezama Lima, Nancy Morejon, Reina Maria Rodriguez, Kamau Braithwaite, Derek Walcott, Aime Cesaire, Edouard Glissant and Monchoachi.

299. (ARTH299) Latin American Art: Pre Colombian to Colonial. (M) Staff.

This course examines the visual 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 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. (ARTH301) Undergraduate Seminar. T. Walker.

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 314. (PSCI314) Transitions to Democracy. (C) Falleti.

This seminar is open to advanced undergraduates and graduate students. We will review and analyze the theoretical literatures on regime change and compare the experiences of countries emerging from bureaucratic authoritarianism, military rule, and socialism. How do previous regimes and economic systems, political culture, social structure and socio-economic development, and international pressures affect attempts to build democratic institutions? We will employ concepts drawn from comparative and theoretical writings to investigate cases of regime change in Europe and the former Soviet Union, as well as Latin America and other areas of the developing world.

SM 331. (PSCI331) Latino Politics. Gillion, D.

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.

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) Chinyere Osuji. Prerequisite(s): Junior and Senior Seminar.

Spring 2012: In this course, students will gain an understanding of how social scientist study Black populations in the Western Hemisphere and other societies. Students will learn about: forms of racial

and ethnic categorization, mechanisms of racial inequality, how race and gender intersect in the lives of racialized minorities, ideologies of race-mixing in societies, and the role of public policy in addressing inequalities. While this course will focus on Blacks in Latin America and the Caribbean, there will also be analysis of other populations within the Americas as well as other areas of the world. We analyze the work of historians, anthropologists, and sociologists to understand how race and racism work in these different contexts and what this means for racial and ethnic hierarchies. At the end of this course, students will have a notion of the extent to which issues are different and similar among racialized populations.

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. (CINE396, 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. (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) Hill.

This course will examine the role that memory plays in the formation of the city with an emphasis on post-colonial cities in the Americas. It will explore the specific social, historical, and state influences that gave rise to the specific spatial form of the colonial city in Latin America such as the grid-shaped layout of the plaza and the colonial house and the forms of resistance to this spatial form by various exploited classes. It will then study how contemporary historical and globalization processes such as urban redevelopment, revitalization and conservation are played out in the context of this inherited spatial form, and the way that these former histories are used to support new interests, projects, protests, and utopian plans. Specific attention will be given to the tension between preservation and destruction of the urban built environment, between the interests of urban elites (architects, historians, intellectuals) in preserving the city's past and social movements that seek to create new urban functions and forms. The course will be comparative in nature, contrasting post-colonial city centers in the Caribbean and Latin America with the city of Philadelphia.

SM 419. (PSCI419) Democracy and Decentralization. (M) Falletti, 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.

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 557. (AAMW557, ANTH557) Archaeology: Theory & Methodology. (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 toward these interpretative 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. (FREN590) 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 677. (SOCL677) International Migration. (M) Staff.

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. (CINE694, SPAN694) Spanish & Latin Am Cine. (M)

SM 697. (SPAN697) Studies in Latin American Culture. (M) Staff.

The course will be an investigation of the most influential styles of conceptualizing the relationship between artistic or literary productions and political practices in Latin America between the 1950s and the present. We will pay special attention to the genesis and structure of the notion of "liberation", and to its subsequent crisis. We will also try to determine the predicament of political art and literature in times of globalization. We will read texts by, among others, Pablo Neruda, Julio Cortazar, Glauber Rocha, Reinaldo Arenas, Osvaldo Lamborghini,

and Diamela Eltit, and analyze images of several artists, from Antonio Berni and Helio Oiticica, to Doris Salcedo and Cildo Meireles.

SM 720. (COML720, MUSC720) Studies in Renaissance Music. (M) Tomlinson.

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 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 798. (SWRK798) Advanced Topics. (C)

UNIVERSITY COURSE REGISTER

LAW **(LW) {LAW}**

The course list below represents courses currently offered at Penn Law. Detailed information on these courses including

course descriptions are available at <http://www.law.upenn.edu/registrar/descriptions>. While most of these courses are open to Penn Law students only-some courses are available to students enrolled in other Schools at Penn. Information on these courses and courses registration

procedures may be found at www.law.upenn.edu/registrar/nonlaw.html

**SM 520. (MATH220, PHIL220)
PROOFS IN MATH,PHIL,LAW.**

878. ATLAC MOCK TRIAL COMPETI.

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) Phillips.

This course examines the fundamentals of real estate financing 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 entity; tax aspects; management (leasing, environmental); disposition of property (sale of mortgaged property, foreclosures,

wraparound mortgages, sale-leasebacks); and recent legal developments.

205. (LGST805, MKTG236, MKTG760) Law of Marketing and Antitrust. (C) Constan.

The course explores the legal aspects of marketing strategy. The first half considers relevant antitrust doctrine and policy: mergers, acquisitions, and joint ventures; pricing strategy (e.g., price fixing, exchanging price information, predatory pricing, and discriminatory pricing); marketing channel strategy (e.g., resale price maintenance, territorial and customer restrictions, exclusive dealing, refusals to deal, etc.); and limits on market dominance. The second half considers issues the intellectual property dimension (including federal patent, copyright, and trademark law), as well as federal and state laws pertaining to trade secrets, unfair competition, and consumer protection. The focus is primarily on U.S. law, but the challenges posed by diverse domestic, foreign, and international regimes will also be emphasized. The course is useful to students contemplating employment in the field of marketing, and to students interested in anticipating legal constraints on competitive strategies. Most broadly, the course should be of interest to anyone desiring to understand the legal and public policy issues relating to the government regulation of business.

206. (MGMT291, OPIM291) 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.

The purpose of this course is to introduce future sports leaders to a compendium of business and legal issues that apply in the context of the management of professional and amateur sports. Although the factual situations will focus upon sports, the technique of inserting a legal dimension into management decision analysis transferable to other industries as well. The course will provide both practical and theoretical approaches. Students will read standard case law and business cases in the sports area as

well as law review articles and economic materials.

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 regulation of health care delivery and financing in the U.S. It examines principles and practical applications of the laws that affect the operational decisions of health care providers, payers, 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 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. (BPUB212) Economic Analysis of Law. (C) Asher. 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) Flocos.

Legal Aspects of Entrepreneurship is a practical and intensive course that examines the critical legal issues confronting start-up and emerging growth companies. Although the context of the course is early stage companies, many of the concepts studied are equally applicable to more mature, established companies. The course provides perspective on how to use the law strategically to manage risk, deploy resources and maximize shareholder value. Topics include the enforceability of confidentiality, non-competition and other restrictive covenants in employment agreements; choice of business form including the legal, financial and tax advantages and disadvantages of general partnerships, limited partnerships, corporations and limited liability companies; tax and securities law; legal aspects of raising capital including structuring venture capital and private equity financing; letters of intent and mergers and acquisitions, employment law, and intellectual property law including trade secrets, copyrights, patents, and trademarks.

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.

This course provides an introduction to environmental management with a focus on law and policy as a basic framework. The primary aim of the course is to give students a deeper practical sense of the important relationship between business and the natural environment and to think critically about how best to manage this relationship.

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 examinations and class discussions.

219. Law and Policy in International Business. (C) Mayer.

This course introduces students to the frameworks for regulating international business national, regional, and international, singling out the most relevant features of these for special attention. Topics include international dispute resolution, trade law, jurisdictional and choice of law problems, patterns in extraterritoriality, managing conflicting legal standards, and problems in the way of

creating more uniform rules affecting the conduct of international business. Students are encouraged to evaluate the policy dimensions of current legal regimes and proposals for reforms and to develop their own critical perspectives regarding these.

220. (LGST820) International Business Ethics. (C) Hsieh, Radin.

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) Constan, Rosoff.

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. (OPIM222) 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 legal or technical knowledge is required.

223. (LGST807) Securities Regulation. (C) Tyson, Matwyslyn.

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 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, Mayer.

The 2000 UN Global Compact and the 2003 UN Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights have confirmed the role of TNCs as central actors in the field of international

human rights law. This course introduces students to how international human rights law is currently being expanded to capture the operations of TNCs and why this development is controversial. The course examines competing perspectives on the pros and cons of imposing human rights responsibilities on businesses based in capital-exporting countries that are operate in emerging economies. Perspectives of various governments, businesses, international institutions, academics, and NGOs on issues of human rights and globalization will be considered, and a variety of case studies will be analyzed.

226. Markets, Morality & the Future of Capitalism. (C) Hussain.

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, Ronald Dworkin, Jürgen Habermas, Peter Singer, and others.

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 students personal philosophy of success. No final exam.

228. Sports Law. (C) Brandt, Shropshire.

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 those in sport organizations. Special attention is given to the regulation of professional and amateur athletics, agency law, antitrust law, the organizational structure of sports leagues and associations, labor-management relations, and Title IX. The development of effective communication skills will be emphasized through class presentations and written assignments, leadership and interpersonal communications will be developed through small group projects and meetings, and critical thinking and problem solving skills will be fostered through the careful study of numerous cases.

229. Women Law & Politics Mena. (C)

230. Social Impact and Responsibility: Foundations. Hsieh.

Prerequisite(s): none.

This course provides undergraduates with the opportunity to develop an integrated framework for approaching the wide-ranging field of social impact and responsibility. The course involves the critical analysis of key issues that lie at the foundation of social impact and responsibility as an area of study, and is organized around addressing the question: How should business enterprises and business thinking be engaged to improve society in areas not always associated with business?

A key element of the course is the development of frameworks to define and measure social improvement. The course also examines approaches for success in corporate philanthropy, corporate social responsibility, socially responsible investing, business-nonprofit partnerships, social entrepreneurship and the adaptation of business thinking to the social sector. Examples are drawn from a range of areas, including the environment, education, health, economic development,

microfinance, human rights, and community engagement. The course is intended for students who seek careers in this field and for students who seek to prepare themselves for the social and political demands placed upon business enterprises operating in a global economy. The course is required for the secondary concentration in Social Impact and Responsibility.

231. Sports Ventures & Soc IM. (C) Shropshire.

The overreaching goal of this course is to explore and analyze tough sports social impact issues and develop strategies and solutions. The content will be both theoretical and practical. All students will be provided opportunities to address real sports and social impact issues. The concept of social responsibility may be more dominant in sports than any other business sector. From the impact of hosting global sporting events, building stadiums and arenas to recreation center basketball programs designed to keep kids out of trouble, sports is involved at many levels. This course will focus primarily on sport and social impact and explore how this concept has evolved since sports programs were first introduced into Americas schools in the early 1900s. Students will be required to assist an enterprise involved in a sport and social impact endeavor. Student presentations of those Semester Team Projects will be a major component of the student grade. The course will also feature several timely guest speakers. The broad question throughout the course will be: How can sports be used to have a positive impact on society? Students in this course will search for the great idea, great delivery and whathas sustainable impact.

240. (OPIM240) Gamification for Business. (C)

292. (MGMT292, OPIM292) Adv Topics Negotiations. (C) Schweitzer, Staff. Prerequisite(s): LGST 206 Negotiations.

This course is designed to teach negotiation principles and to enable student 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)

640. (OPIM640) 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 OPIM 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 implementaing radical change in established firms. The course will include both in-person meetings and web-based online sessions.

SM 799. Seminar in Law & Society. (C)

SM 920. Ethics in Business and Economics. (M) Donaldson, Hsieh. Corequisite(s): Inactive. 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) Orts, Strudler. 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.

SM 922. Human Rights Law and International Business. (M) Staff. Ph.D. Course.

The seminar will explore how international human rights law is increasingly being treated as setting universal standards that govern the conduct of international business with the aim of promoting a critical awareness of the problems that this entails. Students will acquire a grasp of various theories and cases involving the expansion of human rights law to cover corporations, as well as the ongoing controversies over the nature of the human rights responsibilities that should be incumbent on international business. Seminar participants will be challenged to formulate their own positions regarding this crucial development.

240. (LGST240) Gamification for Business.

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. Liberman/Schwarz.

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.

010. Fundamentals of the Grammar of Standard English. (L) Staff. Offered through LPS.

LING 010 uses a combination of traditional and modern approaches to grammar to improve the student's knowledge of the English language. The course covers a wide range of topics, including traditional grammar (parts of speech and sentence diagramming), prescriptive grammar/stylistics (dangling participles, split infinitives, etc.), modern generative syntax (sentence structure, pronoun reference), discourse structure, and composition. LING 010 is of use to anyone who wishes to strengthen his or her oral and written communication skills as well as to those students who plan to teach English or language arts.

SM 051. Proto-Indo European Languages. (M) Noyer.

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) Sankoff. Freshman Seminar.

This course takes a historical approach to tracing (and reconstructing) the nature of language contacts and bilingualism, over the course of human history. Contacts between groups of people speaking different languages, motivated by trade, migration, conquest and intermarriage, are documented from earliest records. At the same time, differences in socio-historical context have created different kinds of linguistic outcomes. Some languages have been completely lost; new languages have been created. In still other cases, the nature and structure of language has been radically altered. The course introduces the basics of linguistic structure through a discussion of which aspects of language have proved to be relatively stable, and which are readily altered, under conditions of bilingualism.

SM 058. Language and Cognition. (B) Living World Sector. All classes. Embick. Freshman Seminar.

Because of its apparently species-specific nature, language is central to the study of the human mind. We will pursue an interdisciplinary approach to such questions in this course, moving from the structures of

language as revealed by linguistic theory to connections with a number of related fields that are broadly referred to as the "cognitive sciences". A number of specific topics will be addressed from these related fields. The structures of language and its role in human cognition will be set against the background of animal communication systems. We will examine the question of how children acquire extremely complex linguistic systems without explicit instruction, drawing on psychological work on the language abilities of children. Additional attention will be focused on the question of how language is represented and computed in the brain, and, correspondingly, how this is studied with brain-imaging techniques.

L/R 102. Introduction to Sociolinguistics. (B) Society Sector. All classes. Labov/Sankoff. 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 Jabberwocky, 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.

105. (CIS 140, COGS001, PHIL044, PSYC107) 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) Schwarz. 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.

110. Introduction to Language Change. (B) History & Tradition Sector. All classes. Ringe.

This course covers the principles of language change and the methods of historical linguistics on an elementary level. The systematic regularity of change, the reasons for that regularity, and the exploitation of regularity in linguistic reconstruction are especially emphasized. Examples are drawn from a wide variety of languages, both familiar and unfamiliar. Since there are no prerequisites, the course includes mini-introductions to articulatory phonetics, basic phonology (especially the principle of contrast), and basic morphology (especially inflection), all of which must be understood in order to understand the ways in which they change.

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) Yuan. 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.

135. (PSYC135) Psychology of Language. (M) Dahan. Prerequisite(s): LING 001 or PSYC 001.

This course describes the nature of human language, how it is used to speak and comprehend, and how it is learned. Subtopics include animal communication, language pathologies, second-language learning, and language in special populations (such as Down Syndrome and autistic children, and children born deaf or blind).

160. (AFRC160) Introduction to African American and Latino English. (A) Labov.

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.

SM 161. (AFRC161) The Sociolinguistics of Reading: A Service Learning Seminar. (B) Labov.

This course will be concerned with the application of current knowledge of dialect differences to reduce the minority differential in reading achievement.

Members will conduct projects and design computer programs to reduce cultural distance between teachers and students in local schools and to develop knowledge of word and sound structure.

230. (LING503) Sound Structure of Language. (B) Noyer.

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. (GRMN210) 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.

250. Introduction to Syntax. (B)

Santorini. This course was formerly numbered LING 150 and is identical in content.

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. Language and Information. (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) Santorini. 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.

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) Sankoff.

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.

450. Languages in Contact. (I)

Sankoff.

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, ENGL260, FOLK470, LALS260) Narrative Analysis. (M) Labov.

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.

501. Survey of Sociolinguistics. (J)

Sankoff. Prerequisite(s): LING 102 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 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.

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.

L/L 520. Introduction to Phonetics.

(A) Yuan. 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) Yuan. 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) Liberman.

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. (E) Labov/Sankoff.

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) Labov.

Prerequisite(s): LING 560.

Multivariate analysis of data gathered in continuing research in the speech community; variable rule analysis and use of Cedergren/Sankoff program; instrumental analysis of speech signal; experimental techniques for study of subjective correlates of linguistic boundaries.

SM 563. Sound Change in Progress. (M) Labov. 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. Dialect Geography. (M) Labov.

The principles, practices and findings of dialect geography from the nineteenth century to the present. Computational organization of dialect data. The study of current dialect differentiation in American English and other areas.

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 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 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 620. Topics in Prosody. (M) Liberman/Yuan.

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) Staff. 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)

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) Sankoff. 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.

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) Fisher. 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 078. Topics in 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.

SM 079. Linguistics of American Sign Language. (B) Draganac-Hawk. Prerequisite(s): Successful completion of Ling 073 or equivalent.

This course is an introduction to the basic concepts of linguistics as they relate to American Sign Language. Phonological, morphological, syntactic, semantic, and sociolinguistic principles of ASL will be examined and discussed. Successful completion of LING 073/ASL III or having the equivalent signing skills is required. An Introduction to Linguistics course (or the

equivalent) is preferred but not required for this course. This course is taught in American Sign Language and is not voice interpreted.

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

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the lectures. Knowledge of Irish Gaelic is not required.

**LOGIC, INFORMATION
AND COMPUTATION
(AS) {LGIC}**

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.

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.

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, PHIL006) Logic I. (C) Weinstein, Scedrov.

The first semester of a two-semester course on the fundamental results and techniques of mathematical logic. This course will treat the basic metamathematics of first-order logic including the Completeness Theorem,

Compactness Theorem, Lowenheim-Skolem Theorem, Godel Incompleteness Theorems, and Church's Theorem. Connections between logic and algebra, analysis, combinatorics, computer science, and the foundations of mathematics will be emphasized.

SM 320. (MATH571, MATH670, PHIL412, PHIL416) Logic II. (C) Weinstein, Scedrov.

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.

As a Wharton undergraduate, you are in a position to become a future business leader. Management 100 is designed to increase your understanding of leadership and communication in teams and to help you build skills that are necessary for professional success. You will study literature on leadership, management communication, and group dynamics and also complete a field project, an integral part of the course. Your field project provides the context in which you will develop as a leader, practice communication skills, learn about the nature of group work, and enhance your sensitivity to community issues. Management 100 will enrich your Wharton experience by providing many opportunities for interaction with peers, advanced students, alumni, faculty and the community.

L/R 101. Introduction To Management. (C) Prerequisite(s): None.

This course addresses contemporary management challenges stemming from changing organizational structures, complex environmental conditions, new technological developments and increasingly diverse workforces. It highlights critical management issues involved in planning, organizing, controlling and leading an organization. This course will help you understand some of the issues involved in both managing and being managed and equip you to become more effective contributors to organizations that you join. The course will cover several topics in management, organization and strategy. Each topic will span one or two weeks. Topics include combinations of the following areas: organizational structure, organizational culture, strategy, interorganizational relationships, job design, groups, reward systems, work force composition, power and politics, social responsibility, organizational change, organizational decision-making, business history. The professor will cover an overview of the topic with frameworks and examples in the lecture and the teaching assistant will lead a case discussion that integrates these frameworks in the recitation.

104. Industrial Relations and Human Resource Management. (C)

Prerequisite(s): MGMT 100 & MGMT 101.

The focus of Management 104 is the economic and institutional constraints on organizations in the formulation and implementation of human resources management policies and strategies in the United States and, as appropriate, internationally. The specific constraints discussed are labor markets (external and internal), labor laws (governing employment policies and employee relations), and labor unions (and the threat thereof). Particular attention is paid to the relationship of these constraints to the competitiveness of American enterprise in the global economy.

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.

Prerequisite(s): For Wharton students: MGMT 100, MGMT 101 & MGMT 111 (recommended); For College students: A familiarity with international political economy.

This course explores the intersection of international strategy and international relations to help students to identify and introduce sustainable and profitable business strategies in sectors with a history of or strong potential for ongoing political intervention. We will examine the identity, background, incentives and operations of relevant national and international political actors; and the process by which they generates policies that can adversely or favorably influence firm profitability. Corporations whose success depends crucially on a sophisticated analysis of the contending forces in the geopolitical arena and an ability to influence policy outcomes will serve as examples of the first-order strategic importance of incorporating the political environment in multinational strategy formulation.

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) Entrepreneurship & Societal Wealth Venturing. (B)

Prerequisite(s): MGMT 230 Recommended.

The basic thesis of this elective course is that some societal problems, if attacked entrepreneurially, create opportunities for launching businesses that simultaneously generate profits and alleviate the societal problem. This approach generates societal wealth as well as entrepreneurial wealth. The course is distinguished from public sector initiatives to address social problems, and also from "social entrepreneurship" programs where social wealth creation is a by-product rather than the target of the entrepreneurial effort. Student teams are expected to develop a plan to launch a societal wealth generating business. The preference is for them to begin the course with already conceived ideas for entrepreneurial solutions to social problems. They may also join a team to work on a project proposed by a student who already has a business idea.

223. Business Strategy and Policy.

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.

231. Entrepreneurship & Venture Initiation. (B) Prerequisite(s): Completion of MGMT 100, MGMT 101, AND MGMT 230 or MGMT 235.

MGMT 231 is an advanced sequel to Mgmt.230 focusing on independent entrepreneurship, business plans and the business planning process, and the operating management of small firms. Ideally, the course builds upon venture opportunities identified in MGMT 230.

233. (MGMT833) Strategies and Practices of Family-Controlled Companies. (B) Prerequisite(s): MGMT 100 & 101.

This course is designed for those persons who desire to understand the distinct strategies and practices of family-controlled companies and family wealth management. It will focus on shareholder decision making; financial and market driven options for long-run competitiveness, organizational structures and management team issues; strategic planning from a resource-based perspective; transition planning for the corporate entity, wealth, leadership and relationship family dynamics and communication issues; and leadership empowerment. The course is intended for those who plan to control family-controlled companies and for those planning a career in their family firm.

234. (MGMT875, PSCI228) International Comparative Management: The Challenge of Diversity and Integration. (B)

Prerequisite(s): Mgmt 100, Mgmt 101 & Mgmt 111. This course is comprised of lectures with case discussions, group and individual short papers and quizzes on the readings.

This is essentially a course in comparative national environments for business and how aspects of these environments impact on the firm. The course examines a number of

institutions and phenomena in various countries. Issues range from language, religion, gender and ethnicity to legal systems, financial markets and corporate governance. The lectures draw on ideas from history, geography, sociology, political science and economics to inform our analyses. The lectures and cases range over both developed market economies and emerging economies.

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; limited to Management and Technology sophomore students.

This course examines the technical and managerial challenges presented by emerging and evolving technologies. Particular consideration is given to the forces affecting the nature and rate of technological innovation and the managerial options available to both established and entrepreneurial organizations. In doing so, we explore both internal and external sources of innovation as well as the appropriate strategies and processes for capitalizing on them. The course will be taught in seminar fashion with substantial class discussion. Assigned and supplementary readings will be augmented by cases and occasional guest lectures. Students will prepare a variety of written assignments, including case analyses and two research papers dealing with selected technologies, firms and industries.

238. Organizational Behavior. Prerequisite(s): MGMT 100 & MGMT 101. Corequisite(s): Inactive.

Management 238 is the standard undergraduate course in Organizational Behavior. The course deals essentially with the management of people at work. It examines the individual employee in his organizational environment, as well as the

organization itself. Topics range from motivation, leadership groups all the way to organization structure, culture, human resources and organizational change. The course develops some themes in which these topics become relevant -- for example the networking organization and diversity at the workplace. Students should expect to conduct group projects involving actual fieldwork and might be asked to give a presentation in class.

239. Organization Design. Prerequisite(s): MGMT 100 & MGMT 101.

We are born in and spend much of our lives in organizations. From families to schools to athletic teams and jobs, organizations play a central role in our experience. And this is especially so as we pursue careers. Few of us have the luxury of working as a lone artist unfettered by an organization's demands and restrictions. At times we are grateful to organizations for their services and protection. At other times we hate them being unfeeling and inflexible bureaucracies. In this course we shall examine how organizations are structured with a particular emphasis on businesses and not-for-profit organizations for which most of us will work. How can they be structured so that they are effective and efficient? And how can we personally survive in them when they are less than we might want?

240. Group Dynamics.

This course is designed to develop students' skills in effectively designing, leading and consulting to teams in organizations. This will be a highly interactive course with emphasis on class participation and experiential learning. One of the goals of this course is to provide both the conceptual understanding and the behavioral skills required to implement strategies. To this end, class sessions will make use of a variety of approaches to teaching and learning, including the case method, simulation exercises and lectures. We will cover topics such as leading groups, group formation and socialization, diversity, creativity, group problem solving and decision making, conflict and knowledge sharing. Students will leave this class with knowledge of how to most effectively lead a team as well as how to be an effective team member. [NOTE: Instructors may have different objectives for this course. Please see individual instructors' syllabi for further clarification.]

247. (LGST208, MGMT795) Employment Law.

249. Corporate Development: 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.

251. Consulting to Growth Companies. (A) Prerequisite(s): MGMT 100 & 101; Junior or Senior Standing Recommended.

This course offers students a unique opportunity to develop consulting skills and entrepreneurial expertise by working as consultants to 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.

SM 253. (CINE285, THAR285) Creating, Managing, and Presenting the Arts. (M)

The course will explore how a screenplay is conceptualized, the role of agency relationships in the film business, and - casting as wide a net as possible - the financing, production, direction, distribution, exhibition and marketing of both independent and studio films. A combination of lectures by instructors and practitioners, case studies, film screenings, and consulting projects with independent and Hollywoods creators, packagers, financiers, exhibitors, distributors and publicists will illustrate the relationship between the art of film and the business of film. Guests will include screenwriters, agents, producers, directors, distributors, film festival curators and film critics. In short, we will try to cover all aspects of making a film, and explore that often-tricky intersection of art and commerce.

264. Venture Capital and Entrepreneurial Management. (A)

Prerequisite(s): MGMT 100 & 101; Junior or Senior Standing Recommended.

This elective 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 and demand for private equity over the past two decades. On the supply side, the amount of private equity under management has increased from under \$5 billion in 1980 to over \$300 billion at the beginning of 2003. Despite the recent downturn in private equity fundraising and investment activity, private equity funding is likely to remain an important activity in the near future as pension funds and other institutions continue to diversify their portfolios. On the demand side, an increasing number of entrepreneurs are interested in forming and growing their ventures. The supply and demand for funds are growing globally.

The course is designed principally to address the interests of students who either expect to embark on an entrepreneurial career, or those who expect to assume a managerial role with a venture-backed start-up company, or students who wish to pursue a career in venture capital. The course will touch upon a range of fields including management, finance, accounting, strategy, and legal- and attempt to identify mainstream "best practices" in the area of high growth potential start-ups, with the objective of ensuring that students completing the course will have a solid understanding of the questions and issues that face the typical start-up.

282. Strategic Implementation.

Prerequisite(s): MGMT 100 & MGMT 101.

This course is directed toward the attainment of three interdependent objectives: 1) to develop an understanding of strategy implementation in complex organizations, 2) to understand how organizational planning, design, control and human resource decisions are interdependent and critical to successful implementation, and 3) to develop a sensitivity to the "realities" of strategy implementation in "real-world" organizations. Consideration of theories of implementation is not sufficient; it is necessary also to see strategy implementation as a process of that change that, to be successful, must take a number of factors into consideration. These include how decisions affect individuals in organizations and their consequent commitment to implementation efforts. To meet these objectives, emphasis will be on

lectures, class discussions, and case studies as the instructional techniques.

283. (MGMT783) Strategies for Economic Inclusion. Keith Weigelt.

The majority of humans, estimated to exceed 4 billion people, exist on incomes less than \$3,000 per year. Over 1 billion of these poor exist on less than \$1 per day. Many poor are denied the opportunity to engage in the global business environment. Constraints they face include those of capital, knowledge, and services.

This course is designed to attract those who are interested in the market for the poor. It will provide a managerial guide to those who may want to pursue careers in this space. The course is designed to present a multi-functional view of decisions managers will face.

288. (MGMT788) Governance and Management of Chinese Firms. (A)

Prerequisite(s): MGMT 100 & MGMT 101.

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, OPIM291)

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, OPIM292) Advanced Negotiation.

353. Wharton Field Challenge. Weigelt and Staff.

610. Foundations of Teamwork and Leadership.**611. 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

Summit."

612. Management of Emerging Enterprises.

The management of emerging enterprises - new, small, entrepreneurial organizations - creates a range of multi-facted challenges for the entrepreneur, whether the founder (and founding team) or the first generation of management. Establishing an emerging organization's unique business model or value proposition (not to mention its survival) is often the overriding preoccupation, but even in a new, small organization, managers need to understand how to develop the internal workings of a new firm, how to assess and create a strategy, and how to take into account ever-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 successful management in the 21st century requires a combination of insights drawn from economics, sociology, psychology and political economy. The course has three main parts, and two "bookend" events. The course starts with a class in which you will deal with fundamental issues of strategy, examining issues central to the long- and short-term competitive position of an enterprise. Another part of the course stresses the fact that organizational life is built around a complex interplay of social forces.

The third part of the course, stresses the deep and persistent cross-national differences in economic, political and social institutions that affect the strategy, social structure, performance and value of organizations. The culminating event of the course is the "Global Summit."

780. Management of Crisis Relief Preparedness and Response.

Natural disasters, business failures, and organizational upheavals are some of the most pressing challenges faced by today's leaders. This course is an opportunity for business school students to learn crisis

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management skills, but more importantly to learn how to implement systems to prevent and mitigate the impact of potential crisis. Students will develop an understanding of how a disaster impacts various institutions from developing countries to for-profit organizations. In addition to completing course readings and attending lectures, students will utilize their talents to assist organizations dedicated to mitigating the effects of disasters. The curriculum is

designed to leverage the talented Wharton community (students, faculty, and alumni) to improve the lives of disaster victims through a well-coordinated strategic response.

The course will meet for one semester once a week for 3 hours. Each class will meet for one semester once a week for three hours and will consist of a one-hour lecture followed by a presentation from an outside speaker. Outside of class students will be

expected to work on a field study project with an organization dedicated to disaster response, rebuilding or prevention. These projects will be organized by TA's. Deliverables will include weekly class participation and a final presentation on the work completed in the field study projects.

SM 920. Sem in Hum Res Research.

**MARKETING
(WH) {MKTG}**

**L/R 101. Introduction to Marketing.
(C) Niedermeier.**

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. (MKTG773) Consumer Behavior.
(C) Cutright, Reed. 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. (MKTG756) Marketing Research.
(C) Shen, Eliashberg. Prerequisite(s): MKTG 101, STAT 101. Students are highly encouraged to take statistics in the semester immediately preceding this course.**

This course examines the role of marketing research in the formulation and solution of marketing problems, and the development of the student's basic skills in conducting and evaluating marketing research projects. Special emphasis is placed on problem formulation, research design, alternative methods of data collection (including data collection instruments, sampling, and field operations), and data analysis techniques. Applications of modern marketing research procedures to a variety of marketing problems are explored.

221. New Product Management. (C) Armstrong, Adams. Prerequisite(s): MKTG 101; NOTE: Students may not take this course and MKTG232 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.

222. (MKTG754) Pricing Policy. (C) Prerequisite(s): MKTG 101 and Sophomore standing. 0.5 c.u. One-half term.

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.

224. Advertising Management. (C) Prerequisite(s): MKTG 101 or permission of instructor; NOTE: Students may not take this course and MKTG235 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. (MKTG793) Principles of Retailing. (C) Stephen Hoch. 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.

228. (MKTG728) Contagious: How Products, Ideas, and Behaviors Catch On. (C) Berger. Prerequisite(s): Marketing 101 and 211 are recommended, but not required.

Why do some products catch on and achieve huge popularity while others fail? Why do some behaviors spread like wildfire while others languish? How do certain ideas seem to stick in memory while others disappear the minute you hear them? More broadly, what factors lead to trends, social contagion, and social epidemics?

Interactive media, word of mouth, and viral marketing are important issues for companies, brands, and organizations. This course looks at these and other topics as it examines how products, ideas, and behaviors catch on and become popular. Marketers want their product to be popular, organizations want their social change initiative to catch on and entrepreneurs want their ideas to stick. This course will touch on four main aspects: (1) Characteristics of products, ideas, and behaviors that lead them to be successful. (2) Aspects of individual psychology that influence what things are successful. (3) Interpersonal processes, or how interactions between individuals drive success. (4) Social networks, or how patterns of social ties influence success.

233. (MKTG733) The Social Impact of Marketing. (C) Wes Hutchinson. Prerequisite(s): MKTG101 or permission of instructor. One half term - 0.5 c.u.

This course explores the ways in which the marketing actions of firms can have an impact on society (positive or negative). Of particular interest are the actions that are central to the main products and services delivered by the firm (e.g., the development of products and brands, pricing, advertising, and distribution). There is also a focus on how the consideration of social issues can be integrated into broader marketing strategies and how companies, pro-social organizations, and government agencies can develop joint strategies (e.g., cause-related marketing) and credible metrics and reporting practices for assessing social impact.

The course proceeds in two phases. The first phase covers important background material, such as definitions of social impact, the aggregate marketing system and how it affects society, relationships to branding and marketing strategy, different approaches to measuring social impact, and how to conduct thorough social impact analyses of specific companies, products, and the marketing actions that support them. The second phase is a "drill down" into four problem areas: impact on the environment, impact on health and well-being (physical and mental), impact on culture (including innovation and creativity), and impact on poverty and economic development. In each area, we will identify marketing-related social issues and assess current knowledge and controversies surrounding those issues. In addition to lectures, cases, and guest speakers, students will conduct analyses of social impact and present their findings in class.

235. Principles of Advertising. (C) Prerequisite(s): MKTG 101. NOTE: Students should not take both MKTG235 (full semester version) and MKTG224 (mini course version), since credit will not be given for both courses.

This course focuses advertising via all media - print, video, TV, Internet, etc. Emphasis is placed on understanding the communication process and consumer behavior (psychology), the measurement and evaluation of advertising effects, and developing appropriate media plans.

236. (LGST205, LGST805, MKTG760) Law of Marketing and Antitrust. (C) Constan. Prerequisite(s): MKTG 101.

See Legal Studies, LGST 205.

269. (MKTG669) Special Topics: Experiments for Business Decision Making. (C) Elea Feit. Prerequisite(s): MKTG101 or faculty permission is required; STAT 101, STAT 431, or equivalent is recommended.

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.

271. (MKTG771) Models for Marketing Strategy. (M) Prerequisite(s): MKTG 101, STAT 101.

The purpose of the course is to help participants become better managers by exposing them to various tools developed for analyzing marketing decision problems, and by helping them understand different types of models that have been used to support marketing decisions. The course provides participants with critical skills necessary for evaluating new marketing models about which they may read in the literature and it thus enables them to read the relevant literature more effectively. Participants will understand marketing problems more clearly by analyzing them quantitatively and will become managers who are not likely to be taken advantage of by some quantitative consultants.

277. (MKTG777) Marketing Strategy. (C) Van den Bulte. 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.

278. (MKTG778) Strategic Brand Management. (C) Cassie Mogilner. Prerequisite(s): MKTG 101.

Which brands make you happy? Apple? Starbucks? The Daily Show? Google? What draws you into these brands? How do companies create compelling brand experiences? How could you cultivate a well-loved brand? This course explores such questions with the goal of identifying the ingredients for building an inspired brand, where brand is defined as "a sensibility" - departing from traditional perspectives of brand. The course is created for students interested in building their own brands and/or immersing themselves in the enhancement of an existing brand, and it is comprised of lectures, cases, guest speakers, discussions, in and out of class exercises, all of which culminate in a brand audit group project that students will present in the final class session. Broadly, the course will be divided into four parts: 1) Understanding Brand, 2) Crafting Brand, 3) Measuring Brand, and 4) Managing Brand. The course will provide students with an appreciation of the role of branding and (taking a consumer-centric approach) will augment students' ability to think creatively and critically about the strategies and tactics involved in building, leveraging, defending, and sustaining inspired brands.

288. Pricing Strategies. (C) Prerequisite(s): MKTG 101.

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.

292. Creativity. (C) Schrift. Prerequisite(s): MKTG101.

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 student's (a) creativity (b) ability to innovate and (c) ability to identify, recruit, develop, manage, retain, and collaborate with creative people. The course includes: interaction with guest lecturers; a review of the literature on creativity, creative people, innovation, and design as well as the leadership and management of creative people and innovation; hands on learning of approaches for generating creative ideas; applications of creativity to selected management domains; and integration via individual assignments and a group project in which interdisciplinary teams of students generate a creative product, service, customer experience, business or strategy.

396. (MKTG896) Retail Merchandising. (M) Prerequisite(s): MKTG 101; MKTG 225. 0.5 c.u., One-half term.

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.

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) Staff. Prerequisite(s): None.

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)

Meyer, Reibstein, Bradlow. Prerequisite(s): MKTG611. 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.

622. Marketing Management: Strategy. (B) Prerequisite(s): MKTG 611. Computer simulation, case studies, lectures and assigned readings. Note: This course is only offered in the Wharton Executive MBA program.

In common with Marketing 611, the primary objective of this course is to introduce you to the concepts and theories underlying marketing decision making. Marketing 622 builds upon Marketing 611 with a stronger emphasis on the strategic considerations that drive and integrate the mix. Principal topics include resource allocation, market entry/exit decisions, and competitive analysis. In addition to a mix of cases and lectures, the course relies on a comprehensive computer simulation game that helps highlight these issues and provides the class with a rich set of realistic examples for discussion and analysis. This game allows students to appreciate the real power and value of marketing concepts, develop a disciplined approach to the analysis of marketing situations, and to further enhance their abilities to communicate and interact with peers in solving problems.

669. (MKTG269) Special Topics: Experiments for Business Decision Making. (C) Elea Feit. Prerequisite(s): MKTG 611 or 621 required; STAT 431 or equivalent and MKTG756 recommended but not required.

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.

728. (MKTG228) Contagious: How Products, Ideas and Behaviors Catch On. (C) Berger. Prerequisite(s): MKTG756 and MKTG773 are recommended but not required. Lecture, class discussion, cases.

Why do some products catch on and achieve huge popularity while others fail? Why do some behaviors spread like wildfire while others languish? How do certain ideas seem to stick in memory while others disappear the minute you hear them? More broadly, what factors lead to trends, social contagion, and social epidemics?

Interactive media, word of mouth, and viral marketing are important issues for companies, brands, and organizations. This course looks at these and other topics as it examines how products, ideas, and behaviors catch on and become popular. Marketers want their product to be popular, organizations want their social change initiative to catch on and entrepreneurs want their ideas to stick. This course will touch on four main aspects: (1) Characteristics of products, ideas, and behaviors that lead them to be successful. (2) Aspects of individual psychology that influence what things are successful. (3) Interpersonal processes, or how interactions between individuals drive success. (4) Social networks, or how patterns of social ties influence success.

729. Special Topics - Interactive Marketing: Marketing in the Age of the Empowered Consumer. (C) Wind. Prerequisite(s): MKTG 611 or 621 and MKTG 612 or 613 or 622, or permission of the instructor. Lecture, guest speakers.

The objective of the course is to enhance students' understanding of marketing strategy when empowered consumers are in control. The increased importance of empowered consumers, who are taking over the control in designing customized and personalized products, in determining the price they want to pay (e.g. priceline.com) and in promoting and distributing the products and services to other customers, is changing the traditional approaches to

marketing. The emerging new marketing paradigm is best learned through hands-on experience in experimenting with innovative marketing strategies that recognize that the control is in the hands of the consumer. This project course, in cooperation with organizations who are committed to experiment with these new approaches, will provide the students a combination of both the latest concepts, findings, and methods and the opportunity to apply these to real projects for real clients.

733. (MKTG233) The Social Impact of Marketing. (C) Wes Hutchinson.

Prerequisite(s): MKTG 611 or 621 or permission of instructor. Format: Lecture, class discussion, simulations, student presentations, guest speakers.

This course explores the ways in which the marketing actions of firms can have an impact on society (positive or negative). Of particular interest are the actions that are central to the main products and services delivered by the firm (e.g., the development of products and brands, pricing, advertising, and distribution). There is also a focus on how the consideration of social issues can be integrated into broader marketing strategies and how companies, pro-social organizations, and government agencies can develop joint strategies (e.g., cause-related marketing) and credible metrics and reporting practices for assessing social impact.

The course proceeds in two phases. The first phase covers important background material, such as definitions of social impact, the aggregate marketing system and how it affects society, relationships to branding and marketing strategy, different approaches to measuring social impact, and how to conduct thorough social impact analyses of specific companies, products, and the marketing actions that support them. The second phase is a "drill down" into four problem areas: impact on the environment, impact on health and well-being (physical and mental), impact on culture (including innovation and creativity), and impact on poverty and economic development. In each area, we will identify marketing-related social issues and assess current knowledge and controversies surrounding those issues. In addition to lectures, cases, and guest speakers, students will conduct analyses of social impact and present their findings in class.

753. New Product Management. (C)

Prerequisite(s): MKTG 611 or 621. Format: Lectures, cases, simulations, class discussions, and guest speakers.

The development of new products (goods or services) is an intensively cross-functional process. This course examines that process from the marketing perspective and identifies the key points of contact with operations, finance, organizational policy, and strategic planning. Thus, this course is very much concerned with ideas and how to select the best ideas and make them a reality. The main objectives of the course are (1) to familiarize students with the strategies, frameworks, conceptual tools, and types of marketing research that are considered best practices in the development of new products and (2) to give students the opportunity to apply some of these ideas and methods in the evaluation of a specific product concept, customizing the learning experience to their own needs and interests.

754. (MKTG222) Pricing Policy. (C)

Raju, Zhang. Prerequisite(s): Completion of MKTG 611 or 621; MKTG 612, 613 or 622 concurrently; OPIM 621 and STAT 621 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.

755. Advertising Management. (C)

Malcolm. Prerequisite(s): Completion of MKTG 611 or 621; MKTG 612, 613 or 622 concurrently. Format: Class discussion, cases, and presentation centered around the core subjects of the advertising development process.

The primary objective of this course is to provide the students with an opportunity to learn and apply the core theories, strategies, principles and practices of effective advertising management. The course utilizes theory, marketing and communications research, and significant management experience that are relevant to the design, evaluation and management of advertising. The specific topics covered in the course include consumer segmentation and target selection, consumer motivation and insight, developing a powerful communications strategy and advertising idea, evaluating and optimizing advertising execution, and developing a targeted and effective consumer connections and media plan.

756. (MKTG212) Marketing Research. (C)

Eliashberg, Shen, Zauberma. Prerequisite(s): MKTG 611 or 621; MKTG 612, 613 or 622 concurrently; STAT 613 or 621 strongly recommended. Format: Lecture, discussion, and cases.

The objective of the course is to provide a rigorous experience in marketing research methods. The course is aimed at the manager, who is the ultimate user of the research and is responsible for determining the major scope and direction of research activities. Techniques of data collection, evaluation of alternative sources of information, and methods of evaluating data and presenting the results are covered. The course should help managers recognize the role of systematic information gathering and analysis in making marketing decisions. The course also deals with how to define information needs; the use of test marketing procedures; forms of analysis applicable to marketing research information; and the role of models in decision making.

760. (LGST205, LGST805, MKTG236) Law of Marketing and Antitrust. (M)

See Legal Studies, LGST 805.

771. (MKTG271) Models for Marketing Strategy. (M)

Eliashberg. Prerequisite(s): Completion of: MKTG 611 or 621; MKTG 612, 613 or 622; calculus; and basic statistical analysis, including regression. Format: Evaluating marketing models; practicing with computer-based models and software; building marketing models; discussing case studies that describe modeling applications; group presentations of model-based marketing strategy.

The purposes of the course are to help participants become better managers by acquainting and helping them to understand different types of models that have been used to aid marketing decisions; have them apply various tools developed for analyzing marketing decision problems; give participants critical skills for evaluating new marketing models about which they may read in the literature; help participants understand marketing problems more clearly by analyzing them quantitatively; and produce managers who will not be taken advantage of by some quantitative consultants.

The course is not only about models. It also covers modeling needs in a number of industries. In particular, it address the packaged goods, pharmaceutical and movie industries.

773. (MKTG211) Customer Behavior. (C)

Reed, Kahn, Small. Prerequisite(s): Completion of MKTG 611 or 621 and MKTG 612, 613 or 622. Format: Lectures and discussion, case analyses, presentations. 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.

775. Managing the Value of Customer Relationships. (C) 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. (C)

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. (C)

Prerequisite(s): Completion of MKTG 611 or 621 and MKTG 612, 613 or 622; this course may be taken only in the second year. 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.

778. (MKTG278) Strategic Brand Management. (C)

Cassie Mogilner. Prerequisite(s): MKTG 611 or 621 and MKTG 612, 613 or 622. Format: Lectures, cases, discussions, exercises, and a group project.

Which brands make you happy? Apple? Starbucks? The Daily Show? Google? What draws you into these brands? How do companies create compelling brand experiences? How could you cultivate a brand that makes consumers happy? well-loved brand? This course explores such questions with the goal of identifying the ingredients for building an inspired brand, where brand is defined as "a sensibility" - departing from traditional perspectives of brand. The course is

created for students interested in building their own brands and/or immersing themselves in the enhancement of an existing brand, and it is comprised of lectures, cases, guest speakers, discussions, in and out of class exercises, all of which culminate in a brand audit group project that students will present in the final class session. Broadly, the course will be divided into four parts: 1) Understanding Brand, 2) Crafting Brand, 3) Measuring Brand, and 4) Managing Brand. The course will provide students with an appreciation of the role of branding and (taking a consumer-centric approach) will augment students' ability to think creatively and critically about the strategies and tactics involved in building, leveraging, defending, and sustaining inspired brands.

793. (MKTG225) Retailing. (A)

Hoch. Prerequisite(s): MKTG 611 or 621 and MKTG 622, 613 or 622; or permission of instructor. Format: Lecture and discussion, case analyses, and guest speakers.

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.

SM 890. (OPIM890) 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. Do not bid for seats in the MBA Auction. Visit www.wharton.gcp.org; For Mack Center Ford Fellowship: Acceptance to this course is by application only. Students must apply by April for Fall participation. Visit <http://mackcenter.wharton.upenn.edu>. Individual group meetings with the instructor.

Two Advanced Study Projects are currently being offered through the department by: (1) Global Consulting Practicum (GCP) 1.5 cu; and (2) The Mack Center for Technological Innovation via the Ford Motor Company MBA Fellowship 0.5 cu. Please check the referenced websites for additional information. For course descriptions please see:

<http://marketing.wharton.upenn.edu/programs/mba/courses.cfm>.

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.

892. Creativity. (C) Wind.

Prerequisite(s): None. Format: Lecture, class discussion, guest speakers.

The objective of this course is to enhance the students' creativity, ability to innovate, and ability to identify, recruit, develop, manage, retain, and collaborate with creative people. The course includes: (1) Interaction with creative guest lecturers from diverse fields. (2) A review of the literature on creativity, creative people, innovation, and design as well as the leadership and management of creative people and innovation. (3) Hands on learning of approaches for generating creative new products/services and business ideas. (4) Applications of creativity tools 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, cost reduction efforts, M&A and strategic alliances, organizational design, and management challenges. Given the current global financial crisis and economic recession, much of the applications are going to focus on what corporations (and public policy decision makers) should do to creatively address their challenges.

(5) Integration - Both via individual assignments and a group project in which interdisciplinary teams of students generate

a creative project/ service/ business/ strategy.

896. (MKTG396) Retail

Merchandising. Prerequisite(s): MKTG 611 or 621; or MKTG 793. Format: Lecture, discussion.

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.

899. (MKTG399) Independent Study.

(C) Prerequisite(s): MKTG 611 or 621; and MKTG 612, 613 or 622; /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 960. Judgment and Decision Making Perspectives on Consumer Behavior. (J) PhD Course.

Alternates with MKTG963. Offered every other year.

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 961. Economic/OR Models of Marketing. (K) PhD Course.

Alternates with MKTG964. Offered every other year.

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 963. Information Processing Perspectives on Consumer Behavior. (K) PhD Course.

Alternates with MKTG960. Offered every other year.

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 964. Empirical Models in Marketing. (J) PhD Course.

Alternates with MKTG961. Offered every other year.

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.

966. Measurement and Data Analysis in Marketing. (B) PhD Course.

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 967. Research Methods in Marketing. (A) PhD Course.

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 968. Advanced Topics in Marketing Research. (C) PhD Course. Offered alternate weeks from (MKTG 969) Advanced Topics in Consumer Behavior.

This course is taught collectively by the faculty members from the Marketing Department. It is designed to expose advanced Ph.D. students (2nd year and up) to the cutting-edge research in marketing models in order to help them to define and advance their research interests (an equivalent course is also offered on behavior research). 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 969. Advanced Topics in Consumer Behavior. (C) PhD Course. Offered alternate weeks from (MKTG968) Advanced Topics in Marketing Research.

The purpose of this course is to investigate advanced topics in consumer behavior. This class will be organized in a way that allows you to 1) gain depth in important areas of consumer behavior research identified by faculty; 2) gain exposure to various faculty in marketing and their research values and styles; and 3) develop and advance your own research interests.

SM 970. Seminar in Marketing Strategy. (C) PhD Course. Intended for 2nd year PhD students and above.

This PhD seminar is designed to help students understand the roles of marketing

within the organization, its business strategy, and its success. It exposes students to the main issues in marketing strategy and marketing strategy research, and helps them critically evaluate both fundamental ideas and more recent developments.

The course follows a weekly seminar discussion format requiring each participant to be actively involved in each session. Participants will be assigned readings to present or critique, but all participants will be expected to have read every paper. Students will be assessed based on class contributions, short response papers, and a term paper. The term paper will address an important issue in marketing strategy. It will comprise a research question that is grounded in the relevant literature, a motivation for studying the question, and a proposal for researching it. The proposed research could take the form of an analytical model with a well-specified structure or an empirical study involving an experiment, quasi-experiment, survey, analysis of secondary data, or meta-analysis. The paper will be due on the last day of the exam period. During the last class, each student will make a presentation of their proposed study and share what they have learned so far with the class.

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) Self Assembly of Soft Materials. (A)

Faculty. Prerequisite(s): CHEM 102 ; MSE 220 (Intro. to Materials) or equivalent (Concurrent is OK).

Soft matter describes materials that are neither pure crystalline solids with long range atomic order or pure liquids characterized by one simple viscosity. Many times soft materials display both solid and liquid like behavior depending on the timescale of the applied stress. Colloids, polymers, amphiphiles, liquid crystals, and biomacromolecules are types of soft matter. The focus of this course is on the characteristics common to soft materials namely their length scale, fragile binding energies or proximity to phase transitions, dynamics and propensity to self-assemble.

360. Structure of Materials. (A)

Prerequisite(s): MSE 260.

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 two major areas of materials applications in modern world, structural applications where mechanical design is central and electronic applications where system functionality is the driver, to examine the validity of the above proposition, sometimes reaching surprising conclusions. Issues of process integration in material selection, which feature especially prominently in electronic materials with continuing trend toward miniaturization (now down to 90 nm in commercial products), are emphasized. Emerging bionic applications and historical trends will also be examined in student projects and assigned readings. 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 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.

430. (CBE 430, CBE 510, MSE 580) Polymers and Biomaterials. (B)

Prerequisite(s): MSE 260 or equivalent course in thermodynamics or physical chemistry (such as BE 223, CHE 231, CHEM 221, MEAM 203).

This course focuses on synthesis, characterization, microstructure, rheology, and structure-property relationships of polymers, polymer directed composites and their applications in biotechnology. Topical coverage includes: polymer synthesis and functionalization; polymerization kinetics; structure of glassy, crystalline, and rubbery polymers; thermodynamics of polymer solutions and blends, and crystallization; liquid crystallinity, microphase separation in block copolymers; polymer directed self-assembly of inorganic materials; biological applications of polymeric materials. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, molecular templating of sol-gel growth using block copolymers as templates; structure-property of conducting and optically active polymers; polymer degradation in drug delivery; cell adhesion on polymer surface in tissue engineering.

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.

465. (MSE 565) Fabrication and Characterization of Nanostructured Devices.

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 kinetics are applied to solid state, liquid, and colloidal approaches to making materials. The newest approaches to nanofabrication: microcontact printing, self-assembly, and Nanolithography, 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 group projects. Evaluation is based on 3-4 lab reports, 4-5 problem sets, and 4-5 journal paper summaries.

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. (M)

Prerequisite(s): Permission of the Undergraduate Curriculum Chair and Instructor.

Laboratory course covering many of the experimental techniques used in materials science: optical and electron microscopy, mechanical testing, x-ray diffraction, electrical and optical measurements, superconducting and magnetic properties, solid-state diffusion.

505. (MEAM405, MEAM505, 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.

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-Symmetry, Point and Space Groups. Structures of different material types-glasses, polymers, semiconductors, ceramics and metals. Relationship between bonding and structural types. Methods of structure determination. Diffraction of x-rays and neutrons--x-ray methods. Microstructures of solids. Topology of granular structures. Grain boundary structures. Fractal description of microstructures.

525. (ESE 525) Nanoscale Science and Engineering. (A)

Prerequisite(s): ESE 218 or PHYS 240 or MSE 222 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.

530. Thermodynamics and Phase Equilibria. (A)

Prerequisite(s): Permission of the Undergraduate Curriculum Chair and Instructor.

Review of fundamental thermodynamic laws and criteria for equilibrium. Reaction equilibria in multicomponent systems. Free energies of mixing solutions, liquids, solids, and polymers. Binary and ternary phase diagrams. Surfaces and interfaces.

537. (MEAM537) Nanomechanics and Nanotribology at Interfaces. (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. Mechanics enters a new regime where the role of surfaces, interfaces, defects, material property variations, and quantum effects play more dominant roles. This course will provide an introduction to nano-scale 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. (A)

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 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. (C)

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.

The course will focus on the various approaches to make nanostructures including nanotubes, wires, quantum dots, patterned devices. The lab component of the course includes synthesis of nanoparticles and tubes, sintering and mass transport, colloidal stabilization and hybrid tunneling devices and nanolithography. For each case fundamental concepts are presented, lab results are discussed and compared to prevailing theories. Measurement tools utilized are chemical synthesis, chemical vapor deposition, e-ray diffraction, electron microscopy, atomic

force microscopy, and electronic transport probes.

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. (B) Prerequisite(s): MSE 260 or equivalent course in thermodynamics or physical chemistry (such as BE 223, CHE 231, MEAM 203).

This course focuses on synthesis, characterization, microstructure, rheology, and structure-property relationships of polymers, polymer directed composites and their applications in biotechnology. Topical coverage includes: polymer synthesis and functionalization; polymerization kinetics; structure of glassy, crystalline, and rubbery polymers; thermodynamics of polymer solutions and blends, and crystallization; liquid crystallinity, microphase separation in block copolymers; polymer directed self-assembly of inorganic materials; biological applications of polymeric materials. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, molecular templating of sol-gel growth using block copolymers as templates; structure-property of conducting and optically active polymers; polymer degradation in drug delivery; cell adhesion on polymer surface in tissue engineering.

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. (B) Bonnell, Composto.

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)

670. Statistical Mechanics of Solids. (A)

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-Grüneisen 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. Premed 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 007 lecture and group 7 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. 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 analytic geometry, first and second 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.

L/L 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 an experimental 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. Kazdan.

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, eigenvalues and eigenvectors. Vector calculus: functions of several variables, vector fields, line and surface integrals, Green's, Stokes' and divergence theorems. Series solutions of ordinary differential equations, Laplace transforms and systems of ordinary differential equations. Use of symbolic manipulation and graphics software.

L/R 241. Calculus, Part IV. (C) Staff. Prerequisite(s): MATH 240.

Sturm-Liouville problems, orthogonal functions, Fourier series, and partial differential equations including solutions of the wave, heat and Laplace equations,

Fourier transforms. Introduction to complex analysis. Use of symbolic manipulation and graphics software.

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. (CIS 313, MATH513) Computational Linear Algebra. Staff. Prerequisite(s): Math 114 or 115, 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 313/513. Students can receive credit for at most one of Math 312 and Math 313/513.

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.

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) Complex Analysis. (C) Staff.

Prerequisite(s): MATH 241 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 241 or 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 241 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.

450. (MATH542) Seminar in Computational Mathematics. (M) Staff.

Prerequisite(s): Permission of instructor. May, with permission, be repeated for credit.

A seminar devoted to the study of algorithms for solving problems in discrete mathematics.

475. Statistics of Law. (M) Staff.

Prerequisite(s): Permission of instructor; no formal mathematical prerequisite, but one year of college calculus would be helpful.

Introduction to probability and statistics with illustrative material drawn from cases. Statistical inference. Basic concepts of information theory. This course may not be taken to satisfy the requirements of the major.

480. (MATH550) 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. 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. Geometry-Topology, Differential Geometry. (M) Staff.

Prerequisite(s): Math 500 or with the permission of the instructor.

Review of 2- and 3-dimensional vector calculus, differential geometry of curves and surfaces, Gauss-Bonnet theorem, elementary Riemannian geometry, knot theory, degree theory of maps, transversality.

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, Canonical 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. (CIS 313, 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.

520. (MATH620, 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.

541. 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.

542. (MATH450) Calculus of Variations. (M) Staff.
Prerequisite(s): Math 241.
Introduction to calculus of variations. The topics will include the variation of a functional, the Euler-Lagrange equations, parametric forms, end points, canonical transformations, the principle of least action and conservation laws, the Hamilton-Jacobi equation, the second variation.

546. (STAT530) 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. (STAT531) Stochastic Processes. (M) Staff.

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. 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, PHIL006, PHIL506) 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, MATH671, PHIL412) Introduction to Logic and Computability. (M) Staff.

Prerequisite(s): Math 570 or with the permission of the instructor.

Continuation of Math 570.

572. Introduction to Axiomatic set theory. Staff.

Topics will include: the axioms, ordinal and cardinal arithmetic, formal construction of natural numbers and real numbers within set theory, formal treatment of definition by recursion.

574. Mathematical Theory of Computation. (M) Staff. Prerequisite(s): Math 320/321.

This course will discuss advanced topics in Mathematical Theory of Computation.

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. 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 241, knowledge of 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 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.

590. Advanced Applied Mathematics. (M) Staff. Prerequisite(s): Math 241.

This course offers first-hand experience of coupling mathematics with applications. Topics will vary from year to year. Among them are: Random walks and Markov chains, permutation networks and routing, graph expanders and randomized algorithms, communication and computational complexity, applied number theory and cryptography.

591. Advanced Applied Mathematics. (M) Staff. Prerequisite(s): Math 590 or with the permission of the instructor.

Continuation of Math 590.

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.

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) Complex Analysis. (C) Staff. Prerequisite(s): Math 508-509.

Rapid development of Cauchy theory, the maximum principle and subharmonic functions, basic harmonic function theory, conformal mapping and the Dirichlet Problem. Representations in terms infinite series and products and connections to the theory of entire functions. Meromorphic functions and the Mittag-Leffler and Weierstrass problems. Other topics as time permits (Second order linear O.D.E.'s, asymptotics, prime number theorem, Picard theorems, elliptic functions, basic sheaf theory, Riemann surfaces, fluid flow problems.)

609. (AMCS609) Real Analysis. (C) Staff. Prerequisite(s): Math 508-509.

Construction and properties of Lebesgue measures in Euclidean space, Borel measures and convergence theorems. Elementary function spaces. Some general measure theory, including the Caratheodory construction of measures from outer

measures, the Radon-Nikodym theorem, the Fubini theorem, and Hausdorff measure. Stone Weierstrass theorem. Elements of classical Harmonic analysis: the Fourier transform on basic function spaces, the Hilbert and Cauchy transforms.

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.

SM 878. Probability and Algorithm Seminar. Staff.

Seminar on current and recent literature in probability and algorithm.

SM 879. Additive Combinatorics.

Advanced Graduate Courses

Algebra

620. (MATH520, MATH702) 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, Čech 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 étale 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 Poincaré-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. (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.

678. (MATH440, MATH441) Combinatorial Analysis and Graph Theory. (M) Staff. Generating functions, enumeration methods, Polya's theorem, combinatorial designs, discrete probability, extremal graphs, graph algorithms and spectral graph theory, combinatorial and computational geometry.

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 will discuss Mathematical Foundations of Computer Security in the Fall and will be followed in Spring by Math 691, Advanced Topics in Mathematical Foundations of Computer Security. In Fall we will study basic topics in cryptography and network security protocols.

"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, MATH620) 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. (MATH694) 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. (MATH540) 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. 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 860. Seminar in Riemannian Geometry. (M) Staff.

Seminar on current and recent literature in Riemannian geometry.

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}

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.

L/L 101. Introduction to Mechanical Design. (C)

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.

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 or AP credit for Physics C, Mechanics.

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 recommended, 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, manufacture, 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)

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): Physics 150 or MEAM 110/147. Corequisite(s): Math 240 and MEAM 247 are strongly recommended.

This course is intended for students in mechanical engineering, civil-systems, materials science, and other fields. It continues the treatment of the statics of rigid bodies begun in Physics 150 and MEAM 110 and leads to the treatment of deformable bodies and their response to loads. The concepts of stress, strain, and linearly elastic response are introduced and they are applied to the behavior of rods, beams, shafts and pressure vessels. Safety factors and the onset of mechanical failure are discussed. The course incorporates the use of computers to solve problems, and includes a written library research assignment and a team design project.

L/R 211. Engineering Mechanics: Dynamics. (B) Prerequisite(s): MEAM 210. Corequisite(s): MATH 241 or ENM 251 and EAS 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 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. (A) 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): MATH 241 or ENM 251 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. (B) 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.

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.

L/L 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).

445. Mechanical Engineering Design Projects. (A) Prerequisite(s): Junior standing.

This is a capstone design project course in mechanical engineering and is required of all mechanical engineering students. Students will be involved in selected group or individual projects emphasizing design, development, and experimentation, under the supervision of a MEAM faculty advisor. Projects are sponsored either by industry or by Penn professors. Alternatively, students may propose their own projects. Each project is approved by the instructor and the faculty advisor. The work is spread over MEAM 445 and MEAM 446. In addition to being involved in the design project, MEAM 445 covers project planning, patent and library searches, professional education, ethics, writing skills, communication, and technical presentation.

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. (B) 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 hands-on experimental and computational laboratory experiences.

502. Energy Engineering. (A)

Prerequisite(s): MEAM 203 or equivalent, and MEAM 333 or equivalent (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.

504. Enhancing Sustainability Through 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, 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.

L/L 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).

513. (ESE 406, ESE 505) Modern Feedback Control Theory. (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 teaches advanced mechatronics concepts that include the design and implementation of networked embedded systems, large-scale actuation, advanced sensing 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 collection of short performance pieces inspired by Shakespeare's A Midsummer Night's Dream with both mechatronic and human performers from the Pig Iron Theater Troupe. A final paper will be required that is ready for conference proceedings.

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. (B) 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 planetary rovers, robotic pets, medical

surgical-assistive devices, and semi-autonomous search-and-rescue vehicles. This introductory-level course presents the fundamental kinematic, dynamic, and computational principles underlying most modern robotic systems. The main topics of the course include: coordinate transformations, manipulator kinematics, mobile-robot kinematics, actuation and sensing, feedback control, vision, and motion planning. The material is reinforced with hands-on lab exercises including robot-arm control and the programming of vision-guided mobile robots.

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) Rigid body kinematics; Newtonian formulations of laws of motion; concepts of momentum, energy and inertia properties; generalized coordinates, holonomic and nonholonomic constraints. Generalized forces, principle of virtual work, D'Alembert's principle. Lagrange's equations of motion and Hamilton's equations. Conservation laws and integrals

of motion. Friction, impulsive forces and impact. Applications to systems of rigid bodies.

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) Nanomechanics and Nanotribology at Interfaces. (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. Mechanics enters a new regime where the role of surfaces, interfaces, defects, material property variations, and quantum effects play more dominant roles. This course will provide an introduction to nano-scale 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, 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.

544. (BE 455, 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 molecule studies to single cell manipulations, the broad field of cell and molecular biology is becoming increasingly quantitative and increasingly a matter of systems simplification and analysis. The elaboration of various stresses on cellular structures, influences of interaction pathways and convolutions of incessant thermal motions will be discussed via

lectures and laboratory demonstration. Topics will range from, but are not limited to, protein folding/forced unfolding to biomolecule associations, cell and membrane mechanics, and cell motility, drawing from very recent examples in the literature. Frequent hands-on exposure to modern methods in the field will be a significant element of the course in the laboratory. Skills in analytical and professional presentations, papers and laboratory work will be developed.

L/R 561. Thermodynamics I. (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 statistical and nonequilibrium thermodynamics. Applications to be discussed include advanced power and aerospace propulsion cycles, fuel cells, combustion, diffusion, transport in membranes, materials properties, superconductivity, elasticity, and 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: Multi-component transport processes; Electrokinetic phenomena; Phase change at interfaces: Solidification, melting, condensation, evaporation, and combustion; Radiation heat transfer: properties of real surfaces, non-participating media, gray medium approximation, participating media transport, equation of radiative transfer, optically thin and thick limits, Monte-Carlo methods; Microscale energy transport in solids; microstructure, electrons, phonons, interactions of photons with electrons, phonons and surfaces; microscale radiation phenomena.

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 metrology 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 will focus on a few topics relevant to micro-fluidics and nano-technology. In particular, we will learn how the solid liquid interface acquires charge and the role that this charge plays in colloid stability, electroosmosis, and electrophoresis. Other topics will include controlled nano-assembly with

dielectrophoresis, and stirring at very low Reynolds numbers (Lagrangian Chaos). The focus of the course will be on the physical phenomena from the continuum point of view. The mathematical complexity will be kept to a minimum. Software tools such as Maple and Femlab will be used throughout the course. The course will be reasonably self-contained and necessary background material will be provided consistent with the students' level of preparation.

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): Undergraduate Controls Course.

This course focuses on nonlinear systems, planar dynamical systems, Poincare Bendixson Theory, index theory, bifurcations, Lyapunov stability, small-gain theorems, passivity, the Poincaré map, the center manifold theorem, geometric control theory, and feedback linearization.

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. Can also be taken as a corequisite.

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. Fracture Mechanics. (M)

Prerequisite(s): Background equivalent to MEAM 519 and ENM 510.

Linear elastic analysis of bodies with cracks. Energy balance criterion for crack growth and stability. Analysis of cracks in elastic-plastic and rate-dependent materials. J integral and applications to crack growth and stability. Large-scale yielding and dynamic fracture. Interface fracture.

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.

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.

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 in 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) 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 fall 2011 course offerings <http://www.college.upenn.edu/courses/seminars/freshman.php>. Fulfills Cross Cultural Analysis.

History of Music

030. 1000 Years of Musical Listening. (C) Arts & Letters Sector. All Classes. Dillon, Dolan. 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. Repertoires. (C) Abbate, Bernstein, Dillon.

Courses offered under this number will focus on a specific repertoire of the classical tradition, and will introduce students to a broad range of music, analytical methods, and cultural context. Courses will include, for example, History of the Symphony (formerly Music 40): A survey of representative symphonies by such composers as Haydn, Mozart, Beethoven, Schubert, Berlioz, Schumann, Brahms, Tchaikovsky, 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. And, History of Opera: Stage, Screen, Recording (formerly Music 30). Pure pleasure or pure torture: Opera is said to be both. Music 31 is an introduction to opera based on its 400-year history from 1600 to the end of the 20th century. The course is open to all students, and ability to read music is not necessary. Issues covered include the relationships between words, action, and music in opera; singers and their power; opera as spectacle; opera in film; and the experience of live performance.

032. Composers. (M) Dolan, Kallberg.

Courses under this number will focus on a specific composer from the classical tradition. As well as introducing students to the music and cultural environment of a given composer, courses will also examine the reception and canonization of a given composer, and the mechanisms of cult-formation. (Formerly Music 028)

033. Film Sound, Film Music. (M) Abbate.

This course is an introduction to music in movies from the late 1920s to the 1960s, the era in which soundtrack film music was invented and codified. We also consider selected examples from film soundtracks up to the present. Topics covered include: techniques of film sound, how music works in conjunction with action and image, basic technological issues, scores by prominent film composers, and the role played by musical performance in movie plots.

Ability to read music is not required, since film music is generally only accessible on an aural basis, not from written scores. However, students should be ready to listen with attentiveness and thoughtfulness, and be prepared to analyze a range of aural phenomena as heard.

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.

130. Introduction to European Art Music. (M) Dillon, Dolan, Kallberg. Prerequisite(s): Music 070. Fulfills the requirements of the Music Major.

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.

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.

230. Historical Eras and Topics: Earlier Periods. (M)

Classes under this number offer a more in-depth look at historical eras and topics or repertoires associated with a specific period of music history. Classes will either focus on one historical epoch (Medieval,

Renaissance, Baroque). The purpose of this course is to give students the opportunity to engage deeply with musical objects, both historically and analytically, as well as to expose them to a range of methodologies with which to study music. (Formerly Music 120, 121,122).

231. Historical Eras and Topics: Later Periods.

Classes under this number offer a more in-depth look at historical eras and topics or repertoires associated with a specific period of music history. Classes will either focus on one historical epoch (Enlightenment, Romantic, Modernism). The purpose of this course is to give students the opportunity to engage deeply with musical objects, both historically and analytically, as well as to expose them to a range of methodologies with which to study music. (Formerly 123, 124).

232. Themes in Music History. (M)

Courses under this number will be organized thematically, tracing a genre or musical concept through several eras. Courses include, for example, courses on Voice, the Sacred, the Uncanny, Technology, Instruments, and Machines.

233. Musical Thought and Scholarship.

This course will introduce students to the field of music philosophy and musicology.

234. Music Makers. (M)

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) 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)

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.

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.

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) 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).

150. Introduction to Ethnomusicology. (M) Arts & Letters Sector. All Classes. Muller, Rommen. 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.

250. (ANTH257, ANTH657, FOLK255, MUSC650) Field Methods in Ethnomusicology. (M) Muller, Rommen.

This course explores various methodological problems and theoretical constructs that confront us during the course of ethnomusicological fieldwork. How can we approach writing about our ethnographic work without silencing the voices of those who should be heard? In what ways might transcription and notation complicate power structures and reinforce our own musical values? What special challenges need to be negotiated in the process of documenting ethnographies on film? How do ethical and economic dilemmas inform our approach to making sound recording? A series of readings in ethnomusicology and anthropology will suggest some answers to these questions--answers that will, in turn, be tested by means of several interconnected fieldwork projects focused on gospel music in West Philadelphia. Our readings and fieldwork experiences will shape our classroom discussions, leading not only to be a better understanding of ethnomusicological methods, but also to a deeper appreciation of the "shadows" that we cast in the field.

255. (AFRC157, FOLK157, LALS157) Accordions of the 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, ANTH253, FOLK253, GSWS253) 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 par of this course. No prior performance experience required. (Formerly Music 253).

257. (AFRC258, ANTH256, FOLK259, 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. (AFRC258, FOLK158, 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.

Advanced study in a selected topic in Ethnomusicology.

Theory & Composition

070. Making Sense of Music: Introduction to Music theory and Musicianship. (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, 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, up to modulation to distant key areas. Repertoires include common-practice and select popular and vernacular music. Musicianship skills include sight-singing, dictation, and keyboard harmony.

L/L 171. Theory and Musicianship II. (B) Moreno, Reise, Weesner.

Prerequisite(s): Music 170. Required of music majors.

Continuation of techniques established in Theory and Musicianship I. Explores chromatic harmony in music of composers from Beethoven to Rachmaninoff. Concepts will be developed through analysis and model composition. Assignments will include the composition of pieces in the styles of these composers as well as several papers. Musicianship skills will include sight singing, clef reading, harmonic dictation and keyboard harmony.

270. Theory and Musicianship III. (M)

Moreno, Primosch, Reise, Weesner.
Prerequisite(s): Music 170 and 171.

Analysis of the principal styles of 18th-Century Music. Frequent composing assignments in various genres in the style of Bach.

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) Primosch.
Prerequisite(s): Music 070 or 170.

This hands-on course will cover basic MIDI sequencing and patch editing, as well as the rudiments of sampling, digital recording, and software synthesis. Students will complete projects using hardware and software in the Music Department's Undergraduate Computer Lab. Musical examples from the classic and popular literatures of electronic music will be analyzed and discussed. Although basic musical literacy is assumed, prior experience in electronic music is not required. (Formerly Music 286).

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.

277. Music and Technology. (A) Lew.
Prerequisite(s): Music 070 or 170.

This course provides an overview of various aspects of the field of music technology, with an equal emphasis on conceptual knowledge and technical skills. The course offers a practical introduction to the application of computer systems in musical composition, recording, performance, instruction, multi-media design, and research. (Formerly Music 172).

278. Composition for Musicians. Staff.
Prerequisite(s): Music 170.

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) Staff.

Advanced seminar in topics of music theory and compositions.

Other Undergraduate Courses

005. College Music Program. Staff.

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 contact Mike Ketner (mketner@sas.upenn.edu) for Bursar Contract and list of instructors.

007. Ensemble Performance. (E) Staff.

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.

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) 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.

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.

166. (EALC084) Music of Korea. (M) schreibeis.

This course will survey the music of Korea with the goal of placing specific musical genres in cultural and historic contexts. A wide-ranging approach will emphasize the diversity of Korea's musical styles, including court, folk, popular, film, and contemporary classical music. No prior knowledge in Korean language or culture is presumed. Does not fulfill Major or minor requirements.

265. (SAST005) PERF ARTS SOUTH ASIA. (C)

398. Study Abroad.

Study Abroad

499. Arts Entrepreneurship. Ketner. In recent years, artists and musicians have begun to recognize the need for the development of certain non-artistic skills that can assist them in taking more control over their careers. This course will help students develop an entrepreneurial mindset with regard to their careers, focusing on skills vital to idea generation and the implementation of ideas such as creative thinking, strategic and business planning, marketing, financial analysis/budgeting, and raising money. Through lectures and individual and group projects, students will gain the background and experience necessary to conceive of new ways to introduce the world to their artistic talents and the ability to execute those plans. Does not fulfill Music major or minor requirements.

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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) Narmour.

Current methods in the analysis of tonal music.

SM 621. Analytical Methods: Twentieth-Century Music. (M) Staff.

Current methods in the analysis of twentieth-century music.

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. 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) Dillon.

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.

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-thirty minute documentary films on a particular subject.

See sample syllabus and projects on <http://ccat.sas.upenn.edu/music/westphilly/music>

SM 705. (AFRC705, ANTH705, COML715, FOLK715, GSWS705) Seminar in Ethnomusicology. (A)

Muller. Open to graduate students from all departments.

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.

*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 Grocheo, Philippe de Vitry, Brunetto Latini and Deschamps, and consideration of a range of chansonniers, including the Chansonnier du roi, the Montpellier codex, and the Machaut 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 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 780. 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

698. Preparation of the A.M. Portfolio. (C)

Guidance in preparation of the A.M. portfolio in composition.

699. Preparation of the A.M. Essay in History and Theory. (C)

Guidance in preparation of the A.M. essay in the history and theory of music.

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

799. Guided Reading in Musical Scholarship. (C)

Guidance in preparation for the A.M. comprehensive examination in the history and theory of music.

800. Teaching Music History. (M) Staff.

The teaching of music history courses to undergraduates.

801. Teaching Music Theory. (M) Staff.

The teaching of music theory courses to undergraduates.

802. Teaching World Musics. (M) Muller, Rommen.

The teaching of world music courses to undergraduates.

988. Preparation Dissertation Composition. (M)

990. Masters Thesis. (C)

994. Preparation of Ph.D. Proposal. (C)

995. Dissertation. (C)

998. Independent Study in Composition. (C) May be taken for multiple course-unit credit.

Private instruction in musical composition.

999. Independent Study and Research. (C) May be taken for multiple course-unit credit.

Individual study and research under the supervision of a member of the faculty.

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. Amphibious Warfare. (I)

A study of amphibious warfare as an element of a naval strategy. The course traces the development of and use of amphibious operations from the civil war to present. Topics covered include research and development of equipment, doctrinal development, conduct of operations, and contemporary applications in power projection.

NEAR EASTERN LANGUAGES AND CIVILIZATIONS (AS) {NELC}

GENERAL

L/R 085. (COLL004, EALC011) 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.

NEAR EASTERN NON-LANGUAGE COURSES IN LITERATURE, HISTORY AND CULTURE

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) The Middle East in the 20th-Century. (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.

SM 036. (CINE036) The Middle East through Many Lenses. (M) Sharkey H.

This freshman seminar introduces the contemporary Middle East by drawing upon cutting-edge studies written from a variety of disciplinary perspectives. These include history, political science, and anthropology, as well as studies of mass media, sexuality, religion, urban life, and the environment. We will spend the first few weeks of the semester surveying major trends in modern Middle Eastern history. We will spend subsequent weeks intensively discussing assigned readings along with documentary films that we will watch in class. The semester will leave students with both a foundation in Middle Eastern studies and a sense of current directions in the field.

This freshman seminar introduces the contemporary Middle East by drawing upon

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) Allen.

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.

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. Fulfills History & Tradition Sector (all classes) and Cross Cultural Analysis - Class of '10 and after.

052. (HIST140, JWST157, NELC452, RELS121) History of Jewish Civilization II: The Middle Ages. (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 life from the process by which the Jews gradually ceased to be a society unto themselves to the transformations of the modern era, from the Enlightenment and the rise of a broad revolutionary socialism. Within the evolving forms of Jewish religious experience as emancipation, Jewish-gentile relations, the emergence of distinct reestablishment of political sovereignty in modern Israel. Weekly readings include primary sources such as memoirs, petitions, folklore, and works of literature.

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 of 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.

SM 066. Lords of the Nile: Rulership and Government in Ancient Egypt. (M) Wegner. Freshman Seminar.

In this course we will examine the ways in which one of the world's most ancient and longest lasting civilizations was governed. Egypt is renowned for the ubiquitous images of its Pharaohs: divine kings who ruled Egypt under the divine sanction of the gods. The king was only the top of a vast pyramid of powerful officials which included viziers, treasurers, military leaders, local governors, town mayors and scribes. The course aims to investigate the ways in which the rulership of Egypt worked: from the highest levels of royal power down to the running of towns and villages.

In the first part of the course we will explore the nature of the Pharaoh and his role as the supreme political and religious leader in the country. We will continue by looking at the activities of the royal family and central government working our way into an examination of how Egypt's provinces were run by local noble families (the "nomarchs"-who could often become as powerful as the king himself). At a lower level, but perhaps more important in the daily lives of most ancient Egyptians, we will look at the administration of cities, towns and villages by local headmen and mayors. Other topics we will delve into will include the role of the temples; crime and punishment; the military; the lifestyles of Egypt's rich and powerful, as well as the ways in which Egypt's rulers could be rapidly altered through revolution, coups and assassinations. Our ultimate goal will be an appreciation of both the successes and failures of the lords of the Nile in ruling

their country over the remarkable time span of 3000 years.

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 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) Introduction to the 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) Zimmerle. 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 119. (CINE119, COML119) Middle Eastern Cinema: Law and Society. (M) Minuchehr.

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.

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 *Giikl* 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.

155. (ANTH124, JWST124, RELS024) Archaeology and 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. Stern.

The study of four paradigmatic and classic Jewish texts so as to introduce students to the literature of classic Judaism. Each text will be studied historically -- "excavated" for its sources and roots -- and holistically, as a canonical document in Jewish tradition. While each text will inevitably raise its own set of issues, we will deal throughout the semester with two basic questions: What makes a "Jewish" text? And how do these texts represent different aspects of Jewish identity? All readings will be in translation.

SM 158. (COML257, JWST153, NELC458, RELS223) Jewish Literature in the Middle Ages. (C) Stern.

An introduction to medieval Hebrew literature, with special attention to poetry, narrative, and the interpretation of the Bible, and to the varieties of Jewish experience that these literary works touch upon. All readings in translation.

159. (CINE159, COML282, ENGL279, JWST102, JWST154) Modern Hebrew Literature and Culture in Translation: Literary Auto/Biographies. (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 screenings. 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 egocentrism 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 in an individualistic period where it is acceptable to talk about open wounds and trauma. 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.). In addition to the author's life. Therefore, the genres examined in this course are fluid: we will be studying memoirs; poetry and prose that conceal the author's life story; and even biographies (literary or not). Authors to be studied

included: Yehuda Amichai, Dahlia Ravikovitch, Haim Be'er, Aharon Appelfeld, Amos Oz, Sami Michael, and S.Y. Agnon. Filmmakers include: Dror Shaul, Eli Cohen and Ari Folman. Not everything included in the syllabus will be studied. All works in translation. There will be 5-6 film screenings. Films will be placed on reserve at the library for those unable to attend the screenings. The contents of the course changes from year to year so students may take it for credit more than once.

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.

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.

188. (HIST188) Revolutions Middle East.**201. (COML212) Modern Middle Eastern Literature in Translation. (B)**

Arts & Letters Sector. All Classes. Allen/Gold.

This course is team-taught by four professors with specialties in Arabic, Hebrew, Persian and Turkish literatures. The course deals with the modern literature within each tradition and focuses on poetry, short story and the novel. The readings are all in English. The course is conducted in a seminar format. Students are expected to participate in classroom discussion of the materials assigned for each session, and evaluation is partially based on the quality of that participation. A short paper is assigned on the poetry and the short stories, and there is a final, longer term paper.

233. (COML215) Arabic Literary Heritage. (A) Allen.

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 in the Middle East across the sweep of the Islamic era, into the modern period, and until the present day. It will use the historical study of food and "foodways" as 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

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 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.

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 250. (COML380, JWST255, NELC550, RELS224) The Bible in Translation. (C) Staff. Spring 2011.

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. May be repeated for credit. Fulfills Cross

Cultural Analysis - Class of '10 and after. Spring 2012: Psalms For thousands of years, people have turned to the biblical book of Psalms in times of joy, anxiety, crisis, and gratitude. This course aims to understand the enduring allure of the book of Psalms by exploring the literary structure, historical context, and meaning of selected psalms. Using primary and secondary sources, this course will focus on psalms relevant to various faith traditions and psalms that raise interesting interpretive issues and ideas.

SM 252. (ANTH129, JWST100, NELC552, RELS129) Themes in Jewish Tradition. (C) History & Tradition Sector. All classes. Ben-Amos, Stern, Dohrmann.

Course topics will vary; they have included The Binding of Isaac, Responses to Catastrophies in Jewish History, and Concepts of Jewishness from Biblical Israel to the Modern State (Stern); Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann); Performing Judaism (Fishman)

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.

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) Fishman.

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.

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, 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, HIST371) Africa and the Middle East. (C) Troutt Powell.

SM 335. (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 (AMES 036) 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.

SM 342. (NELC642) Introduction to Mesopotamian Literature. (C) Tinney.

An introduction to the literature of Ancient Mesopotamia.

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) 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.

422. (ARTH422) Art of the Ancient Near East. (C) Pittman.

Emphasis on monumental art work of the Ancient Near East as the product of cultural and historical factors. Major focus will be on Mesopotamia from the late Neolithic to the Neo-Assyrian period, with occasional attention to related surrounding areas such as Western Iran, Anatolia, and Syria.

434. (COML353, COML505) Arabic Literature and Literary Theory. (A) Allen.

This course takes a number of different areas of Literary Theory and, on the basis of research completed and in progress in both Arabic and Western languages, applies some of the ideas to texts from the Arabic literary tradition. Among these areas are: Evaluation and Interpretation, Structuralism, Metrics, Genre Theory, Narratology, and Orality.

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/lugha scholars). No prerequisites. Additional advanced-level assignments can be given for graduate credit.

440. (NELC150) Introduction to the Bible (The "Old Testament"). (A) 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) Staff.

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. Fulfills History & Tradition Sector (all classes) and Cross Cultural Analysis - Class of '10 and after.

452. (HIST140, JWST157, NELC052, RELS121) History of Jewish Civilization II: The Middle Ages. (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) Stern.

The study of four paradigmatic and classic Jewish texts so as to introduce students to the literature of classic Judaism. Each text will be studied historically -- "excavated" for its sources and roots -- and holistically, as a canonical document in Jewish tradition. While each text will inevitably raise its own set of issues, we will deal throughout the semester with two basic questions: What makes a "Jewish" text? And how do these texts represent different aspects of Jewish identity? All readings will be in translation.

SM 458. (COML257, JWST153, NELC158, RELS223) Jewish Literature in the Middle Ages. (C) Stern.

An introduction to medieval Hebrew literature, with special attention to poetry, narrative, and the interpretation of the Bible, and to the varieties of Jewish experience that these literary works touch upon. All readings in translation.

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

SM 489. (JWST419, 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

515. (NELC115, RELS544) Persian Mystical Thought: Rumi. (M) Minuchehr.

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) 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 101 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.

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/lugha-writers). 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 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. (JWST100, NELC252, RELS129) Themes in Jewish Tradition. (C) Ben-Amos, Stern.

Course topics will vary; they have included The Binding of Isaac, Responses to

Catastrophies in Jewish History, and Concepts of Jewishness from Biblical Israel to the Modern State (Stern); Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann)

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) Stern. 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. (JWST553, 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 567. Seminar on Egyptian Archaeology and History. (M) Wegner. Specific topics will vary from year to year.

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.

SM 617. (AAMW518, ARTH518) 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) Minucheher.

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 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.

SM 642. (NELC342) Introduction to Mesopotamian Literature. (C) Tinney.

An introduction to the literature of ancient Mesopotamia.

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.

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) First Year Akkadian II. (B) Staff. Prerequisite(s): ANEL 440.

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 stelae (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 BEATY 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 Ededl'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 I. (A)

Staff. An introduction to the grammar of the Aramaic language with emphasis on developing skills in reading Aramaic texts.

576. (JWST457) Aramaic II. (B)

Staff. Prerequisite(s): ANEL 575 or permission of the instructor.

An introduction to the grammar of the Aramaic language with emphasis on developing skills in reading Aramaic texts.

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. 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 642. (ANEL242) Readings in the Aramaic Targums. (M)

Staff. Prerequisite(s): Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or comparable setting.

In late antiquity, both in Israel and in Babylonia, the custom developed of accompanying the Bible reading in synagogues with simultaneous oral translation (targum) into the Aramaic spoken language of the day. The translators negotiated their way between literal translation and various degrees of interpretive translation based on the different styles and idioms of Hebrew and Aramaic and considerations of theology, law, and other matters. Those targums popular in the land of Israel expanded the text considerably by introducing aggadic lore in the translation. They were studied by the laity, exerted a strong influence on the medieval Bible commentators and are still regularly studied in some Jewish circles today. They constitute a valuable resource for the study of the Hebrew Bible and for understanding Jewish belief, practice, and folklore. Since the Renaissance they have also been studied by Christian scholars as an aid to understanding Scripture and as a window on Jewish belief contemporary with the early development of Christianity. The translators' methods, especially as explained by S.D. Luzzatto (Shadal) in the 19th century, are a virtual encyclopedia of the philosophy and techniques of translation.

The course will begin with a brief orientation in the grammar of the targums to enable students to recognize the main differences between Hebrew and Aramaic. The main focus will be on studying and comparing selected narrative, poetic and legal passages and analyzing their interpretive emphases, their religious ideas, and their methods of translation.

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. (ANEL246) 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's 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 ALTÄGYPTISCHEN 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 ALTÄGYPTISCHEN OPFERFORMEL). For the wisdom literature, the texts of Kagemni (Jequier, LE PAPIRUS 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 PAPIRI 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.

742. Akkadian Economic Texts. (C)

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 747. Sumerian Daily Texts. (M)

SM 748. Sumerian Seminar. (C)

Tinney.

Extensive readings in a variety of 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) Wogayehu.

482. (AFRC241, AFRC541, AFST241, AFST541) Elementary Amharic II. (B)

Staff. Prerequisite(s): Completion of NELC 481. Offered through the Penn Language Center.

483. (AFRC242, AFRC543, AFST242, AFST543) Intermediate Amharic I. (A)

Wogayehu. Prerequisite(s): Completion of NELC 482 or permission of the instructor.

484. (AFRC243, AFRC544, AFST243, AFST544) Intermediate Amharic II. (B) Staff.

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 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.

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. The test of speaking ability will consist of the Oral Proficiency Interview.

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.

038. (ARAB638) Advanced Arabic & Syntax II. (B) Staff. Prerequisite(s): ARAB 037.

This course is a continuation of ARAB 037/637.

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) Sayed. See the CLPS Course Guide. **This course does not fulfill the College 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 042) 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) Sayed. 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) Sayed. 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) Sayed. 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. Intensive Elementary Arabic I&II. (L) Staff. Offered through the College of Liberal and Professional Studies Summer Session I.

This is the 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 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.

133. 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 College of General Studies; 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. 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.

The primary goal of this course is to introduce undergraduate students to reading the Qur'an in Arabic. Through the reading and study of selected major Qur'anic narratives, 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 sura 1, 112, 113, or 114). In addition, through in-class discussion of the text in Arabic and Arabic writing assignments, students will reinforce their Arabic speaking, listening, and writing skills.

SM 432. (COLL226, COML432) Arabic Readings in Belles-Lettres. (A) Arts & Letters Sector. All Classes. Staff. Prerequisite(s): Proficiency in ARAB 036/636.

Readings in Arabic texts taken from a variety of literary genres from all periods. The course aims to improve reading skills and vocabulary by introducing students to extensive passages taken from Arabic literature.

433. Arabic Readings in the Social Sciences and the Media. (K) Aloush. Prerequisite(s): Completion of ARAB 036/636 or permission of the instructor.

This course is designed to train students interested in a professional career involving the use of Arabic written materials and media. This class will explore the Middle East through the region's media providing timely analysis of Arabic media, as well as original analysis of ideological, intellectual, social, cultural, and religious trends in the Middle East that caused the current turmoil and revolutions. The Egyptian and Tunisian revolutions, for example, will be extensively studied through media. Regular attendance and thorough preparation and presentation are essential to success in this course. It is intended that, upon completion of this course, students will be able to work independently with a variety of media texts at different levels. Students will work on a final project at the end of the semester to analyze different phenomenon of the Middle East through the media from a perspective from their choice.

SM 435. Readings in Islamics. (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.

SM 436. Introduction to Classical Arabic Texts. (C) Lowry. Prerequisite(s): Completion of ARAB 036/636 Advanced Intermediate Arabic; or permission of the instructor.

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. Preparation means, for these purposes, supplying all vowels and other necessary diacritical marks, as well as looking up unfamiliar words and constructions in appropriate dictionaries or other reference works. Regular attendance and thorough preparation are essential to success in this course. 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.

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.

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.

SM 533. Readings in Islamic Law. (M) Lowry. Prerequisite(s): Completion of ARAB035/636 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.

638. (ARAB038) Advanced Arabic & Syntax II. (B) Staff.

This course is a continuation of ARAB 037/637.

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.

Topics vary from year to year in accordance with the interests and needs of students.

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.

180. (COML125, ENGL103, FOLK125) Narrative Across Cultures. (C) Arts & Letters Sector. All Classes. Allen.

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.

401. (URDU401) Beginning Urdu. (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.

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 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.

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.

**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. (E)** Engel. Prerequisite(s): HEBR 054 or permission of instructor.

Reading and discussion of contemporary Israeli journalism and imaginative writing and development of conversation skills, accompanied by visual material from films and the internet. Students will be expected to give a classroom presentation and to write short essays.

**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 257. (HEBR557, JWST257,
RELS226) Studies in Rabbinic
Literature: Responses to the
Destruction of the Temple. (D)** Stern.

This course will introduce students to the modern study of Talmudic literature--Mishnah, Tosefta, and the Palestinian and Babylonian Talmuds. The first part of the course will deal with the history of the concept of the Oral Law (Torah shebe'al peh) and its practice, and the history of the literature that eventually comes out of that oral tradition, including the history of its transmission in medieval manuscripts and printed editions, and the ways in which the material shape of the text influenced its study and reception in Jewish culture. The second part of the course will consist of an intensive analysis of one chapter in the Talmud, Berakhot 8, by tracing its history through the documents of Talmudic literature (the Mishnah, Tosefta, and two Talmuds). No previous experience in Rabbinic literature is required (although it is recommended), but all students must be able to read unpointed Hebrew texts. If you have a question as to whether this course is appropriate for you, please contact the professor.

**SM 258. (FOLK258, HEBR558,
JWST258, RELS228) Studies in
Medieval Jewish Literature. (C)** Stern.
Prerequisite(s): Reading knowledge of Hebrew.

This course introduces students to medieval Jewish literature and to the various modern methods and critical approaches--cultural history, literary theory, codicology, the comparative history of religions--that have been developed to study the literature and its cultural meaning. Texts studied will vary

from semester to semester, and will include medieval Hebrew poetry, both religious and secular, Biblical exegesis, philosophical and ethical texts, and historiographic works.

SM 259. (COLL227, COML266, HEBR559, JWST259) Introduction to Modern Hebrew Literature: The first Isrealis: Amichai, Oz Et Al. (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.

"I Want to Die in My Bed", a young Yehuda Amichai's anti-war poem, led the rebellion of Israeli authors in the 1950's. These writers were weary of their predecessors' glorification of nationalism and sacrifice, and disillusioned by the post-war reality of statehood. They therefore rejected the ideological focus and pompous language of their literary 'fathers.' Scholars would later call them "The Generation of the State" because they were the first to publish in the newly-- established State of Israel and they forged the future of Hebrew literature. For instance, poets like Nathan Zach and David Avidan promoted the use of colloquial language, while prose authors A.B. Yehoshua and Amos Oz published individualistic, anti-heroic short stories. The class is conducted in Hebrew and all texts are read in the original. The amount of material we cover depends on the pace of the class. 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, so students may take it for credit more than once.

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) Stern. 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) Stern. 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) Stern. 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. (CINE359, COLL227, COML359, JWST359, JWST556) Seminar Modern Hebrew Literature: The Representation of the City. (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 course focuses on the artistic ways in which the city, be it Jerusalem, Haifa or Tiberias, is represented in Israeli literature. The emotional and physical connection between the writer and his/her place of dwelling is transformed in the literary work. The depiction of the city in prose and poetry reflects the inner world as well as ideological and political conflicts. The city may become a locus for national expression, of gender identification, or even of pure aesthetic enchantment. We will analyze how, through her portrayals of the Carmel Mountain and the Haifa bay, Yehudit Katzir expresses the complex bond with her mother; how Tel Aviv's streets enable

Dahlia Ravikovitch and Meir Wieseltier to examine questions of loyalty; how the Jerusalems of A.B. Yehoshua and Yehuda Amichai felect their loves and hatreds.

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 Hebrew: Reading & Comprehension. (E) Engel. Prerequisite(s): HEBR 054 or permission of instructor.

Further development of reading, writing, and speaking skills in modern Hebrew. The course is designed for students who have completed the basic language courses and

passed the proficiency examination (or passed the Department's placement test at the appropriate level). The readings are based on literary texts and poetry. Special attention is given to the recurrence of biblical themes in modern Hebrew writing.

SM 556. (JWST650, RELS620) Seminar in Biblical Studies. (B) Staff. Prerequisite(s): Facility in Biblical Hebrew. May be repeated for credit.

In-depth study of a special topic or issue in Biblical studies.

SM 557. (HEBR257, JWST257, RELS226) Studies in Rabbinic Literature: Talmudic Literature. (D) Stern.

This course will introduce students to the modern study of Talmudic literature-- Mishnah, Tosefta, and the Palestinian and Babylonian Talmuds. The first part of the course will deal with the history of the concept of the Oral Law (Torah shebe'al peh) and its practice, and the history of the literature that eventually comes out of that oral tradition, including the history of its transmission in medieval manuscripts and printed editions, and the ways in which the material shape of the text influenced its study and reception in Jewish culture. The second part of the course will consist of an intensive analysis of one chapter in the Talmud, Berakhot 8, by tracing its history through the documents of Talmudic literature (the Mishnah, Tosefta, and two Talmuds). No previous experience in Rabbinic literature is required (although it is recommended), but all students must be able to read unpointed Hebrew texts. If you have a question as to whether this course is appropriate for you, please contact the professor.

SM 558. (FOLK258, HEBR258, JWST258, RELS228) Studies in Medieval Jewish Literature. (C) Stern.

Prerequisite(s): Undergraduates need permission from the instructor. Advanced studies in Medieval Hebrew literature. Topics range from liturgy to exegesis.

SM 559. (COLL227, COML266, HEBR259, JWST259) Introduction to Modern Hebrew Literature: Generation of the State. (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. "I Want to Die in My Bed", a young Yehuda Amichai's anti-war poem, led the rebellion of Israeli authors in the 1950s. Scholars would later call Amichai and his peers "The

Generation of the State," because they were the first authors to publish in the State of Israel (after it was established) and they forged its literary future. These "rebels" distanced themselves from the Zionist father-figures and their ideological focus. Poets, like Nathan Zach, promoted the use of common language while A.B. Yehoshua and Amos Oz wrote anti-heroic short stories.

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) Stern.

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)

Stern. 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. Stern.

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. (COML359, HEBR359, JWST359, JWST556) Seminar Modern Hebrew Literature: The Representation of the City. (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 focuses on the artistic ways in which the city, be it Jerusalem, Haifa or Tiberias, is represented in Israeli literature. The emotional and physical connection between the writer and his/her place of dwelling is transformed in the literary work. The depiction of the city in prose and poetry reflects the inner world as well as ideological and political conflicts. The city may become a locus for national expression, of gender identification, or even of pure aesthetic enchantment. We will analyze how, through her portrayals of the Carmel Mountain and the Haifa bay, Yehudit Katzir expresses the complex bond with her mother; how Tel Aviv's streets enable Dahlia Ravikovitch and Meir Wieseltier to examine questions of loyalty; how the Jerusalem of A.B. Yehoshua and Yehuda Amichai reflect their loves and hatreds.

PERSIAN LANGUAGE COURSES (PERS)

011. (PERS611) Elementary Persian I. (A) Minuchehr.

An introduction to the spoken and written language of contemporary Iran.

012. (PERS612) Elementary Persian II. (B) Minuchehr.

An introduction to the spoken and written language of contemporary Iran.

013. (PERS613) Intermediate Persian I. (A) minuchehr.

Prerequisite(s): PERS 012 or equivalent. A continuation of PERS 012, with graded readings.

014. (PERS614) Intermediate Persian II. (B) Minuchehr.

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. Offered through the Penn Language Center.

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. Offered through Penn Language Center.

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.

Offered through the Penn Language Center.

Reading, writing, basic grammar and elemental speaking.

112. (PERS512, SAST415) Beginning Pashtu II. (B) 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.

113. (PERS513, SAST425) Intermediate Pashtu. (A) 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.

114. (PERS514, SAST416)

Intermediate Pashtu 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.

512. (PERS112) Beginning Pashtu 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. Pashto, or permission by instructor. Offered through the Penn Language Center.

A wide variety of reading genres, writing, and oral expression.

514. (PERS114) Intermediate Pashtu 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) Minuchehr. Prerequisite(s): For the second semester: completion of first semester or permission of the instructor. Offered through Penn Language Center.

An introduction to the spoken and written language of contemporary Iran.

612. (PERS012) Elementary Persian II. (B) Staff.

An introduction to the spoken and written language of contemporary Iran.

613. (PERS013) Intermediate Persian I. (A) Staff. Prerequisite(s): For the second semester: Completion of the first semester or permission of the instructor. Offered through the Penn Language Center. See the CGS course guide.

A continuation of PERS 011, with graded readings.

614. (PERS014) Intermediate Persian II. (B) Staff.

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. Offered through the Penn Language Center.

616. (PERS016) Advanced Persian II. (B) Staff.

617. (PERS017) Persian Reading and Writing for Fluent Speakers. (C) Staff. Prerequisite(s): Fluency in spoken Persian. Offered through Penn Language Center.

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) Derperlioglu & Hatiboglu. Offered through Penn Language Center.

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) Derperlioglu & 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 complain 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. Offered through Penn Language Center.

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.

621. (TURK021) Elementary Turkish I. (A) Hatiboglu. Offered through Penn Language Center.

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. Offered through Penn Language Center.

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.

**INSTITUTE OF
NEUROLOGICAL
SCIENCES
(MD) {NGG}**

521. (BE 521) Brain Computer Interface.

Brain Computer Interface.

SM 534. (CAMB534) Sem Current Gen Rsrch. (B)

Sem Current Gen Rsrch

572. This course introduces students to the high-speed electro-chemical signaling in Course Directors: Phil Haydon: pghaydon@mail.med, 746-6788. (A) Phil Haydon, 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. This course introduces students to the high-speed electro-chemical signaling in Course Directors: Phil Haydon: pghaydon@mail.med, 746-6788, Doug Coulter: coulter@mail.med.upenn.edu

573. (PSYC609) Neuroscience Core III. (B) Larry Palmer, Michael Nusbaum.

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.

574. (BE 526) Neuromorphing: Building Brains in Silicon. (B)

Kwabena Boahen. Prerequisite(s): Students with advanced knowledge in neurobiology but rudimentary knowledge in electrical engineering or vice versa are welcome. Biology students should have (1) Biophysics (BE205/CHEM221) or (2) Basic Neuroscience (INSC 591). Systems Neuroscience (INSC 598) and Computational Neuroscience (INSC 594/BE 520) are highly recommended. Engineering students should have (1) Solid-State Device Physics (EE218) or Solid-State Circuits (EE319). VLSI Chip Design (EE560/562/564) is highly recommended. Students do not need to have all these prerequisites to take this course. Please contact the instructor if you have any questions.

We model the structure and function of neural systems in silicon using very large scale integration (VLSI) complementary metal-oxide-semiconductor (CMOS) technology. To build these neuromorphic systems, we proceed from the device level, through the circuit level, to the system level. At the device level, we mimic electrodiffusion of ions through membrane channels with electrodiffusion of electrons through transistor channels. At the circuit level, we derive minimal implementations of synaptic interaction, dendritic integration, and active membrane behavior. At the system level, we synthesize the spatiotemporal dynamics of the cochlea, the retina, and early stages of cortical processing.

575. (BIOL442, PSYC421) Neurobiology of Learning and Memory. (I) Ted Abel.

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.

578. (BIOL488, CAMB578) Advance Topics in Behavioral Genetics. (J) Ted Abel/Maja Bucan.

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.

581. (PSYC781) Auditory Neurobiology. (J) James Saunders.

The purpose of this course is to convey to upper level undergraduates and graduate students the fundamental processes and mechanisms of the auditory system. The course will develop ideas describing the structure and function of the peripheral and central auditory pathway. The flow of acoustic energy will be analytically and quantitatively traced through the peripheral ear. The details of auditory transduction will be explored as a mechanical and electrochemical system. Information transfer to simple and complex acoustic signals in the central auditory pathway will be explored from the auditory nerve to the cortex. In addition, the pathophysiology or hearing due to excessive sound exposure or ototoxic drug treatment will be considered. The database used in the course will come from primary literature describing the physiological mechanisms of hearing in animal preparations. However, where appropriate, the processes of human hearing will be introduced.

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. (M) Allan Pack.

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.

SM 592. (PSYC600) Cognitive Neuroscience of Memory. (K) Sharon Thompson-Schill. Prerequisite(s): none. Corequisite(s): none.

This course will review the neural mechanisms of learning and memory. Readings will include both seminar 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.

593. Structural Neurobiology. (B) Peter Sterling.

This course presents brain structure on all levels from gross morphology to microcircuitry to synaptic architecture. It is a lab course which emphasizes learning to find your way around the brain using maps at various levels of resolution. We emphasize learning to "read" the structures and learning the modern methods of studying functional neural architecture. This includes, methods for tracing pathways and identifying chemical architecture. Also, advanced methods of light microscopy will be covered including fluorescence, video-DIC, confocal.

594. (BIBB585, PHYS585, PSYC539) Computational Neuroscience. (B) Finkel. 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) Developmental Neurobiology. (B) G. Bashaw.

The developmental neuroscience course opens with a brief summary of classical experimental embryology and key developmental concepts. Topics covered in the course include: invertebrate and vertebrate pattern formation; neural cell determination; growth cone guidance; synapse formation and plasticity; programmed cell death; neural growth factors; special sense organ development. Each week includes two lectures and a small group discussion in which one or two important papers are analyzed in detail. Each student must write three short grant-style reports (approximately 2 pages each). No exams are given.

598. Advanced Systems Neuroscience. (A) Gary Aston-Jones. Prerequisite(s): Core III or Permission of course director.

This course will evaluate neural function from a systems perspective, using 4 different brain systems as examples: noradrenergic, olfactory, sleep and vestibular. (i) G. Aston-Jones will describe the neuroanatomy, neurophysiology, neuropharmacology and behavioral properties of the locus coeruleus and A1/A2 noradrenergic brain systems. He will use these basic circuit properties to examine hypothesis for roles of these systems in addiction and cognitive function. (ii) M. Ma will focus on the cellular and molecular mechanisms underlying olfactory information coding and processing. This section will deal with one basic question, i.e., what enables us to detect and discriminate thousands of odors. (iii) M. Frank will review the behavioral and electrophysiological features of REM and nonREM sleep, as well as the underlying anatomical structures and neurotransmitter/neurohumeral systems that generate and modulate each state. Several theories of sleep function, including the possible role of sleep in neuronal metabolism, brain development and learning and memory will be reviewed. (iv) D. Solomon will detail the neural circuitry and physiological mechanisms involved in balance and other vestibular functions.

600. Topics in Neurobiology of Disease 001: Neurodegenerative Diseases.

615. (BMB 518, CAMB615) Protein Conform Diseases. (A)

618. Recovery After Neural Injury. (K) B. Neumar.

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.

631. (PSYC631) Cognitive Neuroscience Affect. (K) Martha 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. (Fulfills the "Brain" requirement)

632. (PSYC632) Cognitive Neuroscience Vision. (K) Russell 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.

670. (PHRM670) Current Tpcs in Neuroph. (A)

SM 705. (PSYC705) Neuroethics. (C) Neuroethics.

SM 706. (BIBB473, PSYC473) Neuroeconomics. (C)

UNIVERSITY COURSE REGISTER

SM 727. (PSYC727) Electronics for Scientists. (B) John Andrews-Labenski.

An introductory theory and practicum course covering the essential principles and applications of electronics. Emphasis is on

understanding basic electricity, measurements, instrumentation, circuit simulation, data acquisition, and computer control systems used in research environments.

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) Wislowski; 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.

063. Microbiology. (A) Wislowski. 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.

064. Cellular and Microbiology Laboratory. (B)

Wisowski. Prerequisite(s): NURS 061; NURS 062. Corequisite(s): NURS 063. 0.5 course units.

This course will explore experimental techniques of cell biology and microbiology, with emphasis on cellular processes, cultivation and characterization of bacteria and the relationship of these to pathological events. Laboratory exercises

include the study of cellular organelles, main biological macromolecules, enzymes and antibodies, cellular transport, pH and acid/base balance, the spread and control of infectious organism, bacterial identification, identification of mutagens and antibiotic sensitivity, amplification and identification of genes using PCR and DNA sequencing. Students will learn to work effectively in groups to perform experiments, record observations, analyze results and relate these results to health care related topics.

065. Fundamentals of Nutrition. (B)

Compher; Dolan; Caspar-Clark. Prerequisite(s): NURS 061; NURS 062 (or equivalent Science Sequence Courses). 0.5 course units.

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.

066. Fundamentals of Clinical

Nutrition. (B) Compher; Dolan. Prerequisite(s): NURS 065. 0.5 course units.

Essentials of life cycle and disease-related nutrition. 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.

This course builds on introductory nutrition concepts with a more advanced focus on life cycle nutritional needs and specific disease-related nutritional concerns.

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 Offered in Summer for Accelerated BSN Program.

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 Offered in Summer for Accelerated BSN Program.

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)

Wall. 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. (A) Scanga.

Prerequisite(s): NURS 40, NURS 41 or NURS 42. 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. (B) Scanga.

Prerequisite(s): NURS 40, (41 or 42), 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/L 163. Integrated Anatomy, Physiology, and Physical Assessment I. (B) Scanga; Zurakowski.

Prerequisite(s): NURS 061; NURS 062; NURS 063; NURS 064 (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; Connolly. 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 210. Nursing of the Childbearing Family: Theory/Clinical. (C) Guidera.

Prerequisite(s): NURS 104, 106, 131, 132.

Course content is based on a family centered approach in which the needs of the family members during various phases of the childbearing process are considered. The student is provided with a theory base necessary for the care of women, families, and their newborns. This theory base is organized according to the concepts of the person or family, environment, health and nursing and their relation to each other during childbearing. Using the nursing process, nursing strategies are developed for maintaining family members individually, for promoting optimal physiological and psychological functioning, and enhancing strengths within the family members and within the family unit.

Clinical experiences provide opportunities for application and integration

of the theory base with parents and newborns. The student participates in clinical experiences in a variety of settings including acute care facilities, the community, and the Instructional Technology Center (ITC). The student will care for families with both simple and complex needs in all phases of the childbearing cycle. During this course, the student will assist in managing the care of families during the antepartum, intrapartum, postpartum, and neonatal periods.

L/L 220. Nursing of Children: Theory/Clinical. (C) Curley; Fleck; Hickerson. Prerequisite(s): NURS 104, 106, 131, 132.

Using developmental and systems frameworks and a family centered approach, the health and illness needs of children from birth through adolescence, and the related needs of their caregivers are addressed. The student is provided with a theory base, as well as opportunities for providing care to children with acute and chronic health problems, and their families. Using critical thinking, including the nursing process, strategies are developed for optimizing health; maintaining individuality; promoting optimal developmental, physiological, and psychological functioning; and, for enhancing strengths within the family unit.

There are three primary foci for this course: taking care of sick children and families, child development, and professionalism.

L/L 240. Nursing Care of Young and Middle Aged Adult: Theory/Clinical. (C) Walsh-Brennan; Klenke-Borgmann. Prerequisite(s): NURS 104, 106, 131, 132.

The four central themes of nursing (person, environment, health and nursing) will form the basis for an exploration of the health and illness related issues facing young and middle aged adults. A functional status conceptual framework encompassing a biopsychosocial approach to nursing practice will be used. The course will present a comprehensive overview of functional status impairments, developmental concerns, assessment parameters, common health problems, treatment modalities, nutritional interventions, nursing care strategies, resources and barriers to treatment, psychosocial needs as well as ethical and cultural considerations. Clinical application of content covered will occur in an acute care hospital setting.

Students will care for young and middle aged adults recovering from illness and injury and participate in one observational experience which may

include the operating room/post-anesthesia care unit, pain experience team, hemodialysis, transplant team, HIV outpatient experience or ostomy experience.

242. Concepts of Pharmacology & Therapeutics. (A) Boullata.

Prerequisite(s): NURS 40, (41 or 42), 131, 132.

Essential concepts of pharmacology and pharmacodynamics are reviewed for the major drug classes. The biochemical and physiological effects of drugs are related to their therapeutic and toxicologic effects.

260. Research Methodology. (B)

Tulman; Lake. Prerequisite(s): NURS 230.

Focus of the course is on critiquing and using clinical nursing research in practice. Experimental and non-experimental research designs, sampling procedures including human subjects considerations, data collection methods, and interpretation of results will be discussed in the context of research utilization.

L/L 270. Nursing Care of the Older Adult: Theory/Clinical. (C) Kagan;

Coyle. Prerequisite(s): NURS 104, 106, 131, 132.

This course is an overview that integrates selected theoretical information into research-based nursing care of the older adult. The overview includes principles of gerontological care; specialized ns; assessment of the older adult; effects of physiological aging changes on health and illness; psychosocial problems associated with aging, with special attention to family issues; pharmacological, nutritional, and ethical considerations; and the settings where older persons are the recipients of care. The clinical application takes place in an acute care setting and emphasizes 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)

Guidera; Villari.

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.

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. (A)

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.

317. Migration and Health. (B) de Leon Siantz.

This course provides a critical and reality based approach to the complex phenomenon of migration and its impact on health. It includes an overview of the current knowledge about immigration trends, push-pull factors, culturally based health beliefs, health risks, health status, and protective factors among migrant families across the lifespan. The availability of health care resources at the local, state, and federal level for students interested in societal factors affecting health care will be critiqued. Current bi-national health initiatives, public policieand legislation developed to plan migrant health care, promote healthy behaviors, maintain border security, and reduce health risks for the migrant farm worker family will also be examined within a social justice framework. The migrant farm worker stream (Western, Midwestern, Pacific Northwest, and Eastern) from Mexico to communities in the United States will serve as an exemplar of international family migration.

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.

321. Psychiatric Mental Health

Nursing: Theory. (A) Wall; D'Antonio. Prerequisite(s): NURS 210, 220, 240, 270. Corequisite(s): NURS 322. Also Offered in Summer I.

This course examines limitations in psychosocial functioning of individuals and families that are due to psychiatric disorders. Content focuses on the biobehavioral basis of psychiatric disorders, as well as the psychosocial, developmental, and physiological needs of individuals and their families. Care of individuals having acute episodes and chronic problems are discussed.

322. Psychiatric Mental Health

Nursing: Clinical. (A) Wall; D'Antonio; Roman. Prerequisite(s): NURS 210, 220, 240, 270. Corequisite(s): NURS 321. 0.5 c.u. Also offered in Summer I.

Clinical experience provides opportunities for application of theories and principles to persons with psychiatric disorders and their families. Student clinical experiences occur primarily in acute care settings with optional experiences in a variety of primary care, acute, and long-term care settings.

SM 323. Pathophysiology for Clinical Practice. (M) Tkacs. Prerequisite(s):

NURS 131, 132. This course uses group discussion of case studies to review common pathophysiological processes involving the major organ systems. Students are encouraged to draw on their knowledge of biochemistry ad metabolism, nutrition, anatomy, physiology, and microbiology as this knowledge is applied to complex disease processes. This integrated approach to understanding disease mechanisms will increase the student's ability to critically evaluate cases encountered in clinical course work and plan appropriate responses to improve outcomes.

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.

L/R 332. (NURS534) Forensic Science I. (B) Brown, K.; Sabella.

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.

L/R 333. (NURS533) Victimology. (C) Brown, K.; Sabella. Summer Session 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.

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 thickdescription 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.

340. Nursing in the Community: Theory. (A) Sullivan-Marx; Lewis, L.; Brewer. Prerequisite(s): NURS 210, 220, 240, 270, 321, 322. Corequisite(s): NURS 341. Also offered in Summer II.

This course will provide an introduction to community health nursing in the context of the public health paradigm. Through a series of lectures and discussions, students will identify applications of the public health paradigm to community-based nursing practice with individuals, families, and populations. Topics include the history of public health, the core public health sciences, environmental and occupational health, oral health, global health and the social determinants of health, health promotion, as well as prevention and intervention approaches to chronic and infectious diseases and injuries.

341. Nursing in the Community: Clinical. (A) Sullivan-Marx; Lewis, L.; Brewer. Prerequisite(s): NURS 210, 220, 240, 270, 321, 322. Corequisite(s): NURS 340. .5 c.u. Summer II.

Clinical practice promotes synthesis of community health nursing theory through provision of nursing care to clients in community settings. Implementation and evaluation of nursing care is emphasized for clients in the community with common functional and physiological problems.

Synthesize public health strategies through clinical practice in community settings focusing on health promotion, disease prevention and care for clients, families and communities across the lifespan.

356. Case Study: Culture of Birth. (B) McCool. Prerequisite(s): NURS 210, 220 or Permission of Instructors.

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.

359. (NURS559) 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.

362. (NURS562) Case Study: Use of Complementary and Alternative Medicine (CAM). (K) Grube. Prerequisite(s): NURS 104; NURS 106.

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.

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.

L/R 370. Advanced Clinical Practicum in Nursing: Theory. (C)

Rich; Sochalski; Rogers, P. Prerequisite(s): NURS 321, 322, 340, 341. Corequisite(s): NURS 371.

This final clinical nursing course focuses on the integration and synthesis of scientific knowledge with clinical nursing practice and the development of the professional nursing role. Building on content from prior courses, students will develop an understanding of management of patient care from the perspective of the individual client and family to groups of clients and

eventually to management of health care systems. Principles of leadership, accountability and change will be integrated throughout. The process of transition from the student role to that of the professional nurse will be facilitated through discussion of organizational systems, professional issues, mechanisms for evaluation of care and the role of the nurse as patient advocate and change agent.

Students will select from several practice options for the clinical content of the course. Clinical seminar content will build on core content and will provide an exposure to advanced nursing concepts within the area of specialty practice. Application of conceptual models to clinical practice will be discussed and nursing research will be integrated throughout the course.

371. Advanced Clinical Practice:

Clinical. (C) Rogers; Staff. Prerequisite(s): NURS 321, 322, 340, 341. Corequisite(s): NURS 370.

This final clinical nursing course focuses on the integration and synthesis of scientific knowledge with clinical nursing practice and the development of the professional nursing role. Students select from a variety of options a primary, secondary or tertiary care setting in which to practice. Students will examine nursing care planning and delivery from the standpoint of at least one conceptual model. They will increase their skills in patient assessment, planning, and providing the full range of direct and indirect nursing care and evaluating the outcome of care. To the extent that it is possible within the clinical agency, they will provide care in more than one patient care delivery setting, to identify how nursing care requirements changes as the acuity or the site of care delivery changes.

Principles of leadership, accountability and change will be applied to clinical practice as the student begins to operationalize the professional nursing role. Emphasis will be placed on the nurse as a knowledgeable provider of health care who is both a change agent and client advocate.

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.

Prerequisite(s): NURS 54 or NURS 112.

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.

385. Senior Inquiry. (C) Lake.

Prerequisite(s): NURS 321, 322, 340, 341, or Permission of Advisor and Instructor.

Provides the senior nursing student the opportunity to explore, analyze, and formulate implications of the research and related literature on a selected topic under the guidance of a faculty advisor. A detailed scholarly paper in APA format will be written by the student.

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.

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.

This course satisfies the Global & Cultural Studies Sector for Nursing Class of 2012 and Beyond.

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.

508. Applied Pharmacology in Nursing Practice. (C) Boullata.

Prerequisite(s): NURS 607.

Principles of clinical pharmacology are applied to the nursing care of family members. Proper prescribing and monitoring procedures for the various drug regimens used to treat various disease states are reviewed. Problems inherent in self-medication, overuse and abuse of drugs are also considered.

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 neonataes, 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.

514. Globalization, Health, and Healthcare. (B) Muecke. Prerequisite(s): PUBH 519.

The growth of global markets, expansion of worldwide communication and travel, and the complexity of international political interests, along with natural disasters and environmental pollutions have contributed to health inequities and demonstrated the interdependence of health care systems. This course explores relationships between health and globalization as they reflect and generate health and health care inequities along the fault lines of gender, wealth, and political will. Topics address current global issues such as international migration of health personnel, e-health and m-health, medical tourism, human trafficking, food security, pharmaceutical commerce, and war and conflict. The course equips students with the analytical skills to evaluate and propose solutions to these global challenges to health and health care. Coursework engages students through class discussions, course readings, and written assignments including correspondence with international peers.

515. (NURS315) Sociocultural Influences on Health. (A) 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.

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.

L/R 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.

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.

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.

L/R 533. (NURS333) Victimology. (C) Brown, K. 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.

L/R 534. (NURS332) Forensic Science I. (B) Brown, K.

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.

536. (NURS336) Current Topics in Pain. (B) Polomano. for Graduate Students and Junior and Senior Undergraduate Nursing Students (with Course Faculty Permission).

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.

540. 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.

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.

548. Negotiation for Health Care Change Agents. (B) 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. (A) 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.

555. (GSWS555) Women and Incarceration. (A) Brown, K.; Guidera; Durain. Registration By Permission Only.

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.

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.

559. (NURS359) Quality Care Challenges in an Evolving Health Care Market. (J) Pinola; Sparrow.

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.

560. Pediatric Pharmacology and Therapeutics in Nursing. (B) Boullata; O'Neill. Prerequisite(s): NURS 684.

Principles of clinical pharmacology are applied to the nursing care of pediatric patients. Prescribing and monitoring

procedures for the drug regimens used to treat pediatric patients are reviewed. Problems inherent in misuse of commonly used drugs are also considered.

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.

L/R 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.

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 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.

589. Mind-Body Medicine and Mindfulness Meditation: Theory and Practice. (B) Stringer; Baime. Junior and Senior Undergraduates and Graduate Students.

This course, for nursing and medical students explores theory and research about physiologic stress responses as the basis for a standardized, replicable mindfulness-based stress reduction intervention. Mindfulness-based stress reduction intervention is a previously standardized, evidenced based, clinical intervention that provides a systematic approach to develop enhanced awareness of moment-to-moment experience (mindfulness) of perceptible mental processes. The concept of the stress reaction, the biology of the effects of stress on the body, mindfulness-based communication, and its role in healing experienced by patients, will be critically examined in a culturally relevant context.

600. Curriculum & Teaching in Advanced Practice Nursing & Midwifery. (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. 2 c.u.

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. Clinical Teaching & Evaluation for Advanced Practice Nurses & Midwives. (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, preceptor 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.

L/R 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 integrates advanced pathophysiology and clinical implications for graduate nursing students. Recent scientific advances will be discussed with application to new approaches to disease and symptom management. The interrelationships between clinical pathophysiology and basic physiology and genetics are emphasized.

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 Quality Improvement and Safety I. (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. (A) Coleman, C.

Crisis intervention, brief psychotherapy, 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)
Gillis-Donovan. 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.

637. Introduction to Research Methods and Design. (C) Tulman; Bowles; Polomano; Libonati; Spatz; Hatfield. Prerequisite(s): NURS 230 or equivalent. In addition, students must have completed a semester of Junior Level clinicals. 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 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 of the Middle Aged and Older Adult. (C) Bradway; Cotter; O'Sullivan. Prerequisite(s): NURS 657.

This course focuses on primary care problems encountered by middle-aged and older people and their families in ambulatory and occupational settings. 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.

647. Clinical: Primary Care of the Middle Aged and Older Adult. (C) 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: The Frail Older Adult. (B) Cotter. Prerequisite(s): NURS 646, 647.

The role of the gerontological nurse practitioner in the care and management of frail elders and their families in institutions and in the community is emphasized. Content is directed at assessment and management of acute presentations of illness and complex, multiple health problems. Issues in eptor. rehabilitation and the maintenance of quality of life are addressed.

649. Primary Care of the Frail Older Adult II. (B) Cotter; Taylor.

Prerequisite(s): NURS 646, 647.

Corequisite(s): NURS 648.

Opportunity is given to implement the role of the gerontological nurse practitioner with frail elders and their families in institutions and in the community. Students are expected to assess and to take a prominent role in the management of more complex health problems in consultation with the appropriate provider of care. Synthesis of the entire clinical experience is used to help students articulate the new roles they will assume. Sixteen hours a week of clinical experience with a preceptor is required.

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; Frink. Prerequisite(s): Basic Computer Skills. Summer Session II.

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. Health Care Accounting and Financial Management. (L) Keim; Fuir. Summer Session I.

This course focuses on the management of financial resources in the health care industry, with a focus on acute care, ambulatory care, home care, and long-term care. Specific emphasis is on applied financial management, management control systems, budgeting and nursing staffing.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

654. Business and Strategic Planning. (A) Piper, L. Prerequisite(s): NURS 652.

This course focuses on Healthcare strategic planning and the role of the Nursing Executive/Leader in that process. The course will involve the development of a business plan for a selected internal organizational project. The content will include use of executive Dashboards, sources of internal and external data.

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. Clinical Decision Making in Advanced Nursing Practice. (A)

Zurakowski; Cross; O'Hara; Bosnick; Buzby.

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.

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 646, 664.

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.

SM 680. Advanced Practicum/Residency in Occupational Health. (A)

Dickson.

This course should be taken in the last semester of the Occupational Health Nursing Program. As such, it is meant to provide opportunity for the students to focus upon the occupational health setting, integrate course work and test their roles in occupational health in concert with an experienced colleague. Whenever possible, team assignments will be made for administration/consultation option and primary care options students so they can act in complimentary roles in the residency. Selected seminars are included to focus discussion and learning on health problems and concerns in occupational 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 patho-physiology 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.

686. (NURS736, NURS781) Well Woman Health Care. (A) McCool; Durain. Prerequisite(s): NURS 657 (may also be taken as a Co-Req). Corequisite(s): NURS 737.

Theory and practice related to nurse-midwifery management of preconception and interconceptional care. Includes anatomy and physiology of

postpartum and perimenopausal women, endocrinology, current contraceptive methods, minor gynecological conditions. Seminars and clinical practice.

688. (NURS362) 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 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.

693. Professional Issues in Midwifery. (A) McCool; Reale; Guidera. Prerequisite(s): NURS 686, 687, 689, 690. Corequisite(s): NURS 691.

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.

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 measurable 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. (NURS771) 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. (NURS772) 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. (NURS773) 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.

710. (NURS731) Common Management Issues of Critically Ill Children with Acute and Chronic Conditions: Nursing of Critically Ill Children Introductory Theory I. (B)

Verger; Bartke. Prerequisite(s): NURS 685, 720, 721. Corequisite(s): NURS 711.

Provides the foundation for advanced practice in pediatric critical care. Body system failure is examined as the potential common outcome from a variety of etiologic agents. The adaptation of children and their families to critical illness and intensive care is analyzed. Management strategies based on clinical decision making include nursing, medical, pharmacological, and other therapies and resources.

711. (NURS733) Management of Critically Ill Children with Acute and Chronic Conditions: Nursing of Critically Ill Children Introductory Clinical I. (B)

Verger; Bartke. Prerequisite(s): NURS 684, 720, 721. Corequisite(s): NURS 710.

This clinical course is designed to assist prospective advanced practitioners, in pediatric critical care develop advanced assessment and management skills through structured, supervised interventions with critically ill children. Particular emphasis is placed on the role components of expert practitioner. The student gains the necessary management skills to provide specialized care to critically ill children and their families and to assist them with adaptation.

712. (NURS776) Common Management Issues of Critically Ill Children with Acute and Chronic Conditions: Nursing of Critically Ill Children Intermediate Theory II. (L)

Verger; Bartke. Prerequisite(s): NURS 560, 710, 711. Corequisite(s): NURS 713. Summer Session I.

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.

713. (NURS777) Management of Critically Ill Children with Acute and Chronic Conditions: Nursing of Critically Ill Children Intermediate Clinical II. (L)

Verger; Bartke. Prerequisite(s): NURS 560, 710, 711. Corequisite(s): NURS 712. Summer Session I.

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.

714. (NURS778) Management of Critically Ill Children with Acute and Chronic Conditions: Nursing of Critically Ill Children Advanced Clinical III. (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 Introductory Theory I. (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.

717. Common Management Issues of Children with Acute and Chronic Conditions: Pediatric Oncology Advanced Theory II. (B)

Hobbie. The focus of this course will be current practices, research, and issues related to the care of infants, children, and adolescents with cancer and hematologic disorders. Emphasis is given to developing a framework for practice based on a synthesis of biological, behavioral, nursing, and medical knowledge through the process of clinical decision making.

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. Physical Assessment and Clinical Decision Making: 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.

722. Common Management Issues of Children with Acute and Chronic Conditions: Nursing of Children Intermediate Theory II. (B)

Deatrick; Lipman. Prerequisite(s): NURS 684, 720, 721. Corequisite(s): NURS 723. The focus of this course is the current practices, research and issues related to the care of children and adolescents with acute health deviations. Emphasis is given to developing a framework for practice based on a synthesis of biological, behavioral, nursing, and medical knowledge through the process of clinical decision making with

children who have serious acute health deviations and their families.

723. Management of Children with Acute and Chronic Conditions: Nursing of Children Intermediate Clinical II. (B) Deatrick; Lipman; Murphy, K. Prerequisite(s): NURS 684, 720, 721. Corequisite(s): NURS 722 or NURS 717.

This clinical course focuses on the implementation of the role of the advanced practice nurse. Applications of nursing, biological and behavioral science are emphasized in the clinical assessment and management of acutely ill children and their families. The student gains the necessary clinical management skills to provide specialized care to acutely ill children and to assist their adaptation and the adaptation of their families.

724. Common Management Issues of Children with Acute and Chronic Conditions: Nursing of Children Advanced Theory III. (L) Deatrick; Lipman; Murphy, K. Prerequisite(s): NURS 722, 723. Corequisite(s): NURS 725. Summer Session I.

This course focuses on current practices, research and issues related to the care of children and adolescents with chronic health deviations. The role of the advanced practice nurse in promoting optimal child/family outcomes is emphasized.

725. Management of Children with Acute and Chronic Conditions: Nursing of Children Advanced Clinical III. (L) Deatrick; Lipman; Murphy, K. Prerequisite(s): NURS 722, 723. Corequisite(s): NURS 724. Summer Session I.

This clinical course focuses on the continued development of advanced clinical skills in the care of acute and chronically ill children. Emphasis is placed on experiences that integrate the roles of the advanced practice nurse with children who have chronic illnesses with particular emphasis on management, consultation, and research dissemination skills.

731. (NURS710) 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. (NURS711) 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.

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 Advanced Clinical IV. (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 for Health. (A) Fidyk; DiMichelle.

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. 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. 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.

761. Principles of Acute Care I. (A)

Becker; Doherty.

This didactic course examines the diagnostic and management issues related to the care of acutely ill adults. Students will examine the pathophysiologic as well as the psychosocial influences underlying acute illness and injury. The dynamic interplay of assessment, diagnosis, management and treatment options relevant to patients with acute illnesses and injuries will be examined in detail. An evidence-based approach to the nursing and medical management as well as pharmacologic and other therapies will be emphasized. Content will focus on patients with cardiovascular, pulmonary, infectious and nutritional issues.

762. Principles of Acute Care II. (B)

Becker; Doherty. Prerequisite(s): NURS 605.

This didactic course continues to examine diagnostic and management issues related to the care of acutely ill adults. Students will examine the pathophysiologic as well as the psychosocial influences underlying acute illness and injury. The dynamic interplay of assessment, diagnosis, management and treatment options relevant to patients with acute illnesses and injuries will be examined in detail. An evidence-based approach to the nursing and medical management as well as pharmacologic and other therapies will be emphasized. Content will focus on patients with neurologic, gastrointestinal, renal and metabolic health problems.

763. Principles of Acute Care III. (L)

Becker; Doherty. Prerequisite(s): Nursing 605. Summer Session I.

This course expands the emphasis on the acute care nurse practitioner's assessment and management of acutely ill and injured adults. Emphasis is placed on clinical decision making and multifaceted treatment options as they relate to the evaluation and management of patients in a variety of acute care settings. Nursing and medical interventions as well as other treatment modalities are explored and tested. Emphasis is placed on research-based practice and the role of the acute care nurse practitioner in conducting, evaluating, and utilizing research. Content will focus on special populations of patients with commonly encountered acute health problems.

L/R 764. Advanced Technologies & Clinical Decisions in Acute Care. (A)

Becker. Prerequisite(s): NURS 607, 657. Corequisite(s): NURS 761.

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.

765. Acute Care Nurse Practitioner: Professional Role & Clinical Practicum I. (B)

Becker. Prerequisite(s): NURS 764. Corequisite(s): NURS 508, 762.

In this course students will explore issues relevant to the role of the Acute Care Nurse Practitioner within the multiple layers of the American health care system. The development of advanced clinical competencies and clinical decision making abilities will be emphasized. Strategies to maintain continuity in the patient's psychosocial support system, and nursing and medical management in the face of a fragmented health care system will be discussed. Reimbursement issues, role development, and nursing interventions will be introduced and discussed in the classroom, and principles will be applied in the clinical practicum.

766. Acute Care Nurse Practitioner: Professional Role and Clinical Practicum II. (L)

Becker. Prerequisite(s): NURS 761, 762, 764, 765. Corequisite(s): NURS 763. Summer Session I.

This course focuses on the role of the 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 explore multiple governmental, social and personal resources available to acutely ill and injured adults. The application of advanced nursing, medical and biopsychosocial knowledge in the management of patients and the collaboration between the nurse practitioner and the patients, family and other health care professionals are emphasized.

767. Acute Care Nurse Practitioner: Professional Role & Clinical Practicum III. (L)

Becker; Doherty.

Prerequisite(s): NURS 764, 765, 766. Summer Session II.

This course will provide the student with the opportunity to refine the role and develop the clinical expertise necessary to function as an Acute Care Nurse Practitioner. Within the clinical setting students will expand clinical decision making abilities and practice advanced, complex, case management under the supervision of an appropriate professional preceptor. Analysis of the role of the ACNP will be emphasized.

768. Role of the Clinical Nurse Specialist. (A)

Becker; Pawlow; Fisher.

This didactic and seminar course explores the core theory of the Clinical Nurse Specialist (CNS) role and the development and practice within the context of the complex health care delivery system. Students will examine and discuss the key characteristics of the CNS role. The dynamic interplay of the characteristic role components will be explored and will include discussion of how these components interact with each other and the complex systems in which CNS practice takes place. The role of the CNS in optimizing patient outcomes will be examined. Strategies to enhance professional practice, both by the CNS and by professional colleagues will be discussed.

769. Clinical Nurse Specialist Clinical I. (C)

Becker; Dubendorf; Muller. Prerequisite(s): NURS 657. Corequisite(s): NURS 768.

This fieldwork course focuses on the application of CNS theory to practice and will enable nurses to enhance their implementation of the role by acquiring knowledge and skills characteristic of CNS practice. Students will apply their knowledge of key components of the CNS role to their practice environments. Barriers and facilitators to professional practice in complex health care

systems they affect patient care and influence patient outcomes will be explored.

SM 771. (NURS705) Advanced Practice Nursing Practice: Psychiatric Mental Health CNS I. (A)
Leahy; Mulligan; Josey.

SM 772. (NURS706) Advanced Practice Nursing Practice: Psychiatric Mental Health CNS II. (B)
Leahy; Mulligan; Josey.

SM 773. (NURS707) Advanced Practice Nursing Practice: Psychiatric Mental Health CNS III.
Leahy; Mulligan; Josey.

776. (NURS712) 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. (NURS713) 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. (NURS714) 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 Health Care of Women 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. (NURS687, NURS734) Health Care of Childbearing Women, Theory. (B) 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. (NURS735) Health Care of Childbearing Women, Clinical. (B)
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. 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 findings 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.

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.

802. Directed Study in Applied Clinical Scholarship. (A) Graduate Group Faculty. Prerequisite(s): Permission of Faculty. For Nursing PhD Students Only.

The purpose of this course is to facilitate experiences for MS students pursuing doctoral study related to developing potential research topics and engaging in clinical scholarship and inquiry. Students work with a member of the School of Nursing Graduate Group to design a tailored mentored learning experience that develops the student's ability to recognize researchable phenomena and synthesize related literature to formulate research questions. Field experiences help the student appreciate how research can be applied to advance scientifically driven and evidence-based practice.

SM 810. Doctoral Seminar: Cultural Perspectives in Nursing and Health Care. (M) Staff. For doctoral students in nursing.

Exploration of selected cultural theories, concepts and issues related to nursing and health care. Emphasis on research approaches and the analysis and evaluation of culturally relevant nursing research and research from other disciplines. Topics tailored to the individual needs and interests of students in the seminar.

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) Deatrck. 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 816. Health Status, Functional Status, & Quality of Life. (H) Tulman; Richmond. For doctoral students in nursing.

This course focuses on diverse perspectives of health status, functional status, and quality of life during normal life transitions, such as parenthood and aging, and critical life situations, such as acute and chronic illness and injury. Predictors and consequences of changes in health status, functional status, and quality of life will be considered. Conceptual and measurement issues will be explored.

SM 817. Theoretical Perspectives of Growth and Development: A Health Care Perspective. (A) Medoff-Cooper; Deatrck; 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) Deatrck. 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 820. Current Topics in Neuroscience and Clinical Implications. (M) Tkacs. For doctoral students in nursing.

This course reviews basic neurobiology concepts and builds on that foundation to explore recent advances in neurobiology research as they relate to a variety of clinical disorders. Emphasis will be placed on the students synthesis of underlying concepts and applications of this knowledge pertinent to their own programs of research. Textbook readings will be accompanied by primary research articles for class discussion of the methodological approaches used in the field of neuroscience.

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. Designing Interventions to Promote Health and Reduce Health Disparities. (K) Jemmott; 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; Sullivan-Marx. 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 through 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

831. Advanced Topics in Health Informatics. 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.

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 AND INFORMATION MANAGEMENT (WH) {OPIM}

L/R 101. An Introduction to Operations and Information Management. (C) Staff.

Prerequisite(s): OPIM 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. The official policy for waving OPIM 101 is as follows:

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) Operations Technology. (C) Staff.

Prerequisite(s): OPIM 220. cross listed with OPIM657/ESE524/OPIM942.

This course provides an overview of the emerging field of operations technology. A managerial perspective is adopted and emphasis is placed on developing an understanding of how technologies for the automation of manufacturing, distribution, and service processes can be utilized for competitive advantage. The following questions are considered: (1) What are the new and emerging technologies in computer integrated operations? (2) What are the requirements for their successful adoption? (3) How should operations systems that use these technologies be managed? and (4) What will their impact be on operational, financial, and market performance? Exposure to emerging technologies will be provided through a series of case studies, computer assisted exercises, and quest speakers. The course also includes use of performance evaluation tools, which can be used to simulate factory and service operations, as well as a field research project or industry term paper.

223. Service Operations Management. (C) Staff.

This course covers a mix of simple quantitative and qualitative models that should help you to better understand both the underlying economics and the difficulty of managing various service operations. The course covers the following topics: the

design of service delivery systems, service quality and customer retention, capacity management, and demand management. The course uses a mix of lectures and case discussions. Example industries include airlines, fast food, hospitality, hospitals, retailing, retail financial services, and travel agencies.

261. (BPUB261, BPUB761, BPUB961, ESE 567, OPIM761) Risk Analysis and Environmental Management. (C) Staff.

Crosslisted with OPIM 761, BPUB 261, 761, 961, and ESE 567. See description under OPIM 761. For Spring 2012 - 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.

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) Negotiations. (C) Staff.

Negotiation is the art and the science of creating good agreements. 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, negotiations among several parties (both within and between organizations), and cross-cultural issues. Performance in the cases accounts for nearly half the course grade. Students must also describe their experience and thoughts in a journal, and write a term paper.

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.

311. Business Computer Languages. (C) Staff.

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. (OPIM662) Enabling Technologies. (C) Staff.

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.

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. (OPIM661) 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) Staff.

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.

Decision making is becoming increasingly quantitative; hence the use and abuse of quantitative techniques is an important concern of management. Emphasis in this course is placed on understanding the formulation, analysis, and implementation of management science tools for a broad range of managerial decision problems. Topics covered include mathematical programming, decision making under uncertainty, and simulation. This course is concerned with methodological issues relating to the design and control of operations.

325. Computer Simulation Models. (C) Staff. Prerequisite(s): OPIM 101 or equivalent.

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.

397. (OPIM697) Retail Supply Chain Management. See description under OPIM 697.

398. (OPIM698) 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. (OPIM672) 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)

614. Innovation. (A)

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.

631. (LAW 516) Operations Management: Quality and Productivity. (B) Lectures, cases, class discussions. Grading is based on a final exam, a take-home exam and class participation.

This course emphasizes processes. A process is a set of interrelated work activities characterized by specific inputs and value-adding tasks that produce specific

outputs. In the first part of the course, we will see examples of a number of processes and learn how to describe a process with a flow diagram. We will also learn to measure key process parameters like capacity and lead time, and to improve a process through approaches like finding and removing bottlenecks or better division of the work among the people involved in the process. The second part of the course focuses on process improvement and will examine some classic ideas in quality management as well as recent ideas about restructuring processes for increased performance.

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.

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.

651. Innovation, Problem Solving and Design. (M) Prerequisite(s): OPIM 621, OPIM 631.

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.

653. Mathematical Modeling and its Application in Finance. (C) Staff.

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 volatility of fixed-income markets since interest rate deregulation, the increased globalization of the financial markets, the proliferation of information technology, and so on. 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 swaps are discussed. 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 a strong interest in finance. Prospective students of this course should be comfortable with quantitative methods, such as basic statistics and the methodologies (mathematical programming and

simulation) taught in OPIM 621 Management Science.

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.

660. (ESE 508) Information Systems for Managers. (B) Staff. Crosslisted with ESE 508.

The advances achieved in information technologies and systems (IT&S) -- primarily computing and communications systems -- have been, and will continue to be extraordinary. Consequently, the scope and practical import of IT&S can hardly be overestimated. "Management Information Systems (MIS) is the practice of using computer and communication systems to solve problems in organizations. This course is designed to provide the essential skills and technology-based insights needed in order to manage effective problem solving with information technologies and systems (IT&S), and to extract the most value from an actual or potential information system."

The course is organized around several "hands on" cases or projects, through which students teams become familiar with important information technologies, including databases and the Internet.

Students completing this course will have mastered a basic understanding of information technology, the fundamentals of the use of information technology in business, and essential information technology survival skills.

661. (OPIM316) Systems Analysis, Design, and Implementation. (C) Staff. Description under OPIM 316.**662. (OPIM314) Enabling**

Technologies. (A) 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.

666. Information: Industry Structure and Competitive Strategy. (C) Staff.

Lectures and cases. In-class case discussions and written case analyses, class participation, case performance and a final examination.

This course is in the tradition of Operations courses as exercises in the systematic understanding of complex systems, rather than in the tools and techniques for understanding aspects of those systems. It draws upon the most recent experience in the impact of information technology upon diverse industries, ranging from securities trading to consumer packaged goods retailing. It integrates that experience with relevant theory to develop an approach to information-based strategies generally, including resurgent interest in strategies for Commerce. It is not a tools and techniques course; likewise it is not a technology or an implementation course. It provides a focused and modern complement to strategic planning.

The increase in consumer informedness is changing consumer behavior in a wide range of situations. Customers find the least expensive alternative in categories of little importance to them, while finding the perfect match with their wants and needs, cravings and longings, in categories they find salient. Online trust is a strong determinant of shopping behavior and will continue to be. Likewise, the increase in information available to firms, and the increasing variety of strategies available for the use of information - from dynamic repricing to online distribution, from labor productivity enhancements to labor arbitrage and outsourcing - requires a dramatic revision of managerial mental models of their competitive options. Revising mental models and enhancing mental agility are both essential to executive leadership, rather than mere conservation and management, in today's environment of rapid and discontinuous change in the competitive environment.

The ability to target profitable market segments and to identify individual customers is reducing the value of scale-based operations and the strategic advantage of large firms with existing market share. The ability to monitor the performance of units abroad is leading to greater reliance upon outsourcing, benefiting many service industries and once again reducing the advantage of many large firms. At the same time, the impact of information technology on the transparency and efficiency of securities markets is destroying the profits of entire segments of financial services. All aspects of the firm-production, service, sales, marketing,

and strategy - will be affected. Clearly, some firms will win and others will lose; nearly all will have to change. And yet, fundamental laws of economics have not been repealed. How can previous economic theory, and previous experience with rapid technological change, provide insights for the development of strategy in an increasingly digital age?

667. Business Transformation. (C)

Staff. Prerequisite(s): OPIM 666 or permission of instructor is required.

This course is a direct sequel to OPIM 666 and it addresses strategic problem solving in the context of business transformation engagements. The course is intended to prepare students for leadership roles in dynamic and rapidly evolving industries, and for careers in strategic consulting. This is the most exciting and rewarding aspect of strategic planning and strategic consulting. In order to perform strategic transformation, either as a member of the firm's executive team or as an external strategy consultant, it is necessary to address the following questions: (1) Understanding the future: What has changed and what will change in the business environment of the firm? Why is it going to be necessary to engage in strategic change? What information will be required to function effectively? (2) Future capability assessment: What will the firm need to do in order to compete in this new environment? What specific actions will be required? What information will be required to function effectively? (3) Current activities audit: What does the firm do now? What changes will be necessary? What information is currently available? (4) Leadership challenges: Who will be adversely affected by those changes? Who will resist making them? Who will be unable to implement them for other reasons? How can you facilitate difficult change?

(5) Information infrastructure: How will information endowment determine competitive positioning? What information systems will be required for the firm and its partners? What information capability will be possessed by customers and competitors? (6) Getting started: Determine your value proposition and your pricing.

Thus, while this is a course in Information Strategy and Economics, and while information endowment is central to our strategic analyses, information systems and technology together represent only one of the issues that must be addressed in order to complete strategic business transformation.

668. Telecommunications Technology and Competitive Strategy. (B) Staff.

Telecommunications technology is changing rapidly, with profound implications for quality of everyday life and the competitive position of firms in all industries. Regulators, sociologists, executives and even those responsible for planning for firms in the telecommunications industry as yet poorly understand these changes.

This course presents a broad summary of telecommunications including the basics of analog and digital media, long-haul and local data communications technology, and the emerging structure of telephony. It addresses the implications for competitive strategy, both within and outside the telecommunications industry.

This course is recommended for students in strategic management, especially those with an interest in high technology firms, and for students with an interest in the communications industry. No background in technology is required, though an understanding of technology-driven competitive strategy is helpful. Students completing this course will have acquired a basic understanding of the competitive implications of modern telecommunications technology and the implications of this technology for the future structure of commerce.

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.

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.

672. (OPIM410) 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.

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) 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. 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, negotiations among several parties (both within and between organizations), and cross-cultural issues. Performance in the negotiation's cases accounts for a significant portion of the course grade. OPIM 691 sections differ from LGST 806 and MGMT 691 sections in that OPIM 691 covers theoretical aspects of negotiation (including psychological theories of judgmental mistakes negotiators make) in a bit more depth, and covers fewer legal and dispute resolution issues. Students can take only

one of the three courses. Cross-listed with LGST 806/MGMT 691.

697. (OPIM397) 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. (OPIM398) 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. (BPUB261, BPUB761, BPUB961, ESE 567, OPIM261) 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.

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.

SM 904. 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 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.

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. (C)

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. (M) Staff. Prerequisite(s): OPIM930. Crosslisted with STAT 901.

Extension of the material presented in OPIM930 to include Markov decision processes, queuing theory, stochastic modeling and optimization.

932. Queuing Theory. (M) Staff. Prerequisite(s): OPIM 930 or equivalent.

Discrete-state stochastic processes: Markov chains, Markov processes, birth-death processes; M/M/I queue and variants; M/G/I queue and G/M/n queues; priority queues: preemptive and non-preemptive; Networks of queues; jackson networks, BMCP networks, Kelly networks; Little's formula; Dynamic optimization of queues.

934. Dynamic Programming and Stochastic Models. (M) Staff.

Reviews the theoretical foundations of dynamic programming, stochastic control, and Markov decision processes. Applications in the area of production and inventory, finance, and marketing will be explored. Course requirements include homework, exercises and a research paper.

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 OPIM 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.

ORGANIZATIONAL DYNAMICS (AS) {DYNM}

SM 501. Perspectives on Organizational Dynamics. (C) Greco. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

Perspectives is both a fundamental and integrating course intended for MSOD students at any point in the program. It is particularly useful for those in their first year and for non-MSOD students. This course elaborates on central themes and ways of reading the dynamics of organizations. Lectures, discussions, creative reflection, and experiential learning are used to ground participants in the philosophy, theory and practice of Organizational Dynamics. Several faculty members highlight their specialties. The course requirements are active class contribution, a midterm paper and a final paper.

SM 542. Theories & Model That Inform Coaching. (C) Orenstein. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

This course will discuss the importance of theory in guiding the practice of coaching. Students will be introduced to a theory/model that explores a multiple-discipline approach to coaching in an organizational setting. With this framework as a basis, and a subsequent review of an array of theoretical orientations, students will select, research, apply and present a theoretical model of their own choosing. Their model will provide the framework that informs their coaching and/or use their thought and practice in their roles at work.

550. Ethical Issues in Project Management. (C) Fielder. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

Project managers are part of an organization and interact with various departments and individuals to bring their projects to an effective conclusion. Trust is essential to this interaction and can be easily lost if ethical problems associated with these relationships are not adequately addressed. This course provides a method for analyzing ethical problems. This method is applied to a range of case studies in organizations and project

management, and to ongoing or past projects involving members of the class. Reaction papers will be the basis for class discussion and clarification of the readings. Small groups will be used to analyze ethical case studies, as well as videos dealing with aspects of ethics in organizations and project management. Students will write two-page reaction papers to the assigned materials for each class. A reaction paper is your thoughtful response to any issue(s) raised in the readings. It is not graded, but is used for discussion. The major assignment is to write a formal analysis of an ethical problem in an organization or project management, preferably one from your own experience or someone else's.

Readings include: Ethics on the Job: Cases and Strategies, by Raymond Pfeiffer and Ralph Forsberg (Wadsworth, 2005). This book provides a decision-making method, demonstrates its application, and provides additional cases for analysis. Additional materials from organizational ethics and project management will be provided, including codes of ethics.

551. Devil's Advocate: Power of Divergent Thinking. (C) Greco. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

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.

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.

554. Project, Program & Portfolio Management & the Program Office. (C) Bayney. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

555. Leadership & Sustainability: How to Engage in Collaborative Innovation. (C) Nuessle/Garofalo. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

The objective of this course is to engage students in an experience of collective innovation and apply that innovation to potentially alleviate a sustainability problem in the Penn community. Students will be working on real projects that relate to the sustainability challenges within the Penn community. They will be asked to immerse themselves into the social system they will be studying through interviews and other activities to gain "situation awareness" then experiencing practices for reflection, after which they will look for prototype innovation solutions to emerge. These prototype solutions will then be ready for implementation subject to university review.

556. Is Social Media the Next Knowledge Management?. (C) Pourdehnad/Ladd. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

In this course we will review the promise of Knowledge Management, examine some of its successes and failures, and determine how Social Media may well be the future of a new, more energized and distributed form of Knowledge Management that promises to transform business basics like process improvement, innovation, and risk mitigation.

This realization calls on business leaders to put greater emphasis on innovation. New strategies will have to be employed and processes will have to be developed that tap into the tacit knowledge of all relevant stakeholders, including employees, suppliers, and customers. In sum, intellectual capital will have to be shared, both inside and outside the organization. Recent studies show that

Knowledge Management, once seen by many as a method of tapping into the corporate memory, thereby decreasing redundancy, improving knowledge sharing, and generally increasing efficiency and effectiveness, has either not realized the promise it once carried or, having enjoyed a modicum of success, been declared fully implemented and left to wilt from lack of attention. With the advent of Web 2.0 (Enterprise 2.0), and the switch from a one-way, broadcast web to a multi-level, highly participatory web model, we now have access to tools that make communication, collaboration, and findability far more widespread and useful. In this course, we will review the promise of Knowledge Management, examine some of its successes and failures, and determine how Social Media may well be the future of a new, more energized and distributed form of Knowledge Management that promises to transform business basics like process improvement, innovation,

557. The New Normal. (C) Bauer. For additional information, please see our website at:
<http://www.organizationaldynamics@upenn.edu>.

558. Social Media and the Organization. (C) Havelly/Warren. For additional information, please see our website at:
<http://www.organizationaldynamics@upenn.edu>.

This course will 1) examine trends and use of social media in marketing, product development, customer service, networking and other facets of organizational policy and practice; 2) Have students' critique their own organization's culture and values around social media policy, staff challenges, and evaluation of challenges and opportunities; 3) Equip students to design a social media strategy and campaign; and 4) Share relevant case studies with student participation and analysis.

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.

560. Family Systems Theory for Organizational Work. Ballet. For additional information, please see our website at:
<http://www.organizationaldynamics@upenn.edu>.

The purpose of this course is to help students understand themselves more fully in relation to their organizational work and to be better prepared to see how family roles appear unconsciously in group and organizational roles. The central theories in the course are Bowenian Family Systems Theory, Structural Family Systems Theory and Family of Origin Work. These theories are highly compatible with group and systems level thinking. Through the use of genograms and genogram presentations, students will understand the role of self in relation to their own family of origin, that of their work or consulting team and their organizational system. This process can take into account one's own projections as they relate to gender, race, ethnicity, social class, power and authority.

SM 600. Managing Diversity in the Workplace. (L) Anderson. For additional information, please see our website at:
<http://www.organizationaldynamics@upenn.edu>.

This seminar will focus on the social nature of race, ethnicity, and lifestyle relations in the workplace, assessing implications for the resulting organizational culture and management issues. The workplace is the intersection of many individual experiences and biases, particularly those surrounding the personal issues of race, ethnicity and lifestyle. One's capability for managing and being managed are profoundly affected by how clearly one is able to understand one's own biases as well as those of others. A main objective of the seminar will be to

increase one's ability to understand and manage diversity in the workplace by investigating: (1) how distinctions manifest themselves in organizations; (2) how the same behavior can be viewed differently, depending on experience and culture; (3) the meaning of dominant and minority groups; (4) the workplace as the same or different from society in general; (5) risks of assuming that differences are being understood, when they are not; (6) the nature of stigma and its implications for the workplace.

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. For additional information, please see our website at:
<http://www.organizationaldynamics@upenn.edu>.

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. Administrative Decision Making and Problem Solving. (C)

Starr. For additional information, please see our website at:
<http://www.organizationaldynamics@upen.edu>.

How do you make important decisions when confronted with organizational, social or personal problems? Is your primary approach to use a strategic process? How many strategies do you know and use? In this course we will review and discuss research and descriptions about how "normal" people solve problems and make administrative, ethical, and social decisions. We will evaluate situations and problems where quantitative methods can be applied in order to improve both the process and outcome of complex problems. Using readings and classroom case exercises, we will consider cognitive errors or biases, as well as personality and group dynamics forces that influence making choices. We will also consider how psychological stress, gender, and leadership apply to decision-making and problem solving in organizations. Most research readings and methods of analysis and evaluation are based on assumptions, theories, modes, and research conducted by psychologists and published in psychology journals. The underlying assumptions of the psychological approach to the topic will be presented and discussed.

Participants will learn to: understand and apply normative ("ideal") strategies for decision making/problem solving; understand and use descriptive ("everyday") and prescriptive ("improved") strategies and processes for decision making/problem solving; understand the differences between individual and group decision making/problem solving; understand how conflict, leadership, and gender influence

decision making/problem solving; write papers that demonstrate understanding and application of decision making and problem solving strategies.

SM 604. Organizational Risk Management. (L) Combrinck-Graham.

For additional information, please see our website at:
<http://www.organizationaldynamics@upen.edu>.

We will examine our involvement in risk management in our organizations and discuss whether our organizations manage risk as they manage opportunity. The first half of the course will focus on risk management's decisional and managerial aspects. During the second half of the course, we will apply these concepts to case studies as preparation for your presentation on managing risk in your particular organization. This course should provide you with a framework for addressing risk in your organization and perhaps in your personal life. You will also strengthen your understanding of your appetite for risk and that of your organization under different circumstances.

Risk management is a function rather than a specific position. It should be practiced by many levels of management, with coordination and guidance from a senior level. Risk management is a planning and strategic function, not solely an assessment, financial or safety function. Risk management prepares for an uncertain tomorrow, just as long-range planning deals with the futurity of present decisions.

SM 605. (GAFL605) Managing Project Risk, Uncertainty and the Unexpected. (C) Hornbacher.

For additional information, please see our website at:
<http://www.organizationaldynamics@upen.edu>.

This seminar will focus on the six stages of project risk management articulated in the best practices standard developed by the Project Management Institute. These include: (1) Risk Management Planning; (2) Risk Identification; (3) Qualitative Risk Analysis; (4) Quantitative Risk Analysis; (5) Risk Response Planning and (6) Risk Monitoring and Control. Although the management processes involved in some stages may appear easy to understand, their implementation always requires appreciation of and commitment to the complexities of risk management by the leadership of the organization. Stages 2 and 4 concern qualitative assessment; Stages 4 and 6 are more analytic in nature and involve discussion and review of quantitative techniques. Class participants

will be asked to find past or current projects in their own organizations that could have or currently can benefit from early identification of risk. Students will work in teams to identify the benefits of, and more importantly, the challenges and barriers to, establishing risk management processes in their enterprises.

SM 606. (GAFL625) Understanding and Managing Complex Organizations. (C) Sedehi.

Today's organizations are highly complex workplaces; made up of traditional and interconnected departments, professional and technical employees with wide variations of education and training, and are spread out geographically and intellectually. The class intends to explore the interplay between all these elements by introducing the students to the basics of organizations and challenge them to explore their own beliefs and approaches. The course will equip the students with the various organizational theories and the current scholarship on organizational management. To put theory within a practical framework, the course will systematically go through all of the various aspects of leadership and management such as governance, mission/vision, strategic planning, day-to-day management (workforce issues, technology, and finance), conflict management, change management, and crisis management. Organizations of all types (non-profits, for profits, corporations, governmental and quasi-governmental) as the subject is best understood through multiple lenses. While the class does not have a prerequisite, it is intended for more advanced masters students or for individuals with considerable work experience, especially in management roles and comfortable with self-directed academic work.

SM 607. Psychodynamics of Organizations. (C) Hirschhorn.

For additional information, please see our website at:
<http://www.organizationaldynamics@upen.edu>.

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.

The course will introduce students to some basic concepts of psychoanalysis, which focus 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.

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. For additional information, please see our website at:

<http://www.organizationaldynamics@upenn.edu>.

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: 1) Who am I as a leader and helper? 2) What are the assets I bring to the coaching relationship? 3) What are my

deficits, overused strengths, or underutilized skills and behaviors? 4) What historical influences from my family of origin influence my capacity to build a positive relationship with my coaching client? 5) Are there discrepancies in relation to my self-perceptions and those who know me well--family members, peers, colleagues, friends, boss and direct reports?

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 612. Mastering Organizational Politics and Power. (C)

Eldred. For additional information, please see our website at:

<http://www.organizationaldynamics@upenn.edu>.

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. For additional information, please see our website at:

<http://www.organizationaldynamics@upenn.edu>.

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 the seminar is the large-scale organization. Questions to be raised include: 1) Is the modern large corporation alienating, inflexible, unproductive? 2) Are bigness and bureaucracy inevitable? 3) Is the small organization or work team engaging, innovative, creative, productive? 4) What does the historical record for the United States reveal? 5) Are organizational alternatives and change possible?

SM 617. Economics of Human Behavior and Organizational Life. (L)

Handy. For additional information, please see our website at:

<http://www.organizationaldynamics@upenn.edu/od.cgi>.

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 begin with an examination of how micro economists view the world, discussing concepts such as: efficiency; opportunity cost/marginalism; externalities; incentives; free-riding; rent-seeking; and transaction costs. We then focus on a rational choice analysis of family, the oldest and most fundamental institution in society. We examine marriage and divorce and the consequences from an economic standpoint for individuals and society. We then examine religious organizations and religion in terms of choices individuals make given costs and benefits of their actions while "producers" of religion compete for adherents. Before concluding the course with an economic analysis of democratic government, we will look at several topics such as: human capital and investment in education; law and enforcement; bribes and gifts, economics of information; property rights and externalities; and free-riding.

SM 619. Organizational Project Management. (C) Choukroun. For additional information, please see our website at:

<http://www.organizationaldynamics@upen.n.edu>

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 project management as currently practiced in large for-profit enterprises. 2) Understand the content and processes and standards of practice as defined by the Project Management Institute (PMI). 3) Understand how to build and manage effective project teams. 4) Become familiar with the critical components of effective project plans.

SM 620. The Coach: Applying Tools and Skills in the Field. (C) Napier. For additional information, please see our website at:

<http://www.organizationaldynamics@upen.n.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. Managing Project Portfolios. (C) Bayney. For additional information, please see our website at:

<http://www.organizationaldynamics@upen.n.edu>

The primary objective of this course is to enable participants to gain a thorough understanding of and appreciation for the discipline of 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 impact of risk and uncertainty to the quantification of Project, Program, and Portfolio value is addressed through classic Decision Tree Analysis while the student is introduced to the practical elements of Project prioritization and Program & 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 initiatives, and Project prioritization. In preparation for final class presentations of their organizations' portfolio health, students will critique a targeted Harvard Business Review case study in Portfolio Strategy and Management. This course complements DYNM 605 - Assessing & Managing Project Risk.

SM 622. Building Effective Organizational Structures: Getting Things Done. (C) Barstow. For additional information, please see our website at:

<http://www.organizationaldynamics@upen.n.edu>

This seminar attempts to penetrate many of the formal models of organizational planning, decision making and action to ask how things actually get done. Popular concepts such as participative management,

teamwork and networking are often not practiced effectively. Attempts to bring about such political change in organizations often ignore the fluid, informal structures already in place. This seminar will explore structures and processes for redesigning an organization and empowering its members to work and manage effectively. This seminar is built around change projects designed and carried out by each participant over the term. Each participant will present and lead a discussion of their project during the course.

SM 624. Program Leadership. (C) Heaslip. For additional information, please see our website at:

<http://www.organizationaldynamics@upen.n.edu>

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 to 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 principals 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. DYNM 624 will begin with an examination of the nature of Programs, and their unique role in delivering outcomes that support strategic goals. Drawing on student experience and knowledge, class members will each identify a program to examine and discuss as case studies during

the class. The diversity of experience of the students will thus provide a rich environment for the study of programs of very different types. The course will then review the published standards and common practices of Program Management, comparing them with the examples presented by the case studies. Students will examine whether differences between case studies and the standards represent gaps in Program Management practices or acceptable context-specific differences in Program Management needs.

SM 625. Ethnography of Everyday Life. (L) Anderson. For additional information, please see our website at: <http://www.organizationaldynamics@open.n.edu>.

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, study, and 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 the 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 an 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@open.n.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.

SM 627. Classics of Organizational Behavior. (C) Barstow. For additional information, please see our website at: <http://www.organizationaldynamics@open.n.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 Strategies for Enhancing Organizational Effectiveness. (C) Kaminstein. For additional information, please see our website at: <http://www.organizationaldynamics@open.n.edu>.

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. For additional information, please see our website at: <http://www.organizationaldynamics@open.n.edu>.

This course describes and examines professional Organization Development (OD) competencies identified by the Academy of Management and professional OD societies. OD practitioners, theorists, and corporate officers visit class to describe - for example - establishing and managing organizational coaching programs; applying different models in large-scale organization change initiatives; managing change in virtual and global teams; and using change methodologies such as Appreciative Inquiry (a blend of positive psychology and systems thinking) to create idealized development and growth. MSOD or MPhil students interested in organization consulting and coaching should consider this course as a first step. Most research, readings and methods of analysis and evaluation are based on assumptions, theories, models and research conducted by psychologists and social scientists from the human relations tradition.

Students will learn to: 1) Understand and critically evaluate expectations, applications and outcomes of OD interventions and promoted by OD practitioners; 2) Understand how OD competencies are addressed by practitioners/consultants; 3) Understand how to establish an OD intervention.

SM 630. Value-Driven Business Process Management - From Strategy to People and IT-Based Execution. (A) Kirchmer. For additional information, please see our website at: <http://www.organizationaldynamics@open.n.edu>.

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 - from strategy to execution.

SM 631. Strategic Planning and the Process of Implementation and Success. (C) Tomazinis. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

Entrepreneurship engenders the notions of innovation, organization, planning ahead, and above all, a determination to do something that has not been done before. Every successful entrepreneurial enterprise is a realization of strategy and planning. Participants in this seminar will discuss the techniques necessary to lead an entrepreneurial venture in the public and private sectors and within large and small organizations.

SM 633. Leadership from the Middle of the Organization. (C) Stankard. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

This course is designed for you if you are preparing to take responsibility without authority for actions that will make you the

leader you have been looking for. The aim of this course is to prepare participants to drive results in an uncertain organizational environment, under high pressure. The learning objectives of this course are: a) to involve you in designing your personal cycle of leadership and development to benefit your organization and yourself and b) to experience applying the idealized design process to designing your personal LfM approach. The course requires reading, a class project, and independent work on your personal LfM opportunity or challenge.

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. In class, students will function as an idealized design team. The design process has two phases. The first formulates the current reality and projects the likely undesired effects and outcomes, assuming no change. The second phase designs the ideal leadership approach that all stakeholders would wish for, if all of their feasible, sustainable and adaptable wishes could come true right now. By participating in a design process, the class itself models many group dynamics of an actual LfM situation. A presentation in Scholarly Commons describes the work done in this class, with examples. Please see Stankard, Martin (2011), http://repository.upenn.edu/od_working_papers/9/.

SM 634. Process Improvement Tools and Strategies. (C) Stankard. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

Process improvement is a core capability of competitive and sustainable organizations such as Baptist Healthcare, Federal Express, Ritz Carlton, Toyota Motor Co., General Electric and Motorola for example. Ever rising customer expectations in markets with global competition compel organizations to "adapt or die." Deming's warning that "There is no need to change; survival is not mandatory" is truer now than ever. Organizational survival and economic success depends upon effective development of smarter and better ways of working--processes--in an organizational context of leadership, learning and customer focus. This course is ideal for those who want to learn how to help organizations boost profitability and sustainability through systematic improvement of quality, through input, timeliness, economic value, employee and customer satisfaction.

Fifteen or more simple, powerful tools (such as brainstorming, affinity diagramming, process mapping, customer value analysis, the five whys of root cause analysis, process behavior and spider web diagrams, prioritization of the vital few versus the useful many, in-process and end-of-process metrics, etc.) by working through an in-class lean sigma improvement project on a simulated process. You will also learn to discuss problem solving and innovation in organizations using the point of view and language of process improvement. Two main strategies of process improvement - the Toyota Production system known as Lean Production, and of statistical approaches to designing and improving processes now referred to as six sigma approaches. How process improvement fits into a strategic organizational context by working on a team project to diagnose improvement opportunities and propose a program of action for a case study company. You will work as a member of a team on a final project for the case study organization (or with prior approval from the instructor) to conduct a live process improvement project in your home organizations. Class time is allocated for the instructor to coach your teams on each stage of your projects.

SM 635. Organizational Essentials for Leadership. (L) Choukroun. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

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. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

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, and 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 a global scorecard using Rosinski's global coaching process as one illustrative example of this kind of coaching.

SM 640. Virtual Forms of

Collaboration. (C) Reyes. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

In many of today's organizations, the process of improving productivity and performance has become a big business. Quite apart from the myriad internal studies, task forces, reorganization efforts, re-engineering projects, and the like, there are countless external vendors and consultants who provide productivity and performance products and services to

organizations of all types. Perhaps the best known are Business Process Re-engineering (BPR) and Business Process Engineering (BPE) which have been developed to tackle the needs for broader-scale improvements. The adoption of Enterprise-wide Resource Planning (ERP) systems based on BPE has been a significant development. Not only does ERP ordinarily constitute a major investment of resources, it requires the adoption of a reconfigured view of the organization and the processes used in its design, structure, and operations. In this seminar, the rationale for ERP will be discussed in terms of its effects and impacts on productivity and performance in organizations. In order to illustrate the factors and considerations used in developing ERP systems, examples will be presented which employ SAP's R/3 system and the R/3 "Business Process Reference Models." In order to facilitate the review, additional examples will be presented.

SM 643. Overcoming Organizational Barriers to Success. (M)

Bayney. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

This course examines the fundamental *raison d'être* of Project Portfolio Management and its relationships with other organizational disciplines. It is not a course designed to teach individuals how to practice Project, Program or Portfolio Management. Rather, it is a course designed to place Project Portfolio Management front and center of organizational survival and to educate practitioners on how to create strategies for its long-term survival and institutionalization. In today's cost cutting and outsourcing environment, organizations are struggling to continue to grow and create value from declining resource constraints, whether human or budgetary in origin. This places a greater level of importance and burden on Project Portfolio Management but, in so doing, serves to threaten the traditional domains of more established functions that have carefully protected their influential territory for countless decades.

645. Project Based Laboratory. (M)

SM 649. The Entrepreneur's Journey. (C)

Lichtenstein. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

This course will explore the Entrepreneur's Journey: not only what is involved in being an entrepreneur, but the variety of ways and settings in which entrepreneurship can be

practiced and the career paths many entrepreneurs have followed. Participants will have a chance to discover how entrepreneurship can fit into their lives or careers, what skills they bring and what it will take for them to pursue various opportunities (e.g., business or social). The course will be very useful if you are considering starting your own business or thinking about how you can bring a new set of skills to your current position in an existing organization.

SM 650. The Psychology of Growth. (C)

Seltzer. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

The focus of this course is an examination of how, where, and when psychological growth may be fostered intra-personally, interpersonally (in self and with others), within groups, and on the organizational level. We investigate dynamics of psychological growth, individually and as a member of a group, as presented in representative theories of development and in literature on the psychodynamics of interpersonal relationships and individual differences. We examine the impact of rapidly occurring social change on growth potential in the major social institutions, including the organization.

We begin with alternative definitions and conceptions about what growth is, its course, the forms it might take, and the variety of settings and strategies connected with its transmission. Throughout the semester, we will try to answer questions such as: What is psychological growth? What are its forms and manifestations? How do we recognize growth and encourage or discourage it? Do we recognize similar and varying growth needs? Do we recognize our own differences and do we acknowledge and respect these differences in others? Participants are encouraged to address the issues through case examples from their own organizations.

SM 651. Group and Team Dynamics. (C)

Kamenstein/Zane. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

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 Saturday 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. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

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. (GAFL655) Using the Political Process to Effect Organizational Change. (C) Gale. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

At one time or another, each of us has said something like, "I know what to do to make some really effective 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, or governmental) simply obstructs our ability to make a difference. Frustrations notwithstanding, politics is anything but an impediment; it is the art and science of coordinating individuals, departments, management, markets - the entire organizational environment - to effect a balance of objectives and methods. Congressman Brady and Dr. Gale will explore and assess the foundations of organizational politics--change, exit, voice, loyalty, and valuation of relationships--and discuss the use of politics to promote effective change.

After reviewing organizational theory and the roles that political processes play in communications and decision-making, current cases will be presented that illustrate the contexts and conditions for effective political coordination. This course will focus on the current crises in the U.S. and global economies and the strategies and activities of the new Obama Administration. U.S. Congressman Robert Brady, who is deeply involved in the legislative process and in a unique position to discuss the implications of national policies, will share his views and experience.

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. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

The importance of organizational culture in defining organizations, and, often, in creating a competitive edge, has been regaining attention during the past few years. One of the central questions in the organizational culture debate is whether a culture, particularly of a large organization, really can be changed significantly. This course will begin by engaging the debate about how to define organizational culture and what key factors determine culture. We will explore different models of categorizing cultures and discuss the extent to which culture is really related to performance and what factors may modify the culture/performance relationship. We will also examine different methods of diagnosing cultures. During this section of the course we will describe, compare and contrast the cultures of different organizations--both those of the class participants and those of other organizations. We will begin the second section of the course by examining both the

theoretical and applied literature on organizational culture change.

After developing a generic framework for the culture change process, we will read cases describing culture change efforts and hear from guest speakers who will discuss specific culture change efforts, successful and not. This section of the course will introduce students to specific organizational intervention strategies that can be used to facilitate culture change. In particular, we will discuss traditional top-down change strategies, Real Time Strategic Change, Appreciative Inquiry, and a customized approach to culture change in mergers and acquisitions. During the last section of the course, the class will discuss individual, personal change management as a major factor in successful organizational change; other factors that are essential in most successful culture change efforts; barriers that can be expected; predictable but unintended side-effects of culture change efforts; and strategies for overcoming barriers and managing side effects. Finally, students in this class will apply what they have learned about organizational culture change to their own organizations.

SM 662. Entrepreneurship and Leadership: Creating Winners. (C)

Keech. For additional information, please see our website at:
<http://www.organizationaldynamics@upenn.edu>.

The course begins with an examination of the trends, technologies and forces that are reshaping the global political and economic order. Within that context, the course builds understanding of why 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. 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 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>.

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. The course is designed for anyone tasked with engaging others in implementing sustainable business

practices. Also for entrepreneurs selling green business products and services, the course 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.

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.

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. Leadership in Organizations: Private and Public, Personal and Professional. (C) Larkin. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

The most valuable resource of any organization is the people who work there; the human capital, if you will. This seminar will explore the issues of the leadership of this human capital to meet the goals of the organization and the personal and professional goals of the people in the organization. We will read about and discuss issues such as: Crisis Periods of Leadership, Enhancing One's Leadership Capability, Conflicts Between the Organization's Leadership and One's Personal Leadership, and Strategies for Success in Leadership Positions. Additional themes of power, authority and control will be examined in terms of the organization and the individual.

The seminar requires a considerable degree of participation from the students. Our explorations of leadership both begin and end with each of us individually. Therefore, the seminar will reflect both our common readings and our mutually uncommon (individual) lives as we all negotiate this interesting and challenging personal and professional journey.

SM 671. Ownership Matters. (B) Lamas. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

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 breathe free, the young couple with a dream of home ownership, the entrepreneur who wants to be his or her own boss, the consultant who wants to form a partnership with best friends, and the indebted, mid-level manager reviewing last year's 401(k) statement.

In this course, you will have an opportunity to examine ethical, religious, legal, technological and economic bases for different ownership systems from early human history through the 20th century; develop a theoretical framework for understanding ownership issues in the contemporary workplace; review social

science concerning ownership and the related organizational issues of motivation, performance, productivity, profitability, culture, diversity and equity; analyze a variety of cases to measure ownership's effects across many industries and business situations; and 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.

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>.

The principal purpose of this course is to prepare students so that they and the groups and organizations they lead can successfully weather organizational crises and adversities. In today's world the question is not whether they will experience crisis; it is only a matter of what type of crisis will occur, what form it will take, and how and when it will happen. We will adopt a systems lens, organizing our understanding of crises and adversity at the most general level of analysis and looking at problems and solutions comprehensively. The following are the course objectives: understanding crisis management and resilience; understanding models of resilience; how to audit crisis management strengths and vulnerabilities; what to do before a crisis, when a crisis hits, and after a crisis; how to build resilience into a system; how to inoculate oneself and one's organization to protect against depression and demise; and how to identify what is most important and how to safeguard it.

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 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 New Normal. (C) Bauer. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

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. Organizational Experience. (C) Larkin. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

In a time when corporate downsizing and restructuring are causing dislocation and change in middle management positions, new career opportunities and effective contribution to new organizations requires more than just technical knowledge to develop new tasks, skills and markets. By achieving greater insight into the historical forces that are causing change and into personal and professional initiatives and responses, participants can create opportunities for their own meaningful transformations. In this seminar, readings in a variety of literatures and selected films are used to explore a wide range of work and life experiences, looking at careers across centuries and social class. Participants will have the opportunity to consider (and indeed reconsider) their own work preferences and career choices as reflections of their early family, school and work experience. They will do this by researching and developing an autobiography that explores family history, educational history, and organizational work experience as a practicing professional.

The nature of the autobiographical work in this course is by definition personal. Participants should be willing to explore those themes that reside within their life experience and contribute to analytical and open discussion.

SM 692. Innovation in Organizations. (C) Freeman. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

In this course we will try to understand innovation through different levels of analysis including individual, team, network, organizational, and industrial. The primary goal of the course is to expose students to a variety of perspectives on innovation, while building on past work experiences and preparing for work experiences in the future. At each level of analysis, we will try to understand conditions under which innovation processes succeed and fail. The weekly readings consist of a mixture of book chapters, journal articles, and cases. An outline forum is planned for further discussion of the required readings outside of class, and as the basis for class discussion. Classes will employ reflection exercises and entail critical thinking about the topic for the week, case analyses completed in small groups, and other activities and lectures introducing material found both within and outside of the readings.

An overnight trip to Harvard University or MIT is being arranged to expose students to innovative practices and leading-edge thought at other research institutions.

SM 693. The Art and Science of Organizational Strategy and Planning. (C) Choukroun. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

There is no "best way" to create strategy nor is there one "best way" to plan and implement. Rather, quite different approaches will work in different contexts. In this seminar we will explore several approaches to understanding and formulating organizational strategy, emphasizing the complexity of the strategy formation, development process and its risk-taking implications. We will also examine several planning models together with the internal and external contents in which each may be most effective. The implications of the various approaches to strategy and planning models on organizational forms and structures will be discussed.

SM 705. Capstone Course. (C) 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, 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: <http://www.organizationaldynamics.upenn.edu/capstone>

SM 720. Foundations of Organizational Consulting and Executive Coaching. (C) Russo/Napier/Orenstein. Corequisite(s): DYNAM 722. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

This intensive course not only provides experientially the intellectual and practical core of every subsequent course, but also facilitates the creation of the cohesive community that is so fundamental to this program. Here, the cohort itself is the source of the learning that occurs, as participants learn to assess needs in the moment, provide critical insight and practical strategies in a wide range of situations, and personally reflect on the professional and personal work they have done.

721. Field Study and Reflected Assessment. (C) Orenstein. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

This course discusses relevant research-based theories and models and the methodologies to apply knowledge to

analysis and practice. Students will examine then evaluate models that are most appropriate to their own framework and system of thinking.

SM 722. Making Meaning from Organizational Experience and Establishing Frameworks for Consulting and Coaching. (C) Russo/Napier/Orenstein. Corequisite(s): DYNAM 720. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

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 are ready to develop a theory-guided consulting and coaching framework. They research, present, and apply a framework of their own choosing.

SM 723. Consulting and Coaching Process: Knowing Yourself-Coach as an Instrument of Change. (C) Russo/Napier/Orenstein. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

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. Consulting/Coaching Tools and Techniques. (C) Russo/Napier/Orenstein. Corequisite(s): DYNAM723. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu>.

Expanding their newly acquired skills, cohort members build tools and techniques for effective consulting and coaching as a leadership competency within organizational settings. Participants learn the "how" and "why" as well as the "how" of implementing courses of action.

SM 725. Interpretation & Problem-Solving & Managing Conflict. (C) Russo/Napier/Orenstein. 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@upen.n.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 729. Internship Field Experience. (C)

Russo/Napier/Orenstein. Corequisite(s): DYNAM730. For additional information, please see our website at: <http://www.organizationaldynamics@upen.n.edu>.

In this internship, participants are 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@upen.n.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 731. OCEC Capstone/Thesis. (C)

Napier. For additional information, please see our website at: <http://www.organizationaldynamics@upen.n.edu>.

This is a course in which students have the opportunity to demonstrate their consulting and coaching mastery. Throughout the program, participants will have systematically codified their learning experiences through the accumulation of various papers, project results, and other measures of performance. These will be contained in a personal portfolio which will include an understanding of the assigned literature and classroom-based theory and experiences. Students will write a personal reflection on the use of self as an instrument.

SM 732. Field Experience. (C)

Napier/Russo. Corequisite(s): DYNAM 731. For additional information, please see our website at: <http://www.organizationaldynamics@upen.n.edu>.

In this internship, participants are exposed to a variety of consulting and 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 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@upen.n.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)

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SM 758. Sweden: Strategies for Thriving in the 21st Century. (L)

Barstow. For additional information, please see our website at: <http://www.organizationaldynamics@upen.n.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 is possibly diminished?

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 759. Sweden: Sustainable Development & The Natural Step. (L) Barstow. For additional information, please see our website at:
<http://www.organizationaldynamics@upen.n.edu>.

The focus of this seminar in Stockholm, Sweden is on The Natural Step framework for sustainable development. We will meet and work with members of the Natural Step Framework and explore how best to engage our own organizations and communities in adopting sustainable development policies and practices. The Natural Step (TNS) is a framework grounded in natural science that serves as a guide for businesses, communities, educators, government entities, and individuals on the path toward sustainable development. The Natural Step framework encourages dialogue, consensus building, and systems thinking (key processes of organizational learning and creates the conditions for profound change to occur. It does not prescribe or condemn other approaches but rather introduces and expands on new possibilities. From a business perspective, The Natural Step framework enables corporations to intelligently, and profitably, integrate environmental considerations into strategic decisions and daily operations.

SM 766. Perspectives on Change in the Czech Republic. (L) Steiner. For additional information, please see our website at:
<http://www.organizationaldynamics@upen.n.edu>.

On May 1, 2004, the Czech Republic, together with nine other states (altogether about 70 million people), officially joined the European Union as full-fledged members. This new EU became the world's largest free trade zone, measured by the number of consumers, with a GDP comparable to our own. The challenge this poses for the US is twofold. One the one hand, the stronger new Europe will create a formidable competitor vying for the same customers, energy resources and political power. On the other hand, its huge market with considerable dynamic potential provides farsighted American entrepreneurs with an opportunity to partake--through investments, joint ventures, or trade--in the

ebullient economic growth that the enlarged EU promises.

Because of its economic scope and the perceived encroachment on the sovereignty of so many nations, the enlargement was initially greeted with some skepticism by both the "old" and the "new" Europe. But a year later, it is viewed by most as a success story. According to the Economist, "the new central European members learned to stop worrying and love the European Union" (January 18, 2005) while the Westerners realized that their own misgivings (the capital outflow combined with the labor inflow) were largely imaginary. The process of bringing all European nations under one roof, however, is far from finished and there are many challenges lurking ahead. The lectures and discussions in Prague will highlight some of them.

SM 770. Global Communications. (C) STEINER. For additional information, please see our website at:
<http://www.organizationaldynamics@upen.n.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.

771. Micro-Finance in India: The Past, Present and Future. Handy. For additional information, please see our website at:
<http://www.organizationaldynamics@upen.n.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. For additional information, please see our website at:
<http://www.organizationaldynamics@upen.n.edu>.

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."

SM 788. The New Russia: Foe, Competitor or Ally. Steiner. Churchill's famous adagio about Russia being "a riddle wrapped in a mystery inside an enigma" seems as valid today as it was in 1939 when it was coined. From George W. Bush's looking into Vladimir Putin's eyes and getting a sense of his soul to Sarah Palin's seeing the same man as rearing his head and threatening the security of Alaska, US politicians seems to have a great deal of difficulties in calibrating their attitude toward the country which has ceased to be "the evil empire" already some fifteen years ago. Is the new Russia, seeking to extend its sphere of influence over the now independent former Soviet states, a military challenge to NATO? Is it an economic competitor in the global game in which the control of vital energy resources is at stake? Or is it an indispensable ally in "the war on terrorism" without whose support the world cannot become safe?.

A week-long seminar which will take place in Moscow in the first half of June, 2009, will attempt to answer these questions by inviting Russian academic experts, business leaders, politicians and journalists for an in-depth discussion of the following general topics: 1) Russia today (the post-Communist transformation; the current political climate; politics and business; the control of media). 2) Russia and the world (relations with the great powers: USA, the EU and China; relations with its immediate neighbors: Ukraine, Georgia, and the Baltic states). 3) Russia's energy sector (a role in the global energy market; security vs transparency; ecology and alternative fuels). 4) Russia's

financial sector (stock market; stability of the ruble; oversight of the banking industry; foreign capital). 5) Russia tomorrow (educational system; demographic trends; airspace industry; mineral wealth of Siberia and the Arctic).

899. MPhil Capstone Course. Starr. For additional information, please see our website at: <http://www.organizationaldynamics@open.n.edu/od.cgi>.

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.

PHARMACOLOGY (MD) {PHRM}

510. (INSC596, NGG 596)

Neuropharm/Neurochem. (B) 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.

531. (GCB 531) Intro to Genome Science.

532. (CAMB532) Human Physiology.

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 2st 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. (A)

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.

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 ethic issues associated with the routine genetic testing of patients to facilitate treatment choices and clinical monitoring.

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.

Axelsen and staff. 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. Fundamentals of Pharmacology.

(D) 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.

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.

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}

Introductory Courses

L/R 001. Introduction to Philosophy.

(C) Humanities & Social Science Sector. Class of 2010 & beyond. Detlefsen, Schneider, 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 does it mean to live a good life? How should I treat non-human animals? Do I have free will? How do I know that the world I see is really there? 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, Martin.

This course will introduce some of the central issues and texts in the philosophical study of morality in the Western tradition. Issues to be examined include: the nature of morality (what makes a person good or bad?), the relation between morality and religion (if there is no God is everything permitted?), the nature of the good life and the place of morality within it (why should I be moral?), as well as selected practical moral issues such as abortion, affirmative action, and responses to world hunger. Readings will be drawn both from historical sources (Plato, Aristotle, Cicero, Epictetus, Hobbes, Hume, Kant, and Mill) and from contemporary authors such as Peter Singer, Judith Thompson, and Bernard Williams.

L/R 003. (CLST103) History of Ancient Philosophy. (A) History & Tradition Sector. All classes. Kahn, Meyer, S.

A survey of classical Greek approaches to questions about knowledge, the nature of the world, the soul, ethics, and politics. Will focus on Socrates, Plato, and Aristotle.

L/R 004. History of Modern Philosophy. (B) History & Tradition Sector. All classes. Guyer, Hatfield, Detlefsen.

The explosion of scientific knowledge in early modern Europe cast doubt not only on the medieval worldview but also on its assumption of a theological guarantee for the possibility of human knowledge. Thus modern philosophers had to begin the project of establishing standards and foundations for human knowledge without a

divine guarantee. The Reformation and the growth of secular states in the sixteenth and seventeenth centuries presented a similar challenge for modern moral and political philosophy, which thus faced the challenge of establishing norms for human conduct and their foundation without divine commands. We shall examine how the leading philosophers of modern times confronted these challenges, focusing primarily on the challenge for modern theories of knowledge but also considering at least some of the parallel developments in modern moral philosophy. Readings will include selections from Descartes, Leibniz, Locke, Berkeley, Hume, Kant, and in the nineteenth century, the great American philosopher Charles Sanders Peirce.

Written work will include several short papers and a final examination. Attendance at both lectures and discussion sections will be required, and participation in both can also count towards final grades.

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. (LGIC310, MATH570, 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 an introductory course in modern political philosophy. Political philosophy addresses the justification and legitimate purposes of political power; the basic rights of individuals; the justification of property; capitalism vs. socialism vs. the welfare state; economic justice and the fair distribution of income and wealth; the constitutional requirements of a democracy; and the meaning of the freedom and equality of citizens. These are the kinds of questions we will investigate. The course is organized around the social contract

tradition in political philosophy and the utilitarian response to it. Our primary focus is the works of the major social contract philosophers--Thomas Hobbes, John Locke, Jean Jacques Rousseau, and John Rawls--and the major utilitarian philosophers--David Hume, Adam Smith, Jeremy Bentham, and John Stuart Mill. Karl Marx is discussed as a critic of capitalism and constitutional democracy.

015. Logic and Formal Reasoning. (B) Domotor.

This course offers an introduction to three major types of formal reasoning: deductive, inductive (probabilistic) and practical (also known as decision-making). First, and most centrally, we will be focusing on the logical structure of deductive arguments in the context of sentential and predicate logics, and their applications in scientific reasoning. Next, we turn to inductive arguments forms within the frameworks of elementary probability theory and statistics, with special regards to reasoning in experimental research. In the third (shortest) module, we introduce the basic principles of decision theory and practical reasoning. This course is designed for students with minimal background in Mathematics.

SM 018. The Idea of Nationalism. (M) Steinberg. Freshman Seminar.

Nationalism is one of, if not, the major geo-political forces of the past two hundred years. Its continuing power has been amply demonstrated by recent events in Eastern Europe and the Soviet Union. This course will focus on the conceptual and theoretical issues raised by competing notions of nationalism, rather than on its history or expression in particular cultures.

L/R 025. (STSC025) Philosophy of Science. (C) Natural Science & Mathematics Sector. Class of 2010 and beyond. Weisberg.

An introductory course in the history and philosophy of science focused on the development of the modern, scientific view of the world. Starting with ancient Greek science, the course surveys the history of biology, chemistry, and physics examining the origin of concepts such as force, atom, evolution, species, and law of nature. The course also covers key issues in the philosophy of science including the relationship between theory and evidence, the nature of scientific explanation, and scientific realism. Readings will be drawn from the writings of Aristotle, Ptolemy, Copernicus, Descartes, Newton, Boyle, Dalton, Darwin, Mendeleev, and Einstein, as well as secondary sources.

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.

L/R 027. (CHEM027, PHIL527) Origin and Meaning of Quantum Theory. (M) Natural Science & Mathematics Sector. Class of 2010 and beyond. Hatfield, Fitts.

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.

SM 028. (GSWS028) Introduction to Feminist Philosophy. (M) Meyer, M. 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 032. Topics in Contemporary Philosophy. (M) Varying instructors. Topics vary each semester. Course is sometimes part of the Benjamin Franklin Scholars Program.

"Beyond Biology: Enhancing the human mind through technology": Some people have claimed that the prevalence of various information technologies in modern society is triggering a radical alteration to the structure of the human mind. The development of cognitive-enhancing drugs and of devices that interface with nervous

systems to restore cognitive functioning in brain-damaged people provides further evidence to some of the transformative potential of technology on the human mind. In this course, we will examine the philosophical hypothesis that the human mind is a product of the interaction between biology, technology (broadly conceived), and culture. We will consider whether technologies that enable or enhance human mental faculties are best viewed as proper parts of the human mind or instead as merely external aids/tools. We will also consider the moral issues surrounding the use and accessibility of such technologies. 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.

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.

050. (RELS155, RELS455, SAST150) Indian Philosophy: Themes, Methods, and Western Responses. (M) History & Tradition Sector. All classes. Staff.

An introductory survey of the fundamentals of Hindu and Buddhist philosophy, the main patterns of Western response to it and some basic questions on "comparative philosophy".

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.

A critical examination of existentialist views of the nature of the moral life. Readings from both classical (Kierkegaard and Nietzsche) and modern existentialism (Sartre). Readings also include related literary works. Attention will be given to the conceptions of the self; the visions of personal ideals; and the treatment of the relation among different kinds of practical ideals.

067. (GRMN248) 19th Century Philosophy. (M) Guyer, 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." This will be our task throughout the course as we take his work into hand as a potentially powerful tool for thought.

L/R 072. (HSOC101, PPE 072) 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. (ENVS073) Topics in Ethics. (M) Meyer, M.

In this class, we will examine many of the ethical issues involved in being a member of a political system. As such, we will look philosophically at the obligations and responsibilities that individuals have as citizens, as legislators, and as judges. Some of the questions that we will discuss

include; Do citizens have an obligation to obey the law? When is civil disobedience justified? How ought a citizen vote?

What, if any, are the ethical requirements of democratic citizenry besides voting? If they conflict, should a legislator vote their own judgment or the judgment of those they represent? How should a legislator balance achievement of goals with ethical restrictions on methods? Are citizens morally responsible for the decisions of those they elect? How ought judges interpret the laws? How much discretion ought judges have in a democratic society? While we will be focused on addressing these specific questions, we will also survey many of the main theories of moral philosophy and political philosophy whenever they are relevant. Readings will include both historical and contemporary writing, and we will examine a number of case studies related to the issues. Those who take the class are expected to participate in class discussions, and will be asked to write both quick responses and a longer final project.

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, Ross, Tan.

This course is an introduction to some of the central philosophical problems in the law. We will look at questions such as: What is the relationship between law and morality? Are we bound to obey laws that are immoral? What are the limits to liberty, and how can we balance liberty and equality? Are there limits to free speech and expression? Is affirmative action justifiable? Is capital punishment acceptable? To properly address these and other questions, we begin the course by looking at this fundamental question, "What is law?" We will read historical and contemporary philosophical writings about these issues, as well as some of the well-known court cases to motivate and to focus our discussion. Authors include Aquinas, Mill, Rawls, Hart, Dworkin and others.

079. Environmental Ethics. (M) Staff.

L/R 080. Aesthetics. (M) Arts & Letters Sector. All Classes. Guyer, Camp.

Philosophy of Art: What is art? How does it differ from real life? How can

representations of fictional events produce real emotions? Why do we enjoy or even love the artistic presentation of events that we would find repellent or abhorrent in reality? These are just a few of the questions that the artistic genre of tragedy has raised for philosophers since the beginning of philosophy in ancient Greece. This course will introduce many of the questions of aesthetics by focussing on philosophical theories of tragedy from Plato to the present. In addition to Plato, other writers to be discussed will include Aristotle, Hume, Kames, Rousseau, Schiller, Hegel, Nietzsche, and Bullough, and contemporary writers such as Stanley Cavell, Kendall Walton, Noel Carroll, Jenefer Robinson, and Martha Nussbaum. We will also test philosophical theories against samples of work by tragedians such as Sophocles, Shakespeare, and Tolstoy. Grades will be based on three written exercises (5 to 7 pages) and classroom participation.

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 205. What is Meaning?. (M) Camp.

In this class we will explore the various kinds of things that get called "meaning," from the most basic informational correlations (as when we say that smoke means fire, or that the tree's having 30 rings means that it is 30 years old), to the conventional meaning of sentences in a language, and on to the most open-ended, complex forms of cultural significance (as when we talk about what a movie means to us). What determines something's meaning: the creator or the recipient? Can all of these kinds of meaning be considered true or false? If something is meaningful, must there always be a determinate answer about what it means? This class should be accessible to anyone with a bit of background in philosophy, cognitive science, linguistics, literature or cultural criticism.

SM 209. Introduction to Plato. (M)
Kahn, 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) Kahn, 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. Meyer, S.

An investigation of the origins of the western ethical tradition, starting with the works of Plato and Aristotle in Classical Greek Philosophy, and following through with the Epicurean and Stoic schools in later Greek and Roman philosophy. Ethics, in this tradition, is concerned less with the specific practical issues that dominate contemporary discussions (e.g. the morality of abortion or capital punishment or the extent of our obligation to aid those in need), than with broader, more general questions such as "How should one live?" "What is the relative importance of material success, family and friendship, sexual intimacy, and intellectual activity, in a successful human life?" "What is the correct way to conduct ourselves in relation to the divine?" "Is emotion a good or a bad thing in human life?" Readings will include works by Plato, Aristotle, Cicero, Seneca. All texts will be read in English translation.

SM 212. Greek Concepts of the Psyche. (M) Kahn.

The origins of psychological theory and concepts of psyche in Greek literature and philosophy. Readings will include Homer and other poets, as well as Heraclitus, Plato, Aristotle and Plotinus.

215. Probability and Statistical Reasoning. (M) Domotor.

This course provides a conceptual and calculational approach to scientific reasoning with special regards to hypothesis formation, design and analysis of experiments for students with little or no formal background in probability calculus or statistics. Experimental inquiry is viewed in terms of a series of models, each with different questions, stretching from low-level representations of data and experiment to higher level hypotheses and theories of interest.

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 225. (STSC108) Introduction to Philosophy of Science. (C) Domotor, Akhundov.

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?).

226. (PHIL521, PPE 225, STSC128) Philosophy of Biology. (M) Natural Science & Mathematics Sector. Class of 2010 and beyond. Domotor, 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 and may include discussions of adaptation, what constitutes a species, whether there is evolutionary progress, and the concept of fitness. We will also discuss the units of selection, the alleged reduction of classical genetics to molecular genetics, 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): PHIL 008 or PPE 008, ECON 001, ECON 002.

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.

SM 231. Epistemology. (M) Schneider.

Knowledge is something that we seek to acquire not only in philosophy, but also in science, business, and in our daily lives. But what is knowledge exactly, and can our search for it be successful? This course focuses on contemporary work in epistemology, the study of the nature and extent of human knowledge. Is knowledge something that can be analyzed and defined? What sorts of things if any, can we come to know? And what methods can we use to come to know these things? We will read seminal and recent work on the following and other related topics: the

problem of skepticism, the search for a characterization of knowledge, and contextualist theories of knowledge.

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) Martin.

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, Schneider. 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, VLST244) Introduction to Philosophy of Mind. (C) Domotor, Camp.

What is a mind? What is special about human minds? We'll tackle this question by contrasting human minds with both the operations of computers and the cognitive activities of other animals; and by contrasting theoretical speculation with empirical investigation. Could a computer ever hold a real conversation, or experience what it's like to see red? If not, why are we so different? Can the boundaries of our minds extend beyond our skulls, to include computer interfaces? We'll also ask whether any other animals have mental

states like beliefs or desires. If not, how should we understand what goes on in their heads?

SM 245. Philosophy & Science Fiction. Schneider.

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?

249. (EDUC576, GSWS249) Philosophy of Education. (M) Detlefsen.

This course has two components. The first component is an historical overview of some key figures in Western philosophy of education (including Plato, Locke, Rousseau, Wollstonecraft, Dewey, and du Bois). We will focus on aspects of these theorists' ideas that will inform the second component of the course, which is an examination of 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 race and gender impact individuals' educational experiences (and how 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 schools should be funded. While the bulk of our readings will be philosophical texts, we will supplement these works with readings from other fields, such as psychology and sociology, in order to provide empirical context to the theoretical problems facing education today.

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. (RELS227) Topics in Continental Philosophy. (M) Staff.

Various topics in Continental Philosophy.

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.

L/R 277. (PPE 277) Justice, Law and Morality. (M) Allen.

In this course we will focus on the philosophical background to questions regarding the exercise of legitimate political power and individuals' rights under the U.S. Constitution, including 1st Amendment freedoms of religion, expression, and association; the 14th amendment guarantee of Due Process and the right of privacy,

abortion, euthanasia, and the right to marry; the Equal Protection clause and its bearing on affirmative action and equal political rights, and the Takings and Contract clauses and their bearing on rights of private property and economic freedom. We will also discuss competing conceptions of democracy and their implications for the purported authority of courts to reverse democratically enacted decisions by a majority. In addition to Supreme Court decisions concerning these and other issues, we will read works by J.S. Mill, John Rawls, Ronald Dworkin, T.M. Scanlon, Martha Nussbaum, Thomas Nagel, Robert Nozick, and other contemporary philosophers.

278. (LAW 614) Comparative Law. (M) Ewald.

The course will be a basic introduction to the legal systems of continental Europe, with an emphasis on the historical and philosophical developments that have shaped the modern civil law.

280. Topics in Aesthetics. (M) Staff.

In this course, we will explore different problems in the philosophy of music: (1) what is a musical work? (2) what is musical sound? (3) what is musical meaning? Our focus will be on Western art music, though detours through other forms of music are welcome.

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.

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. 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) Schneider. 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 334. Philosophy of Religion. (M) Staff. Department Majors Only.

Systematic examinations of the nature of religious experiences; proofs of the existence of God; the problem of evil; the relationship of faith and reason; and the possibility of religious knowledge.

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 355. Heidegger. (M) Hindricks. Department Majors Only.

Martin Heidegger was one of the most influential, and most contested, philosophers of the twentieth century. His book "Being and Time" is a classic of contemporary thinking, and his critique of technology provided the conceptual foundations for a general critique of modernity. In this course, we will read and discuss large parts of "Being and Time" as well as several of the essays devoted to the problem of technology, with a special emphasis on the ontological, rather than the existentialist, strand in Heidegger's thinking.

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. Modern Philosophical Figures. (M) Hatfield, Guyer, Detlefsen. Department Majors Only.

Various topics in 17th-18th century philosophy.

SM 367. Kant and Hegel. (M) Guyer. 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.

Fundamental issues in moral philosophy: for example, the objectivity of morality, the structure of moral theories, conflicts of values, personal and social ideals.

SM 376. Justice. (M) Freeman. Department Majors Only.

Various topics in justice.

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, Kahn, Tan. Department Majors Only.

Various topics in political philosophy.

SM 380. Topics in Aesthetics. (M) Guyer. 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

403. (GREK409) PreSocratic Philosophers. (M) Kahn.

Close study of fragments and doxography for the earliest Greek philosophers in the original texts, including fragments of Heraclitus, Parmenides, Philolaus and Empedocles.

SM 405. Philosophy of Language. (M)

Camp. Prerequisite(s): PHIL 005/505 or permission of instructor.

In this course we will ask how language works. How do speakers use sounds and shapes to make claims, promises, and threats? How do words and sentences connect to the world? In particular, what makes a word refer to an object or property, and what determines when a sentence is true or false? And how do speakers exploit conventional linguistic meaning for alternative ends, as in metaphor and sarcasm? We will approach these questions by reading classic texts by Frege, Russell, Austin, Grice, Searle, Kripke, Quine, Davidson, and others; but we will also apply these readings to actual, everyday linguistic contexts. Some comfort with basic first-order predicate logic will be required, but no previous experience with formal logic is assumed: I will explain all the relevant symbolism in class.

SM 406. (GREK409) Aristotle's Politics. (M) Kahn.

A close reading in Greek of selected texts from Aristotle's POLITICS, especially from Books I-III and VII-VIII, together with general discussions of Aristotle's political theory. Students will be expected to read the whole of the POLITICS in English, as well as the CONSTITUTION OF ATHENS and relevant sections of the ETHICS. Attention will be paid both to mastery of Aristotle's Greek and to understanding of his political philosophy.

SM 407. Aristotle. (M) S.Meyer, Kahn.

A survey of basic Aristotelian texts on philosophy of language, theory of science, metaphysics and philosophy of mind. Readings will include selections from Categories, Posterior Analytics, Metaphysics and De Anima.

SM 409. (GREK409) Plato's Selected Dialogues. (M) Kahn.

The course will consist of a close reading of selected passages in Greek from Plato's Protagoras, Phaedo, and Republic, together with a complete reading of these dialogues in English translation. The primary goal of the course will be the understanding of the greek text and the appreciation of Plato's artistry in these three literary masterpieces. The secondary goal will be an initiation into Plato's philosophy, focusing on epistemology and metaphysics.

411. (CIS 571) Recursion Theory. (M) Weinstein.

This course will deal with basic concepts and results in the theory of recursive functions and effective computability.

Topics will include Turing machines, recursively unsolvable problems, degrees of unsolvability, inductive definability, hierarchies, and complexity of computation, as time permits.

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 413. (CIS 572) Set Theory. (M) Weinstein.

Topics will include ZF set theory, cardinal and ordinal numbers, constructible sets, inner model consistency proofs, independence results, large cardinal axioms, and philosophical problems concerning set theoretical foundations of mathematics.

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.

SM 416. (LGIC320, MATH670, PHIL516) Model Theory. (M) Weinstein.

The course will cover the basic results and techniques of the model theory of first-order logic. Additional topics will include extensions of first-order logic and finite model theory.

SM 417. (PPE 417) 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.

SM 423. (VLST223) Philosophy and Visual Perception. (C) 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 Euclide to Marr and Rock, with stops to include Ibn al-Haytham, Descartes, Berkeley, Helmholtz, and Koffka. We then consider selected philosophical topics, such as the existence and structure of visual space, the metaphysics of color qualities, the nature of object perception, or the representational relation between images and things imaged (e.g., between pictures and what they represent).

SM 425. (STSC325) Philosophy of Science. (C) Domotor. Prerequisite(s):

Background in elementary logic and some rudiments of science.

Historically oriented survey and contemporary analysis of the basic concepts and arguments in philosophy of science. An in-depth examination of the nature of scientific theories, their confirmation and theory-world relations, laws of nature and their role in unification and explanation, causation, and teleology, reductionism and supervenience, values and objectivity. Additional topics covered include arguments concerning scientific realism, the ontological status of theoretical entities, the Quine-Duhem thesis, Kuhn's paradigm shifts, Bayesianism, and the success of science. **PREREQUISITE: BACKGROUND IN ELEMENTARY LOGIC AND SOME RUDIMENTS OF SCIENCE.**

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 427. Moral Psychology. (M) Staff.

A discussion of some topics in the philosophy of mind that have shaped questions in ethics. Among the issues discussed will be those surrounding the concepts of character, the self, integrity, responsibility, and freedom.

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 429. (RELS437) Medieval Philosophy. (M) Staff.

Examination of texts from Augustine, Anselm and Aquinas and perhaps Duns Scotus that provide background for early modern philosophy. Regular attendance and class presentations of the assigned material required (and graded), as well as a final research term paper.

SM 430. Philosophy of Mind. (M) Schneider.

Contemporary debates over the mind-body problem were launched over fifty years ago. But of course the classic positions began to emerge as early as the pre-Socratic Greeks. The problem is not getting any easier. There are some fascinating solutions, to be sure. But there are no uncontroversial ones in sight. The aim of this seminar is to examine leading solutions to the mind-body problem in light of their metaphysical credentials. In particular, the solutions will be considered in relation to theories of the nature of substance and properties in contemporary metaphysics. Most answers to the mind-body problem are claims about the nature of mental properties and mental substances, after all. The seminar will illustrate that certain leading approaches to the mind-body problem look quite different - in certain cases they are even incoherent-- once their metaphysical commitments are better understood. Philosophy of mind originally grew out of metaphysics; we will approach the mind-body problem by piecing them back

together. I shall see fit to rule out some customary solutions: we must discard non-reductive physicalism, together with a qualia-based property dualism that aspires to a physicalism about substance. These cannot be genuinely physicalist about substances, at least given the state of play in the domain of the metaphysics of substance. I will then construct what I believe to be more plausible, if neglected, solutions. Namely, I will develop a trope-based physicalism as well as a form of "naturalistic substance dualism"--one motivated by the irreducibility of phenomenal properties, in particular.

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.

SM 434. (RELS401) Philosophy of Religion. (M) Staff.

Systematic examinations of the nature of religious experiences; proofs of the existence of God; the problem of evil; the relationships of faith and reason; and the possibility of religious knowledge.

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.

Philosophy in the Hellenistic period (323-331 B.C.) is dominated by the debate between the Stoics and their various sceptical opponents. We will focus on how the Stoics try to construct their system (with special emphasis on their epistemology, physics and ethics), and on how the Academic and Pyrrhonian Sceptics argue against them. Readings will primarily be

from Cicero, Diogenes, Laertius, Plutarch and Sextus Empiricus (all works to be read in translation!).

SM 442. Origins of Analytic Philosophy. (M) Staff. Prerequisite(s): PHIL 005 and one other philosophy course, or permission of instructor.

A study of the writings of Frege, Russell, and early Wittgenstein with special attention to their views on mathematics, metaphysics, language, and their relationships.

SM 443. Logical Positivism. (M) Staff. Prerequisite(s): PHIL 005.

A study of the sources, development, and criticism of Logical Positivism. Extensive treatment will be given to Rudolf Carnap and W.V. Quine.

SM 444. Wittgenstein. (M) Staff.

A study of the later philosophy of Ludwig Wittgenstein.

SM 445. Modal Logic. (M) Domotor. Prerequisite(s): PHIL 005.

Semi-formal examination of basic modalities and conditionals, including the varieties of necessity, possibility, counterfactuals, and causality. Special emphasis on applications to ontological proofs, deontic paradoxes, beliefs, and laws. Critical analysis of possible world and belief state semantics.

SM 448. 19th Century Philosophy. (M) Horstmann.

After an orientation to Kant's philosophy, we will examine Hegel, Feuerbach, Marx, and Nietzsche.

SM 460. Continental Rationalism. (M) Hatfield, Detlefsen. Prerequisite(s): PHIL 004 or permission of instructor.

A study of metaphysics and epistemology in the writing of Descartes, Spinoza, and Leibniz.

SM 463. British Philosophy I. (M) Guyer. 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) Guyer. 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) Guyer, Hatfield. Prerequisite(s): PHIL 004, one advanced Philosophy course, or permission of instructor.

Kant's philosophy has been one of the most influential positions in the history of western thought. Traces of its influence can be discovered in almost all areas and disciplines of contemporary philosophy, especially in metaphysics, epistemology, and ethics. The best known (and most important) documents of Kant's philosophical views are his three Critiques, i.e., the Critique of Pure Reason (1781/87) dealing with topics in epistemology and metaphysics, the Critique of Practical Reason (1788) focusing on topics in ethics and morality, and the Critique of Judgment (1790) treating questions concerning aesthetics and biology. 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) Guyer. 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. Topics in History of Philosophy. (M) Hatfield, Detlefsen. Prerequisite(s): Previous course in Philosophy or History and Sociology of Science.

Various topics in History of Philosophy.

SM 468. (GRMN583) Hegel. (M) Horstmann.

The purpose of the course is to discuss the basic characteristics of Hegel's conception of reason. The seminar will focus primarily on the "Phenomenology of Spirit",

on passages of the "Logic" and on the Introduction to the "Philosophy of Right". Topics that are dealt with include: (1) the relation between conceptual therapy and metaphysical construction, (2) the relation between categorial framework and proper function, (3) Hegel's new concept of freedom.

SM 471. Action Theory. (M) Finkelstein.

This course introduces students to the basic problems of the theory of action: What is an action? What makes actions different from (mere) events? How is the notion of action related to what people do intentionally? To what they intend to do? In addressing these questions, we will devote particular attention to the influential writings of Elizabeth Anscombe and Donald Davidson. In this connection we will consider the relation of these questions to the classic debate about whether reasons can be causes. As we shall see, Davidson transformed the theory of action with his suggestion that an event is an action just in case there is a true description of it under which it was someone's doing something for a reason.

SM 472. Survey of Ethical Theory. (M) Martin.

This class is a survey of 20th and 21st century metaethics--the metaphysics, epistemology, and psychology of morality. Beginning with G.E. Moore and working our way to the present day, we will read and discuss influential articles and book chapters addressing questions about the reality of values, our knowledge of them, and their motivational influence. All participants will be responsible for leading class discussion. All registered participants will also write several short response papers and either two 10-age papers or one 20-page paper.

SM 473. Topics in Ethics. (C) Staff.

In this course we will examine different contemporary positions in theoretical ethics, focussing on topics such as relativism, objectivity in ethics, practical reason, and rational motivation. Authors include B.Williams, G. Harman, T.Scanlon, C.Korsgaard, J.McDowell, C.Wright.

SM 475. (PPE 475) Political Philosophy. (M) Freeman.

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?

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 478. (PSCI390) Ancient Political Philosophy. (M) Kahn.

The history of ancient political theory from early Greece to late antiquity. Primary focus will be on the political philosophies of Plato and Aristotle, but attention will also be

given to the fifth-century sophists and to Roman and Hellenistic theories.

SM 479. Modern Political Philosophy. (M) Freeman.

A survey study of some of the main works by several major modern philosophers, including Thomas Hobbes's *Leviathan*; John Locke's *Second Treatise on Government and Letter Concerning Toleration*; Jean-Jacques Rousseau's *Social Contract and Discourse on Inequality*; John Stuart Mill's *Utilitarianism, On Liberty, On Representative Government, and the Subjection of Women*; and excerpts from *Capital and other works* by Karl Marx. Open to graduate students and upper level undergraduates. PRIOR COURSEWORK IN POLITICAL, MORAL, OR LEGAL PHILOSOPHY STRONGLY ADVISED.

SM 480. (COML582, GRMN580) Aesthetics. (M) Guyer.

Hannah Arendt: *Politics and Literature: The course will study Arendt's political theory, as developed in *The Origins of Totalitarianism*, and her writings on literature in the essays collected in *The Jewish Writings and Men in Dark Times*, as well as relationship between both. We will also consider literary examples by Lessing, Heine, Melville, Kafka, and others.*

SM 485. (GSWS425) Topics in Gender Theory. (M) Staff.

Topics will vary.

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. (AFST489) 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

505. (PHIL005) Formal Logic. (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 507. (CLST507) Presocratic Philosophy. (M) Kahn. Undergraduates Need Permission.

A reading of greek of the fragments of the Presocratic philosophers, together with an introduction to the modern scholarship on the Presocratics. The course will begin with the mythopoetic worldview presented by Hesiod's *Theogony*, and follow its transformation above all in Heraclitus, Parmenides and Empedocles. UNDERGRADUATES NEED PERMISSION

SM 508. Early Plato. (M) Kahn. 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 509. Middle Plato. (M) Kahn. Undergraduates Need Permission.

An examination of the metaphysics and epistemology of Plato's middle dialogues, particularly the theory of Forms, the distinction between knowledge and belief, and Plato's account of properties and predicates. We will discuss how Plato's views develop out of Socrates' dialectical concerns, and whether these views support Socrates' interests. We will read the *MENO*, the *PHAEDO*, the *REPUBLIC* and parts of the *PARMENIDES*.

SM 510. Late Plato. (M) Kahn. 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 511. Aristotle's Metaphysics. (M) Kahn, S.Meyer. Undergraduates Need Permission.

A study of the *CATEGORIES*, central books of *METAPHYSICS* and relevant portions of *PHYSICS* and *DE ANIMA*.

SM 512. Aristotle's Ethics. (M) Kahn, S.Meyer. Undergraduates Need Permission.

An examination of Aristotle's ethical theory, with focus on the Eudemian Ethics.

SM 513. Plotinus. (M) Kahn. 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.

SM 516. (MATH670, PHIL416) Model Theory. (M) Weinstein. Undergraduates Need Permission.

The course will cover the basic results and techniques of the model theory of first-order logic. Additional topics will include extensions of first-order logic and finite model theory.

SM 517. Computational Learning Theory. (M) Weinstein. Undergraduates Need Permission.

This course is an introduction to computational theory. The course will survey the results of research on three contemporary mathematical models of learning: identification in the limit, probably and approximately correct learning from queries. Applications of these models to questions about natural language acquisition, concept acquisition, the conduct of scientific inquiry, and epistemology will be considered.

SM 522. (CINE502) Philosophy and Film. (M) Detlefsen. Undergraduates Need Permission.

SM 525. (COML525, HSSC527) Topics in the Philosophy of Science. (M) Weisberg, Bicchieri. Undergraduates Need Permission.

Experiments in Ethics: This is a graduate 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.

SM 526. Philosophy of Psychology. (M) Hatfield. Undergraduates Need Permission.

What do we perceive? The world itself, unmediated? Sense data? Momentary particulars? The world via sensory qualia? The seminar will consider these questions, as addressed by early twentieth-century writers (Moore, Russell, James, R.W.Sellars) and by more recent thinkers (Dretske, Crane, Brewer, Noe).

L/R 527. (PHIL027) Conceptual Foundations of Quantum Mechanics. (M) Hatfield. Undergraduates Need Permission.

More than a century after Sigmund Freud transformed--or 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 decades 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 or philosophy required.

SM 528. Philosophy of Social Science. Bicchieri. Undergraduates Need Permission.

SM 529. Medieval Philosophy. (M) Staff. Undergraduates Need Permission.

Major Works of Arabic Philosophy in New English Translation: A critical discussion of classics of Arabic Philosophy, with particular attention to Ibn Sina (Avicenna) and to Al-Ghazali and Ibn Rushd (Averroes) on "The Incoherence of the Philosophers", and, others as well, on the relation of faith and reason, necessity in being and abstractive intellect. The texts are newly translated into English by Jon McGinnis and David Reisman (Hackett Publishing Company). Students will take part in weekly discussions and presentations and write a term paper on an additional major work of Arabic-Islamic philosophy. Students from History, Religious Studies, Near Eastern Studies and Classics are warmly welcomed.

SM 530. Philosophy of Mind. (M) Hatfield. Undergraduates Need Permission.

Selected topics in philosophy of mind or philosophy of psychology. Particular topics will vary from year to year.

SM 536. Stoicism. (M) S.Meyer. Undergraduates Need Permission.

A discussion of central texts and topics in Greek and Roman Stoicism, including epistemology, ethics, and natural philosophy. Readings (all in English translation) will be drawn from Cicero's *Academica*, *On the nature of the gods*, *On moral ends*, and *On duties*, as well as from Seneca's *Letters*, Epictetus' *Discourses*, and the accounts of Stoic doctrine in Diogenes Laertius and John Stobaeus.

SM 540. Topics in Philosophy of Language. (M) Camp. 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.

In this course, we will read some seminal texts in the transformation of natural philosophy (a predecessor to contemporary science) in Britain in the early modern period. Our thinkers will include (among others) Bacon, Boyle, Harvey and Newton. In addition to understanding some key features of these thinkers' natural philosophy, we will discuss the oft-mentioned (and recently much questioned) notion of the early modern Scientific Revolution: were these and other figures really part of a radical transformation in scientific thought in the seventeenth and eighteenth centuries? Related, we will look at the transformations occurring not just in what we would now call physics, but also in the life sciences.

SM 550. Topics in Philosophy of Education. (M) Detlefsen. Undergraduates Need Permission.

Socio-Political Philosophy of Education: 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 race and gender impact individuals' educational experiences (and how 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 schools should 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.

Kant was a thinker who formed his own views in conscious opposition to his foremost predecessors, and Leibniz and Hume were among his central targets, often at the same time: for example, Kant's defense of the necessity of causality for our experience should be understood as a response to Leibniz as well as to Hume. We will focus on causality as well as a number of other issues where Kant responded to both philosophers, including his distinction between analytic and synthetic judgments, the distinction between intuition and concepts, his theory of space and time, and his treatment of theology and teleology. Readings will be drawn from the Critique of Pure Reason and the Critique of the Power of Judgment as well as texts such as the Eberhard controversy and the draft What Real Progress has Metaphysics made in Germany from the Times of Leibniz and Wolff, and from texts of Leibniz and Hume known to Kant: in the case of Leibniz, texts such as the Principles of Nature and Grace, the Monadology, the Leibniz-Clarke Correspondence, and (extracts from) the Theodicy and New Essays concerning Human Understanding; in the case of Hume, our primary texts will be the Enquiry concerning Human Understanding and the Dialogues concerning Natural Religion.

The course will be run as a seminar, with student presentations. Grades will be based on classroom participation and a term paper. Some prior experience with the history of modern philosophy will be expected, but background material will be available for students who have not

previously taken a course on the Critique of Pure Reason.

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.

How does meaning determine the content of human experience? This has been one of the central questions of continental European philosophy over the past century, motivating the development of phenomenology, existentialism, hermeneutics, and deconstruction. In this introduction to 20th-century continental European philosophy, the centrality of phenomenology (and its interpretation) to an understanding of these movements and other contemporary trends in European thought will be emphasized. We will begin with an introduction to the work of Edmund Husserl and his phenomenological account of the intentionality of consciousness. 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 philosophy as exhibited in works by Paul Ricoeur, Hans Georg Gadamer, Jacques Derrida, and others. Seminar. No previous background in philosophy or psychology required.

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 564. Post-Kantian Epistemology. (M) Guyer. Undergraduates Need Permission.

This course will study the reception of Kant's theoretical philosophy in the twentieth century, particularly after 1950, when Kant came to be seen as central to the critique of the original project of analytic philosophy as exemplified by such figures as Russell, the early Wittgenstein, and Carnap. After a brief review of the beginnings of post-analytic philosophy in Quine's and White's rejection of the analytic/synthetic distinction, we will look at the appropriation of Kant in such figures as Peter Strawson, Wilfrid Sellars, Hilary Putnam, and John McDowell.

SM 565. Kant's Critique of Metaphysics. (M) Guyer. 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 566. (GRMN566) Kant's Moral Philosophy. (C) Guyer. Undergraduates Need Permission.

A study of Kant's moral philosophy, political philosophy, and aesthetics, focusing on his GROUNDWORK FOR THE METAPHYSICS OF MORALS, CRITIQUES OF PRACTICAL REASON, METAPHYSICS OF MORALS, and CRITIQUE OF JUDGMENT. Written work for the course will include two papers and a final examination.

SM 567. 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, Martin. Undergraduates Need Permission.

The seminar will focus on works by Derek Parfit, Thomas Nagel, Bernard Williams, Samuel Scheffler, T.M. Scanlon, Philippa Foot and other leading contemporary moral philosophers. Students are expected to lead class discussion at some point during the semester, and write an article length paper.

SM 573. Conceptual Foundations of Bioethics. (M) Staff. Undergraduates Need Permission.

This course will focus on several conceptual issues in bioethics and philosophy of medicine. It is intended to be a graduate level seminar for students in bioethics, philosophy, medicine or related fields. Issues to be covered include: the role of underdetermination and incommensurability in medical science; the meaning and significance of the concepts of health and disease; the distinction between genetic and non-genetic diseases; and problems in genetic technology associated with reductionism and causality. This course will explore the intersection between philosophy of science and bioethics. Some of the most important ethical and social issues and even policy decisions hinge on often unexamined conceptual grounds. We will critically examine some of the crucial assumptions which underlie contemporary biomedical practice.

SM 574. (BIOH574) Topics in Bioethics. (M) Staff. Undergraduates Need Permission.

Focuses on one or more issues in bioethics. Particular topics to be covered include analysis of the meaning and significance of concepts of disease, health, medicine, therapy, and genetic trait. Other issues to be covered include reductionism in medicine and biology; the extent to which medicine is a science; and the epistemological differences which arise between different groups of practitioners. Particular topics and issues to be covered will vary from year to year.

SM 577. (LAW 949, LAW 992) Topics in Philosophy of Law. (M) Undergraduates Need Permission.

This seminar offers an in-depth examination of recent debates in just war theory, as well

as a series of readings designed to test this theory in application to the dilemmas of modern warfare. On the moral side, we will consider different arguments for the permissibility of killing or inflicting injury in war, examining the limitations each theory would impose on conduct in war. We will seek to compare the justification for violence in war with the justification for violence in domestic law enforcement. Having explored the theory of just war, we will then consider the law of war, and seek to evaluate its basic tenets against the background of the best theory of its morality. We will then consider several important dilemmas of modern warfare as they arise in the war on terror. What the limits of permissible methods of interrogation? What techniques constitute torture, and what is the morality of its use in dire circumstances? To what extent is the practice of targeted killing permissible? What is the extent of the duty to attempt to capture suspected terrorists before targeting them? Is it morally and legally permissible to engage in targeted killing by way of aerial drones? Is it permissible to engage non-military contractors for the sake of conducting such operations. Finally, we will consider whether government actors or those

assisting government operations who violate basic rules of war should be held criminally liable for their actions, and if so, what the extent of their liability should be. Course Requirements: One seminar paper, 20 - 25 pages in length and several short written assignments (1-2 pages) throughout the semester commenting on key readings or on papers of guest speakers. Grade for the course will be based on the seminar paper (80%) and on class participation (20%, including short written assignments). Undergraduates must obtain permission of instructor to register.

SM 578. (LAW 946) Topics in Political Philosophy. (M) Freeman, Tan. Undergraduates Need Permission.

This seminar examines various topics in contemporary political philosophy, such as distributive justice, political authority and legitimacy, associative obligations, political equality and democracy.

SM 581. (GRMN580) 18th Century Aesthetics. (M) Guyer. Undergraduates Need Permission.

A close study of major texts in aesthetics from Shaftesbury and Addison through Kant and Schiller. Other authors may include Hutcheson, Hume, Burke, Gerard, Kames, Alison, Baumgarten, Mendelssohn, Lessing, Diderot, and Rousseau. Issues can include the nature of aesthetic

experience, the distinction between the beautiful and the sublime, the universality of taste, the ethical significance of the aesthetic, and the commonalities and differences among the arts. The course will be taught as a seminar, and students will be responsible for an oral presentation as well as a term paper.

SM 585. (COML598, WSTD585) Aesthetics: Emotion in the Arts. (M) Guyer, Camp. Undergraduates Need Permission.

This course will investigate historical and contemporary philosophical views on the role of the emotions in the arts. Do we have genuine emotional responses to works of art - to fiction? paintings? music? If so, what are the conditions under which we do and don't have such emotional responses? When are such responses appropriate? In particular, does an appropriate aesthetic attitude require emotional distance from the object of the artwork? Is it inappropriate to respond emotionally to morally devalued artworks? How do formal devices induce, constrain, and otherwise alter our emotional responses to art? Readings will be drawn from philosophers including Jean-Baptiste Du Bos, David Hume, Edmund Burke, Moses Mendelssohn, Henry Home Lord Kames, Arthur Schopenhauer, Edward Bullough, R.G. Collingwood, Stanley Cavell, Tamar Szabo Gendler, Richard Moran, Kendall Walton, and others.

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.

For graduate students taking courses at other institutions belonging to the Philadelphia area Philosophical Consortium.

SM 607. (CLST607) Presocratic Philosophy. (M) Kahn.

Close study of fragments and doxography for the earliest Greek philosophers in the original texts.

SM 609. (CLST609, COML609, GREK606) Plato's Republic. (M) Kahn.

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) Kahn.

A close reading and analysis of Plato's two major dialogues on love.

SM 611. Plato's Philebus. (M) Kahn.

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) Meyer, S.

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) Guyer.

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 meta-philosophy, 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) Meyer, S., Martin.

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) Guyer/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) Guyer.

A study of 18th century aesthetics focussing on Kant, his contemporaries, and successors.

SM 681. Philosophy of Literature. (M) Camp.

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) Hatfield, Martin.

Registration required for all third-year doctoral students. Fourth year students and beyond attend and present their work. 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.

**233. PHILOSOPHY OF ECONOMICS.
(A)**

Introductory Courses

L/R 008. (PHIL008) The Social Contract. (B) Society Sector. All classes. Freeman, Tan.

This course examines the history and significance of social contract doctrine for modern social and political thought. In particular, the works of Thomas Hobbes, John Locke, J.J. Rousseau, and John Rawls will be studied. We also study the utilitarian critique of social contract doctrine and the utilitarian views of David Hume, Adam Smith, J.S. Mill, and Karl Marx's criticism of liberal-democratic justice. This course is an introduction to many of the major figures in modern political philosophy.

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. (ECON034) Economics of Family & Gender. (A) Stein. Prerequisite(s): ECON 001, 002, and 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 and 002. 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 and 002. 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.

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.

101. Nature of Reasoning. (C) Staff.

This course aims to offer a historical overview about human reasoning, as well as to illustrate how logical reasoning can be treated in a rigorous way by formal means. In particular, we shall trace the attempts to provide an account of correct reasoning from Aristotle and Euclid, to the work of Boole and Frege in the 19th century. We shall then focus on deductively correct reasoning: those circumstances in which the truth of a conclusion is guaranteed by the truth and correctness of the premises and reasoning adopted to reach it. Our goal is to distinguish valid and invalid arguments by purely formal means. As opposed to the analysis of deductive reasoning carried out in the first part of the course, in the second part we shall concentrate on inductive

reasoning. We shall review the skeptic challenge to empirical knowledge, and examine some answers to such challenge. In this setting we shall consider the development of probability calculus and decision theory.

110. Introduction to Decision Theory. (C) Sen. This is a Formal Reasoning course. This course fulfills Wharton's Science and Tech (2) Social Structures Requirement.

This course will provide an introduction to models of human decision making. One of the primary purposes of the course is to provide a set of basic tools that will help the student translate uncertainty into numbers. Rational choice under uncertainty is by far the most used theory of decision making, and its applications are widespread in economics, finance, political science, law, managerial decision making, the economics of health care, and artificial intelligence. The course will use examples from each of these fields (and also fun "paradoxes" such as the Monty Hall Puzzle) in providing an introduction to the basic foundations of decision making. We will also look at the shortcomings of the rational choice theory: both from intuitive and empirical perspectives. No mathematical prerequisites are necessary beyond high school algebra and arithmetic.

112. (CIS 112) Networked Life. (C) Staff.

How does google find what you're looking for? Why do real estate values rise or plummet in certain neighborhoods? Do people act rationally in economic and financial settings? Are you really only six friends away from Kevin Bacon? How does the stock market actually work? What do game theory and the Paris subway have to do with Internet routing? Networked Life will explore recent scientific efforts to explain social, economic and technological structures -- and the way these structures interact -- on many different scales, from the behavior of individuals or small groups to that of complex networks such as the Internet and global economy.

140. (CIS 140) 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 the disciplines ranging from philosophy to neuroscience. The course devotes special attention to the use of simple computational and mathematical models.

Topics include perception, action, thought, learning, memory and social interaction.

153. (PSYC253) Judgments and Decisions. (C) Baron. An LPS section may be given.

Judgments, decisions under certainty and uncertainty, problem solving, logic, rationality, and moral thinking.

Intermediate Courses

201. (ECON013) Strategic Reasoning. (A) Dillenberger, D. Prerequisite(s): Some high school algebra, ECON 001.

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) Lapinski.

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 Econ & Psych. (C) Dana, J. Prerequisite(s): ECON 001.

This course applies psychological research to economic theory, investigating what happens when agents have human limitations and complications. The effects of limited cognitive capacities, willpower, and self-interest will be considered.

L/R 204. (PHIL228) Philosophy of Social Science. (B) Weisberg, M/Bicchieri, C. Prerequisite(s): ECON 001, ECON 002 and PHIL 008.

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.

225. (PHIL226, PHIL521, STSC128) Philosophy of Biology. (M) Natural Science & Mathematics Sector. Class of 2010 and beyond. Domotor, 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 and may include discussions of adaptation, what constitutes a species, whether there is evolutionary progress, and the concept of fitness. We will also discuss the units of selection, the alleged reduction of classical genetics to molecular genetics, and the possibility of grounding ethics in evolutionary theory.

SM 231. History of Economic Theory. (M) Staff.

The Course explores the development of economic theory for antiquity to the twentieth century. Students read and discuss a rich collection of writing from Aristotle and Aquinas to Marshall and Keynes, with special attention to Adam Smith, David Ricardo, and Karl Marx. The course pays special interdisciplinary attention to many historical (great events, social changes), political (governmental

involvement in the economy, the process of democratization), and philosophical (theories of value, the notions of freedom, equality, and fairness) factors that shaped economic thinking and economy. Many fascinating questions are discussed. What are the economic values and goods? How are those goods created? How do we value them? What is the role of labor in creating these goods? And what is the role of trade and money? What is the state's role? What is the role of freedom, equality, and other political values in the economic process? In the past, these questions were considered so important that the greatest thinkers and philosophers discussed them. The course attempts to illustrate that great tradition and attract students' attention to the fundamental economic concepts. In addition, the methodological evolution of the scientific status of economic theory is examined.

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, Camp.

This course deals with several problems that lie at the interface among philosophy, logic, linguistics, psychology, and computer science.

L/R 270. (PSCI271) Constitutional Law. (C) Smith.

This course explores the role of the U.S. Supreme Court in political struggles over the distribution and uses of power in the U.S. constitutional system. Issues include the division of powers between the state and national governments, and the branches of the federal government; economic powers of private actors and governmental regulators; the authority of governments to enforce or transform racial and gender hierarchies; and the powers of individuals to make basic choices, such as a woman's power to have an abortion. We will pay special attention to how the tasks of justifying the Supreme Court's own power, and constitutionalism more broadly, contribute to logically debatable but

politically powerful constitutional arguments. Readings include Supreme Court decisions and background materials on their historical and political context.

SM 271. (PHIL271) Global Justice. (M) Tan.

This course is an introduction to some of the central problems in global justice. Some of the topics that we will examine include realism, human rights, sovereignty and intervention, economic justice, and war and morality. We will look at questions such as: Is it coherent to talk about global justice, or is the global arena essentially a Hobbesian state of nature? In what sense are human rights universal? Is the idea of universal rights compatible with the political sovereignty of states? What is a just war? What is terrorism, and what are the moral limits in combating terrorism? Can a state engage in military intervention to defend human rights in a foreign country? Readings will be drawn from contemporary authors such as Rawls, Walzer, and Sen, as well as historical figures like Kant and Hobbes.

SM 272. (PHIL272) Ethics and the Professions. (M) Staff. Prerequisite(s): At Least one of PHIL 002, 008, 009 or equivalent.

This course will examine the ethical issues and dilemmas that commonly arise in the professions, such as the law, medicine and health care, journalism, business, public and civil service, and ethnographical and archaeological research. The aim of this course is to introduce students to the moral issues and challenges that practitioners in different professions encounter and to study how moral reasoning can help us understand and confront these challenges. Some of the central organizing philosophical issues we will examine include that of collective responsibility, and the question of special or role obligation. Prerequisite: At least one of Phil 2, Phil 9, Phil 8 or equivalent

L/R 277. (PHIL277) Justice, Law and Morality. (M) S. Freeman.

In this course we will focus on the philosophical background to questions regarding the exercise of legitimate political power and individuals' rights under the U.S. Constitution, including 1st Amendment freedoms of religion, expression, and association, the 14th Amendment guarantee of due process and the right of privacy and abortion, the Equal Protection clause and its bearing on affirmative action and equal political rights, and the Takings and Contract clauses and their bearing on

rights of private property and economic freedom. We will also discuss competing conceptions of democracy and their implications for the purported authority of courts to reverse democratically enacted decisions by a majority. In addition to Supreme Court decisions concerning these and other issues, we will read works by J.S. Mill, John Rawls, Ronald Dworkin, T.M. Scanlon, Martha Nussbaum, Cass Sunstein, and other contemporary theorists.

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.

320. Agent-Based Modeling for the Social Sciences. (C) Staff.

This is a discussion and project-based course that will provide you with a hands-on introduction to the field of agent-based modeling. An agent-based model is a tool used by social scientists to study how large-scale social dynamics result from micro-level individual behavior. In its basic form, a collection of individuals, or agents, are programmed into a computer, along with a simple behavioral algorithm describing how they act. The computer then allows the agents to interact (possibly in both space and time), and ultimately generates a social dynamic that can then be analyzed in terms of the behavioral rules.

In the social sciences many problems we are interested in involve group phenomena that may seem perplexing when viewed in the aggregate. Examples include fads, norms, segregation, stereotyping, and network formation. The goal of an agent-based model is to look at the micro-level decisions that people make - the decision to live close to a friend, slow down to take a look at an accident, arrive early to the theater to get a good seat, or return a phone call - and study how these "small" decisions may have large and unintended consequences for society as a whole.

Advanced Courses

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 cover non-cooperative game theory with special attention to its epistemological foundations, such as:

conceptions of rationality, common knowledge and common belief, belief revision and the rationale for different solution concepts. We will also cover behavioral game theory, and examine the alternative models of social preference that have been advanced to explain experimental data.

SM 421. (PHIL421) Philosophy of Biology. (M) 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 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.

SM 475. (PHIL475, PSCI395, PSCI598, PSYC453, PSYC475) 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>

SM 476. (PSCI395, PSCI418, PSYC453) 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.

Introductory course for students in architecture stressing statics, but also covering such topics as fluid flow, waves, electricity, and energy. This course cannot be taken for credit by a student also receiving credit for any physics course numbered 100 or greater.

009. Physics for Architects II. (J)

Physical World Sector. All classes.

A continuation of PHYS 008. This course cannot be taken by a student also receiving credit for any physics course numbered 100 or greater.

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. 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. 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. (C)

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 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.

L/L 102. General Physics: Electromagnetism, Optics, and Modern Physics. (C)

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 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.

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.

Classical laws of motions; interactions between particles; conservation laws and symmetry principles; particle and rigid body motion; gravitation, harmonic motion.

141. Principles of Physics II (without laboratory). (C)

Prerequisite(s): PHYS 140. Corequisite(s): MATH 114. For Engineering students whose course of study does not require a physics laboratory course.

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.

L/L 150. Principles of Physics I: Mechanics and Wave Motion. (C)

Physical World Sector. All classes. Corequisite(s): MATH 104, PHYS 150 LAB. Credit is awarded for only one of the following courses: 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.

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.

L/L 151. Principles of Physics II: Electromagnetism and Radiation. (C)

Physical World Sector. All classes. Prerequisite(s): PHYS 150 or PHYS 170. Corequisite(s): MATH 114, PHYS 151 LAB. Credit is awarded for only one of the following courses: 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.

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.

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 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.

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 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.

230. Principles of Physics III: Thermal Physics and Waves. (A)

Prerequisite(s): PHYS 150/151 or PHYS 170/171 and MATH 104, MATH 115. 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 IV: Modern Physics. (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 III: 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 and (MATH 114 or MATH 115). 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 (1) making estimates, often based on dimensional analysis, (2) using them to figure out which physical variables and phenomena will be most relevant to a given system, and which may be disregarded, and (3) finding analogies to purely physical systems whose behavior is already known. The cases studied involve basic biological processes, mainly at the molecular and cellular level, in the light of ideas from physics. Topics may include entropic forces, free energy transduction at the molecular level, the structure of biopolymers, molecular motors, pattern formation (oscillation and morphogenesis), immune response, nerve impulses and neural computing, and other forms of signal transduction.

299. Independent Study. (C)

Repetitive credit. Special projects and independent study under the direction of faculty member.

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. 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.

432. Introduction to Nuclear and Elementary Particle Physics. (M)

Prerequisite(s): PHYS 411 or permission of instructor.

An introduction to nuclear forces, the structure of atomic nuclei, nuclear reactions elementary particles (photons, leptons, hadrons, quarks) and their interactions, and the unification of the fundamental forces.

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. (C)

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. (ASTR525) General Relativity and Cosmology. (M)

This is a graduate level, introductory course in general relativity and modern cosmology. The basics of general relativity will be covered with a view to understanding cosmology and carrying out calculations relevant to the expanding universe and perturbations in it. Some of the key topics in modern cosmology will be covered -- these include the cosmic microwave background, large-scale structure, gravitational lensing and dark energy. The current cosmological model and open

questions driving research will be discussed briefly in connection with these topics.

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.

514. Mechanics, Fluids, Chaos. (B)

A general introduction to linear and nonlinear dynamical systems with an emphasis on astrophysical systems. Lagrangian and Hamiltonian formulations. Celestial mechanics. Equilibria and stability. Orbits. Resonances. Galactic dynamics. 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. Advanced Laboratory. (C)

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. (M)

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.

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, BMB 590) Biological

Physics. (H) Prerequisite(s): PHYS 401 or CHEM 221-222 (may be taken concurrently) or familiarity with basic statistical mechanics and thermodynamics. Recommended: Basic background in chemistry and biology.

A survey of basic biological processes at all levels of organization (molecule, cell, organism, population) in the light of simple ideas from physics. Both the most ancient and the most modern physics ideas can help explain emergent aspects of life, i.e., those which are largely independent of specific details and cut across many different classes of organisms. Topics may include thermal physics, entropic forces, free energy transduction, structure of biopolymers, molecular motors, cell signaling and biochemical circuits, nerve impulses and neural computing, populations and evolution, and the origins of life on Earth and elsewhere.

581. (PHYS401) Thermodynamics. (A)**582. (BE 580) Medical Radiation Engineering. (M)**

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. (M)

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. (C)

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.

693. Supersymmetry. STAFF.

This course will fully develop $N=1$ supersymmetry from the point of view of superspace. The general geometry of superspace will be introduced and then restricted to the "flat" geometry of global supersymmetry. Chiral, vector and linear multiplets will be presented, as well as the theory of spontaneous breaking of global supersymmetry. These will be used to construct realistic theories of supersymmetric particle physics, in both superspace and in component fields. The course will then explore "curved" superspace geometries corresponding to

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N=1 supergravity. The relevant torsion constraints will be solved and the theory of Einstein supergravity derived in full, in both subfields and components. Time permitting; this will be coupled to matter to

produce supergravitational theories of particle physics and cosmology.

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) Freshman Seminars. (C) Staff.

Freshman 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.

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 course will provide an overview of politics and society in Asia, Africa, and Latin America. The first five weeks will focus on such questions as: What are the effects of the "colonial legacy" inherited by most countries in the "Third World?" Why have certain countries been able to maintain stable and effective government institutions while others have experienced revolutions, civil wars and rampant corruption? What are some of the obstacles to economic development? The second part of the course will focus on the experiences of several countries, including Brazil, India, Iran, and Nigeria. The last part of the course will attempt to locate politics and society in "Third World" countries within the context of larger global issues such as North-South relations, the recent waves of democratization and privatization, international environmental concerns, and the role of women in "Third World" development.

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. (M) Summers.

This academically based community service seminar will explore the politics and institutions that have shaped - and continue to shape - food production and consumption. Students will use the readings, their community service, and ongoing "food events" at Penn to analyze the politics of food in many arenas: from farms, kitchens, supermarkets, schools, and communities of faith to corporations, research institutions, the media and international trade.

136. (AFRC136, URBS136) 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.

SM 138. (GAFL138) Policymaking in the US. (A) Staff.

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.

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 surveys some of the most influential and important contributions to political thought since 1900. We will study the work of such figures as Weber, Arendt, Schmitt, Dewey, Berlin, Habermas, Rawls, Foucault, and Derrida. Topics include the nature of the political and its difference from economics; a critical appraisal of liberal democracy, the reigning contemporary political ideal; and the problem of emergency powers, especially in light of the post-9/11 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 politicaengagement in non-democratic regimes.

L/R 210. (AFRC257, AFST257) 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.

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) 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 elict pacts (1930s and 1940s), social revolution, democratic breakdown, and military rule (1960s and 1970s), transitions to democracy and human rights advocacy (1980s), makret-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) 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. Political Institutions and Economic Performance. (M) Staff.

This course is a comparative study of whether and how political institutions (political regimes, constitutional rules, party and electoral systems) affect economic performance (economic growth, investment, income distribution).

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) 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 Chinas 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.

L/R 229. China's Domestic Politics. (M) Prerequisite(s): PSCI-219 or Permission of the Instructor.

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 234. (AFRC236) Civil Rights and Civil Liberties. (C) Smith.

By examining Supreme Court decisions in light of works on American history, politics, and political theory, we will explore legal, political, and philosophical debates on civil liberties today. Readings will consider litigation of the 1st, 2d, 4th, 5th, 8th, and 14th Amendments. Issues will include struggles over freedom of religion, speech, privacy, and property rights, analyzed in the context of American cultural traditions and hierarchies; and conflicts over the rights of suspects, criminals and citizens, analyzed in the context of racial and class tensions, criminal violence, and anti-terrorist security concerns.

L/R 235. America and the World. (C)

Vitalis. Prerequisite(s): Recommended: PSCI 130, American Foreign Policy or PSCI 150, Introduction to International Relations.

This course is designed to develop your critical reading and writing skills in the areas of international relations and contemporary history. You are expected to take charge of your learning, engaging with each other and the instructor in a process of knowledge creation through practice, inquiry, deliberation, criticism, and problem solving. You will produce three pieces of analytical writing. These are complementary and cumulative assignments that, combined, will enhance your understanding of the nature, purpose, and future of U.S. hegemony or global dominance. This is the issue, arguably, at the core of debate today about US foreign policy or grand strategy.

L/R 236. (PPE 202) State Politics & The American Federal System. (A) Staff.

This course provides a comparison of politics in the fifty states, examines changing federal-state relations, and provides students with an understanding of theories of federalism.

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.

251. (LALS251, PSCI551)

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.

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. 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.

258. Human Rights. (C) Staff.

The focus is human rights in global, political, and developmental contexts, especially since 1945. Human rights are part of a wide range of academic disciplines, engineering, history, law, philosophy, and religion being among the obvious. These disciplinary perspectives will be touched upon; politics will be the central one. Some of the main topics include justifications; cross-cultural perspectives; global and international institutional developments and foreign policy. Selected topics will include war, hunger, life, reproduction, servitude, consent, information and the environment.

L/R 271. (PPE 270) Constitutional Law. (C) Smith.

This course explores the role of the U.S. Supreme Court in political struggles over the distribution and uses of power in the American constitutional system. Issues include the division of powers between state and national governments, and the branches of the federal government; economic powers of private actors and governmental regulators; the authority of governments to enforce or transform racial and gender hierarchies; and the powers of individuals to make basic choices, such as a woman's power to have an abortion. We will pay special attention to how the tasks of justifying the Supreme Court's own power, and constitutionalism more broadly, contribute to logically debatable, but politically powerful constitutional arguments. Readings include Supreme Court decisions and background materials on their historical and political context.

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 are 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.

285. Principles of the American Founding. (C) Staff.

What "first principles" if any, give form to--constitute, if you will--the American political order? What way of life or what vision of human character was or is our constitutionalism supposed to foster? And what relevance--more important, what authority--can such founding commitments or first principles have for us now?

294. Political Participation. (A) Nagel.

How do ordinary members of political systems influence policies, the election of leaders, and other outcomes? Examples of participation include voting, referendums, protest movements, direct and small-group democracy, citizen involvement in public administration, and workplace democracy. The course develops a general analysis that is applicable to politics in the US and other nations, nongovernmental associations, and students' personal political experience.

SM 298. (SOC230) 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.

SM 314. (LALS314) Transitions to Democracy. (C) Falleti.

This seminar is open to advanced undergraduates and graduate students. We will review and analyze the theoretical literatures on regime change and compare the experiences of countries emerging from bureaucratic authoritarianism, military rule, and socialism. How do previous regimes and economic systems, political culture, social structure and socio-economic development, and international pressures affect attempts to build democratic institutions? We will employ concepts drawn from comparative and theoretical writings to investigate cases of regime change in Europe and the former Soviet Union, as well as Latin America and other areas of the developing world.

320. (GAFL509, URBS320) Who Gets Elected and Why?. (C) Rendell.

Course participants will study the stages and strategies in running for public office and discuss the role of various influences on getting elected, including campaign finance and fundraising, demographics, polling, the media, staffing, economics, party organization, etc. The course will also examine how electoral politics varies by level -- city, state, national. Students will analyze campaign case studies and the career of the instructor himself. The instructor will also bring in speakers who can provide other perspectives on electoral politics. The instructor is the former Mayor of Philadelphia, Chair of the Democratic National Committee, and is currently the Governor of Pennsylvania.

SM 330. Politics, Power, and Policymaking in Washington. (C) Tenpas.

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 338. Statistical Methods PSCI. (M) Meredith.****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 397. Topics in International Politics. (C) Staff.

SM 398. 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)

L/R 413. (LALS413) Current Topics in Latin American Politics. (C) Faletti.

This course examines the empirical and logical validity of main arguments that connect the economy and politics in Latin America. The focus will be on themes such as the agro-exporting economy, the oligarchic state, import-substitution industrialization, bureaucratic-authoritarian regimes, transition to and consolidation of democracy, and structural reforms.

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.

L/R 432. Government and Business in the United States. (C) Gottschalk.

This is an advanced seminar that addresses the role of business in the U.S. political system, how that role has changed over time, and the relationship between business and other important political actors, including the executive branch, the legislature, organized labor, and public-interest groups, in the U.S. and other countries.

SM 433. (AFRC433) Social Movements.

SM 437. (AFRC437, PSCI638) Race & Criminal Justice. (M)

458. (PSCI256) International Relations of South Asia. (C) Frankel.

This course draws on declassified U.S. government documents, memoirs, cables and other records of cold war international history to open a window into the world-view of decision-makers who often need to make national security policy based on incomplete information about ambiguous threats. They reveal a great deal about the importance of divergent historical perspectives and strategic cultures in the formation of foreign policy. The major part of the course examines the intersection of the cold war and the rise of Asian nationalism, creating a clash between America's global strategy of military containment and the assertion of Indian and Chinese nationalism, concerned with preventing the United States from

succeeding to Great Britain's imperial role. The later readings examine 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.

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 497. Political Science Honors. (C) Staff.

The object of this seminar is to prepare eligible senior honors candidates in political science for the completion of a senior honors thesis. Students writing honors theses will also work simultaneously with an individual supervisor and, during the spring semester, will enroll in an independent study (PSCI 499) under that faculty member's guidance. See department for more details.

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) Frankel.

This course analyzes the changing relations between social dominance and state power from the time of colonial rule.

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 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 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 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.

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.

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.

SM 583. American Political Thought. (M) Staff.

A consideration of one or a few topics, individuals, or eras in American political thought.

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 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. Political Economy of Development. (M) Frankel.

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, Lacques Lacan, Guy Hocquenham, 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) 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.

SM 692. 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.

629. History and Future of Robotics. Natural Science & Mathematics Sector. Class of 2010 and beyond.

<http://preceptorials.org/semester.html>

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. An LPS section of this course may also be offered. See current timetable. Introduction to the basic topics of psychology, including learning, motivation, cognition, development, abnormal, physiological, social, and personality.

L/L 109. (BIBB109, BIOL109) Introduction to Brain and Behavior. (C) Living World Sector. All classes. Staff. Prerequisite(s): PSYC 001.

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.

111. (VLST211) Perception. (C) Stocker. Prerequisite(s): PSYC 001. A recitation will be required on Thurs or Friday, you will have a choice of times, announced on first day of class.

How the individual acquires and is guided by knowledge about objects and events in their environment.

121. Learning. (C) Staff. Prerequisite(s): PSYC 001.

Changes in behavior resulting from past experience. The acquisition, maintenance, and elimination of behavior, and the effects of previous experience on responses to new situations.

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) Living World Sector. All classes. Epstein. Prerequisite(s): PSYC 001 or BIBB 109.

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) Dahan. Prerequisite(s): PSYC 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.

160. Personality and Individual Differences. (C) Kable. Prerequisite(s): PSYC 001. An LPS section may be given.

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. A recitation will be required, you will have a choice of times, announced on first day of class.

162. Abnormal Psychology. (C) Ruscio. Prerequisite(s): PSYC 001.

The concepts of normality, abnormality, and psychopathology; symptom syndromes; theory and research in psychopathology and psychotherapy.

170. Social Psychology. (C) Society Sector. All classes. Goodwin. 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.

193. Study Abroad.

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) Rust. Prerequisite(s): 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, color vision, anatomy and physiology of the visual pathways, and the cognitive neuroscience of vision.

225. (BIBB270) Drugs, Brain, and Mind. (B) Zach. 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.

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 001 or LING 101.

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) Staff. Prerequisite(s): PSYC 001.

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) 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) Baron. 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) Dana. Prerequisite(s): Microeconomics, AND PSYC 001.

This course applies psychological research to economic theory, examines what happens when agents have human limitations and complications. The effects of limited cognitive capacities, willpower, and self-interest will be considered. Particular emphasis will be given to strategic interaction.

266. Introduction to Positive Psychology. (B) Duckworth. 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. Introduction to Political Psychology. (C) Tetlock. Prerequisite(s): PSYC 001.

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.

281. Cognitive Development. (C) Swingley. Prerequisite(s): PSYC 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 259, 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 331. Research Experience in Animal Behavior. (C) Staff. Prerequisite(s): Psychology 131 or BIBB 231 or BIOL 231 and one semester of statistics. Dept permission required.

Students will learn how to study scientifically the behavior of animals. We will take an evolutionary and ecological approach to studying several different types of behavior across different species in both laboratory and field environments. Students will gain experience designing and conducting animal behavior experiments as well as analyzing results and presenting their findings.

SM 335. Research Experience in Psycholinguistics. (C) Dahan. Prerequisite(s): PSYC 135 or PSYC 151, and one semester of statistics. Dept permit required.

This course will focus on how to conduct research in psycholinguistics, and more precisely, on the comprehension of spoken

language, using behavioral methods such as the monitoring of eye movements during listening. Students will be involved in designing an experiment, constructing materials, testing, as well as analyzing the data.

SM 349. Research Experience in Cognitive Neuroscience. (C) Staff.

Prerequisite(s): PSYC 149 and one semester of statistics. Dept permission required.

Brain imaging, particularly functional magnetic resonance imaging (fMRI), is a promising state-of-the-art tool used to study specialized human brain regions that are involved in cognitive functions. In the first half of the course, we will review the basics of the fMRI technique, current experimental design and analysis strategies, and discuss the strengths and weaknesses of neuroimaging as a tool for cognitive neuroscientists. In the second half of the course, students will form into groups and propose a new experiment. As a team, you will program the experiment, acquire the fMRI data, and analyze your data. Each student will submit a paper describing the project and each group will give a presentation of their research.

SM 351. Research Experience in Cognitive Psychology. (C) Trueswell.

Prerequisite(s): PSYC 151, and one semester of statistics. Dept permission required.

Students will explore topics in human memory, knowledge representation, attention, and language processing. Laboratory exercise will include replications of major experiments and novel extensions permitting students to develop psychological hypotheses and the experimental rationale to test them.

SM 353. Research Experience in Decision Making. (C) Staff.

Prerequisite(s): PSYC 253 or 265, AND one semester of statistics. Dept permission required.

In this course students will, in consultation with the instructor, design, carry out, and write up original research on topics in judgment and decision making. The emphasis will be on describing systematic deviations of human behavior from theories of rational choice (decision theory and game theory). Topics include heuristics and biases in probability judgment, choice under uncertainty, and intertemporal choice.

SM 362. Research Experience in Abnormal Psychology. (Hunt):

Psychopathology. (Krause): TBA. Prerequisite(s): PSYC 162 and one semester of statistics. Psych majors only. Dept permission required. PSYC 362-301 (Dr. Hunt) is a year-long course: Are you interested in expanding our understanding of anxiety and affective disorders? If you'd like to work hard for two semesters, and have a publishable paper at the end of the year, this may be the course for you. Offering more support and structure than an independent study, this course will still allow you to make an original contribution to one of several research areas, including phobias, depression, panic disorder, and PTSD. By instructor permission only. Junior and Senior Psychology majors only. E-mail application essay to Dr. Melissa Hunt.

(Hunt) PSYC 362-301 is a two semester course. No students will be admitted to Dr. Hunt's course in the spring.

SM 370. Research Experience in Social Psychology. (C) Staff.

Prerequisite(s): PSYC 170 AND one semester of statistics. Dept permission required.

Students will design, conduct, and report on an empirical question in social psychology. The research may involve experiments, content analysis, cross-cultural comparison, interviewing, observations, or other methods. Class discussions will help students formulate their projects and provide an opportunity for reports.

SM 374. Research Experience in Evolutionary Psychology. (C)

Kurzban. Prerequisite(s): PSYC 170 and one semester of statistics. Dept permission required.

In this course students will in consultation with the instructor, develop hypotheses and then design, carry out, and write up original research in evolutionary psychology. Topics will focus on adaptations for social life, including: social categorization, cooperation, social exclusion, mating, friendship, and so on.

SM 386. Research Experience in Developmental Psychology. (C) Staff.

Prerequisite(s): PSYC 280, or 281, AND Stat 111. Department permit required. Topics for this course vary each semester.

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. (C) 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) Muzzio. Prerequisite(s): PSYC 121.

This advanced course focuses on the current state of our knowledge about neurobiological basis of learning and memory. A combination of lectures student seminars 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 431. (BIBB432, BIOL432) Seminar in Animal Cognition. (C) Cheney. Prerequisite(s): PSYC 131/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 LING 001, or permission of instructor. Department permit required.

SM 439. (BIBB460)

Neuroendocrinology. (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.

SM 449. Seminar in Cognitive Neuroscience. (C)

Epstein.
Prerequisite(s): PSYC 149 or PSYC 155.
Undergraduates only.

Topics vary each semester.

SM 451. (BIBB431) Seminar in Cognitive Psychology. (C)

Staff.
Prerequisite(s): PSYC 131.

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. (C)

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.

Prerequisite(s): PSYC 166 or PSYC 266.

In this course, students will learn the theories, empirical research, and applications of purpose so that they understand how greater meaning can contribute to comprehensive health. Students will explore the psychological foundation for the study of purpose (positive psychology, logotherapy, counseling psychology), consider the conditions under which one finds purpose (relationships, volunteer work, spirituality, trauma) and experientially work with applications to discover purpose and live a flourishing life.

SM 470. Seminar in Social Psychology. (C)

Staff. Prerequisite(s): PSYC 170. Undergraduates only.

Topics vary each semester.

SM 472. Evolutionary Psychology. (C)

Kurzban. Prerequisite(s): PSYC 272.
Undergraduates only.

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. Cooperation in Groups. (C)

Kurzban. Prerequisite(s): PSYC 170.

Humans are unique in their abilities to cooperate in large groups of non-kin. In this course, we will explore the evolutionary origins of this phenomenon, and look at relevant theory research in social psychology, anthropology, and economics.

SM 475. (PPE 475) Behavioral Law and Economics. (C)

Baron.
Prerequisite(s): PSYC 165 or PSYC 153.
Undergraduates only.

Economic theory has invaded legal scholarship and law schools, in the form of "Law and economics." But the psychology of judgments and decisions has invaded economic theory, showing that people do not follow the classic model of economic rationality. Many legal scholars, such as Cass Sunstein, claim to have started a new field called "Behavioral law and economics," which explores the implications of psychology for legal theory. This seminar will review basic readings in law and economics and then the recent literature on the relevance of psychology. (Baron) Undergraduates only.

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 480. Seminar in Developmental Psychology: Close Relationships Across the Life Span. (C)

Connolly.
Prerequisite(s): PSYC 280 (formerly PSYC 180) or permission of instructor.
Undergraduates only. Preference given to senior and junior Psych majors.

This seminar will examine intimate relationships across development, from early infancy through adulthood. The nature and dynamics of emotional bonds, as well as their function, will be discussed. Comparative (across cultures and species) and evolutionary perspectives will be emphasized, and the biological bases of attachment explored. Topics will include infant-caregiver attachment, adult pair-bond relationships, and individual and gender differences.

SM 481. Seminar: Cognitive Development.

Swingley. Prerequisite(s): PSYC 281.

Advanced Courses

Topics covered in the 200 level courses will change from term to term. Not every course will be offered every term. Detailed course descriptions will be available from the undergraduate secretary before the preregistration period each semester.

SM 280. Developmental Psychology. (C)

Staff. Prerequisite(s): PSYC 001.
A developmental perspective on the general empirical and theoretical psychology of perception, cognition, language, learning, comparative ethology, and socialization.

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 560. Psychology of Sexuality.

SM 600. 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. (OPIM900) 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. (NGG 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 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 review current evidence regarding etiology of major psychosomatic disorders. We will pay specific attention to current explanatory models that invoke psychological contribution to disease.

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 727. (NGG 727) Electronics for Scientists. (B) Andrews-Labenski. Prerequisite(s): Permission of instructor required.

This course is an independent study and is primarily intended for students actively involved in project work to design and

construct electronic instrumentation either for their research, general interest, or other application. Students receive instruction and guidance on an as-needed basis. Students need to contact the instructor before registering for this course. Course Director: John Andrews-Labenski: 215-898-8092

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) Staff.

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 742. Special Topics Animal Behavior. (M) staff.
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}

L/R 500. (NURS570) Introduction to Public Health. (A) Nguyen & Buttenheim.

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) Grisso. This course is a series of lectures and sessions designed to provide a working knowledge of the fundamental concepts of biostatistics. Topics covered include probability, estimation, confidence intervals, hypothesis testing including nonparametric techniques, 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 statistical software as well as provide time for review of course material.

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) Schmitz.

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) Emmett.

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. Behavioral and Social Sciences in Public Health. (A) Glanz, Frasso.

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) Tsou.

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. (B) Klusaritz.

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. Ethics, Law and Policy in Public Health. (A) Rosoff.

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 Experience. (F) Frasso, Grisso, Cannuscio.

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.

509. Injury and the Public's Health. (M) Branas.

This course will offer students an introduction to the relatively new field of injury and violence prevention. As a major cause of death and disability throughout the world, injury is a leading public health problem. Prominent types of injuries to be discussed include those relating to motor vehicles, falls, and firearms. Students will

finish with a basic understanding of injuries and the many issues involved in preventing injuries.

516. Public Health Genetics. (K)

Hughes-Halbert.

This is a lecture course that will provide a topical overview of issues in public health genetics. The purpose of this course is to introduce students to the complex issues involved in applying and integrating genetic technology and information into public health. Through a series of lectures and observational experiences, students will learn about the history of public health genetics, the role that genetics play in public health, and issues involved in applying genetic technology in clinical and research settings. Lectures will also address the ethical, legal, and social implications of genetic testing in populations and research designed to identify susceptibility genes in diverse ethnic and racial groups.

517. (EPID518) Introduction to the Epidemiologic Study of Geography and Health. (B)

Branas, Hiller, 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. Introduction to Global Health. (A)

Nathanson. 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.

520. Topics in Public Health Economics. (M)

Kraut-Becher.

This course uses basic economic concepts, principles and theories to examine selected

topics relevant to the public health sector of the United States. Issues pertinent to the government in its provision, financing and regulation of healthcare will be addressed. Economic evaluation techniques often used in public decision-making will be reviewed. In addition, infectious diseases and risky and addictive behaviors will be examined from an economics perspective. Discussions of economic theories and methods for exploring each topic will be accompanied by examples drawn from existing research literature.

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.

522. Critical Appraisal of Occupational and Environmental Health Literature. (M)

McKenzie. This course provides a forum for the student to critically appraise the literature using a systematic approach to reading and critically evaluating journal articles from the occupational and environmental medicine as well as the public health literature. Through this process, elements such as study hypothesis, study design, selection of the study population, and evaluation of the internal and external validity of an article will be examined. Methods learned in this course can be used as a framework to critically evaluate medical research articles in other disciplines. At each session, the article, pre-approved by the course director, will be presented by a student (occupational medicine resident, master's student or doctoral student). The article will then be discussed by all members of the group. The session will be moderated by the course director and other faculty will be present to discuss the article. The course will allow discussions of methodological, regulatory, research, ethical, or health issues raised by the article presented and also allow the group to review statistical methods.

523. Disease Detectives and Social Engineers. (M)

Cannuscio. Our success as public health researchers, practitioners, and leaders often depends on our ability to think critically and act rapidly to address population health threats. This course will examine the fundamental challenges of public health action. Using a case-based method, the course will probe true public health emergencies, considering the information available to scientists; public access and reaction to that information; and the nature/scope/consequences of interventions levied to address the public health threat. The course will tackle cases from several areas of infectious and social epidemiology, such as the following: outbreak investigation (using a cholera example), lay epidemiology (examining cancer clusters), surveillance and rapid response (based on flu policy), and the difficulty of intervening to address social determinants of health (probably looking at poverty/SES and race/racism). Students in the class will develop key skills in critical epidemiological reasoning. In all cases, the emphasis will be on evaluating the empirical base for public health decision-making, with attention given to public health goals and metrics used to evaluate success in public health interventions.

524. Ameliorating Disparities in the Public's Health. (M)

Morssink.

This course is a follow-up on the provost-sponsored seminar series that ran

from 2003 to 2006. The title of the first seminar in 2003, *Ameliorating Health Disparities: An Exercise in Futility or a Tool for Real Social Change*, captures the reason for providing this course. Health disparities are a fact of social and professional life. *Addressing Health Disparities* was the second overarching goal of *Healthy People 2010*. Most policy initiatives toward eliminating health disparities have failed to close these gaps in population health policies. Preparation work for *Healthy People 2020* will highlight this problem. The course will provide the students with the tools necessary to make ameliorating health disparities part of their career, whether in advocacy, program management, scientific inquiry or education. The course covers methods, reasoning, problem definition, scope descriptions, lessons learned, and pathways for implementing better disparity outcomes in PH programs.

525. Developing Effective Public Health Programs Using a Humans 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. Anthropology and Public Health. (B) 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 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.

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) Stanback Stevens.

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) Bourgois. 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.

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.

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.

533. (NURS678) Exposure Assessment and Safety in the Workplace. (B) Liu, J.

This course is designed to present an overview of the interdisciplinary nature of monitoring and controlling workplace hazards. Didactic course content on the major factors contributing to occupational health hazards and safety will be presented along with discussion of regulatory and site-specific interventions to promote worker safety and health. Five site visits will be conducted to apply the principles of workplace assessment and to discuss strategies that are used for hazard recognition and evaluation in different work environments. Experts in workplace hazard recognition and control will share current challenges and priorities from their worksites.

SM 534. (CRIM415, CRIM615, HSOC471) Fatal Violence in the U.S.

(M) 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)

(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.

SM 536. (SWRK799) Mental Health Policy. (M)

(M) Hadley, Evans. The focus of this course will be on policies and policy issues that define and influence the care and treatment of persons with mental illness from colonial times to the present. The course will examine the primary social, political, economic, legal and philosophical forces that have influenced mental health delivery in the United States over different time periods and the resulting organizational, financial, administrative, and management structures of mental health service delivery systems. The interface with other major service delivery systems, including welfare, criminal justice, primary health care, and social security will be addressed. Topics to be included will be deinstitutionalization, managed care, psychiatric rehabilitation, cultural issues and the disparities of care, children's treatment and services, professional certification and roles, and family and consumer advocacy. Major legal cases and legislation relevant to these topics will be covered. This will be an interdisciplinary course taught by faculty trained in psychology, social work, psychiatry, law, and health policy and management. It is open to masters and doctoral students.

537. (HPR 610) Evidenced-Based Health Policy. (B)

(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)

(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.

550. Urban Health. (B)

(B) Bridenhagen. This course provides an overview of public health issues relevant in urban areas.

Policy topics include disease control (tuberculosis, flu, HIV), immigrant health, homelessness, violence issues (domestic violence and gun control), harm reduction policies (substance abuse programs and needle exchanges), prisoner health issues, and environmental health. Guest speakers and local materials are used when possible. The course introduces students to themes such as dealing with vulnerable populations and health disparities. It considers community perceptions of health and lays a practical framework into the political institutions and procedures that control services. It explores different tools available to urban areas, such as legal, political, community and individual approaches to accomplish public health goals.

551. (NURS640, SWRK793) Global Health Policy and Delivery. (B)

(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.

552. (ANTH438, HSOC488) Anth Risk Percep In Hlth.

UNIVERSITY COURSE REGISTER

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)

661. Global Hlth Policy.

REAL ESTATE (WH) {REAL}

204. (LGST204, LGST804, REAL804) Real Estate Law. (C) Phillips.

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. (BPUB206, BPUB772, REAL772, REAL972) Urban Public Policy & Private Economic Development. (B) Pack.

This course considers the pervasive interaction between real estate developers and government. Governments influence real estate development in many ways: through zoning laws, taxes, public expenditures, impact fees, infrastructure, building codes, environmental regulations, to name just a few. Much of the time in the course is spent understanding the effect on residential and commercial real estate development of these government interventions. There are lectures, student led discussions, special lectures by private developers and policy officials. Prerequisite: Microeconomics course with a grade of B or better.

209. (FNCE209) Real Estate Investment: Analysis and Financing. (C) Ferreira, Saiz, Sinai, Wong, Wong Bucchianeri. Prerequisite(s): FNCE 100 & STAT 101-102.

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) 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. (BPUB230, 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. (BPUB236) International Housing Comparisons. (B) Wachter. Prerequisite(s): ECON 1, ECON2, FNCE 101.

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.

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 Seevak Research Competition.

Seevak 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 Seevak Competition see the Real Estate Department's website: <http://real-estate.wharton.upenn.edu/>

721. (FNCE721, FNCE944, REAL944) Real Estate Investment: Analysis and Financing. (C) Ferreira, Saiz, Sinai, Wong. Prerequisite(s): FNCE 601. 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.

724. (REAL215) 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. (BPUB773, 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. (BPUB206, BPUB772, REAL206, REAL972) Urban Public Policy & Private Economic Development. (B) Pack. Prerequisite(s): Microeconomics class with a grade of B or better. Lectures, student-led discussions, and special lectures by private developers and policy officials.

This course considers the pervasive interactions between real estate developers and government. Governments influence real estate development in many ways: through zoning laws, taxes, public expenditures, impact fees, infrastructure, building codes, environmental regulations, to name just a few. Much of the time in the course is spent understanding the effect on residential and commercial real estate development of these government interventions. There are lectures, student led discussions, special lectures by private

developers and policy officials. Cross-listed with BPUB 772.

804. (LGST204, LGST804, REAL204) Real Estate Law. (C) Phillips. 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 & REAL/LGST 804. 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. 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.

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. This course requires the interaction of faculty lectures, student presentations, case analyses, and leading industry speakers. Students must read the Economist each week and the Financial Times daily. This class is offered in the second half of the semester.

As a truly non-U.S. focused course, we explore the differences and similarities in real estate markets in a variety of countries. These real estate markets are examined against their investment structures, risk, financial markets, and economic, political, social and cultural backdrops. The course particularly explores international investment risks and opportunities. Countries examined include France, Germany, the United

891. (REAL396) Real Estate Entrepreneurship. (A) Staff. The course consists of lectures by the professor, case discussions, and guest lectures by leading entrepreneurs. Offered in the first half of the semester.

Are you an entrepreneur? This half semester mini-course exposes MBA students (and approved undergraduates to this question). In addition, it evaluates entrepreneurial opportunities, structures, investment decision making, and risks which are present in commercial real estate markets. This course focuses on identifying realistic opportunities, how to develop the concept, identifying and mitigating risks, raising capital, and exiting. But most importantly, it allows for self-evaluation of the student's entrepreneurial tendencies.

The course consists of lectures by the professor, case discussions, and guest lectures by leading entrepreneurs.

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 Seevak Research Competition.

Seevak 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 Seevak 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, Saiz, Sinai, Wong, Wong Bucchianeri. Prerequisite(s): FNCE 601.

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. Urban Real Estate Economics. (C) Ferreira. Prerequisite(s): MGEC 601.

See Applied Economics Ph.D. Program Prerequisites. 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 spatial 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 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.

Prerequisite(s): The course assumes that students have familiarity with standard first year econometrics and microeconomics. It is recommended that students take and pass REAL 945 Urban RE Economics prior to this course. Exceptions can be granted in certain circumstances. 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 economics and real estate. Readings are based on a selection of empirical and theoretical papers that are of interest to the academic community and policy makers as well. Special attention is paid to research conducted by recent successful job market candidates in the field of Urban Economics. In addition to studying the suggested readings, each student is expected to work on his/her own original research project during the semester. We will discuss all stages of each research project during our weekly meetings. Students are expected to bring new empirical or theoretical outputs every week. Those materials will be distributed to all students, and detailed discussions are expected to follow. At the end of the semester each student will turn in a complete paper and present the work in class.

972. (BPUB206, BPUB772, REAL206, REAL772) Urban Public Policy & Private Economic Development. (B) Pack.

This course considers the pervasive interactions between real estate developers and government. Governments influence real estate development in many ways: through zoning laws, taxes, public expenditures, impact fees, infrastructure, building codes, environmental regulations, to name just a few. Much of the time in the course is spent understanding the effect on residential and commercial real estate development of these government interventions. There are lectures, student led discussions, special lectures by private developers and policy officials. Prerequisite: Microeconomics course with a grade of B or better.

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

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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}

Comparative Religion

L/R 001. Religions of Asia. (C) History & Tradition Sector. All classes. McDaniel.

This course is an introduction to the wide variety of religious beliefs, practices, and ritual technologies in Asia. These religious traditions will not be investigated in isolation. In fact, as Bernard Faure states: "We need to take seriously into account the tradition's attempt to structure its own multiplicity." We will see each tradition has constituted by and constituting others. Each tradition, like each Western religion, is syncretic and multiple, full of internal contradictions and presenting diverse definitions of the sacred and good. While we will look at traditions such as Janism, Buddhism, Taoism, Zoroastrianism, Sikhism, Zen and Shinto, we will constantly question their boundaries. Week by week the panoply (or perhaps cacophony) of types and perceptions of religious experience, ritual, knowledge, directives, motives, and aspirations as displayed in these traditions will be touched upon. This course seeks to generate questions, promote critical inquiry and elaborate on ways the sacred has been made and continues to be made tangible and the vicissitudes of life made meaningful in Asia.

L/R 002. (JWST122) Religions of the West. (C) History & Tradition Sector. All classes. Staff.

This course surveys the formative histories of Judaism, Christianity, and Islam, with an eye to the core beliefs and practices of Jews, Christians, and Muslims today. Special attention will be given to points of intersection and interactions, as well as to the impact of their intertwined histories on the formation and development of Western cultures.

L/R 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. One religious tradition will be emphasized each time the course is taught.

005. (FOLK029, GSWS109) Women and Religion. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Butler.

This course will look at issues of gender in Hinduism, Islam, and Christianity. By using historical, psychoanalytical and anthropological tools, we will explore the various ways in which religion shapes gender roles and vice-versa. Aspects considered will include the representation of the divine, the role of women in religious institutions, and rules regarding the human body, marriage and sexuality. We will also take into consideration contemporary women's self-representation in religious literature, art, and film.

L/R 006. Religious Violence and Cults. (A) Society Sector. All classes. Staff.

Since September 11, 2001, America has become more aware than ever that there is a connection between religion and violence. But what is it? Why do religious people embrace violence? Are all cults prone to violence? And do terrorists tend to belong to cults? This course will introduce students to representative terrorist groups from five different religious traditions and to cults that have taken the path of group suicide. We will examine a number of ways to understand religious terrorism, religious suicide, and cult affiliation in general.

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 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.

101. Religion and Psychology. (C) Staff.

An introduction to psychological interpretations of religious belief, experience, and behavior. Emphasis upon such major theorists as James, Freud, Jung and Allport. More recent investigations (e.g., psychohistory, stages of religious development, religious roots of psychoanalysis, transpersonal psychologies,

parapsychological research) will occasionally be included. No prerequisites.

SM 102. Science and the Sacred. (C) Staff.

An exploration of differences, similarities, and intersections between science and religion. Focus on the relation between scientific paradigms and religious myths; comparison of types of experience in religion and science; critical investigation of efforts to synthesize science and religion in psychology, biology, and physics.

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. (CINE105) 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) Blair.

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 201. (SOCI239) Sociology of Religion. (M) Collins.

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.

SM 202. Topics in Religion and Science. (M) Staff.

Examination of one or two of the areas of controversy in the religion and science debate: creation and evolution, religion and genetic research, creation and cosmology, theories of space and time, mysticism and mathematics, religion and medicine.

SM 203. (COML205, JWST213, JWST213, NELC383) The Religious Other. (M) Fishman.

This course explores attitudes toward monotheists of other faiths, and claims made about these "religious others" -- their bodies, habits and beliefs -- in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Primary source readings from law, theology, literature, art and polemics. Attention will be paid to myths about the other, inter-group violence, converts and cases of cross-cultural influence both conscious and unconscious.

SM 204. (PHIL234) Philosophy of Religion. (M) Ross.

Systematic examinations of the nature of religious experiences; proofs of the existence of God; the problem of evil; the relationships of faith and reason; and the possibility of religious knowledge.

L/R 205. (ANTH205, FOLK201) American Folklore. (C) 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.

21. Char/Piety Jud & Islam.**213. (FOLK223) Folk Religion. (M)** Staff.

This introductory course examines some of the basic cultural forms and claims of folk religion as they are practiced and as they have been studied from various academic positions. This course will sample, critique, and practice approaches to the ethnography of belief and the analysis and interpretation of the resulting descriptions. After the development of some basic concepts the course will proceed through major topics in belief. The emphasis will be on belief traditions found in the West during recent and current times. Discussion will be encouraged throughout the course,

and in addition to lectures and the viewing of audio-visual materials, time will be set aside to discuss the assigned readings and students' own work.

215. (ANTH235, JWST251) Archaeology of Syria. (M) Ristvet.

Syria was one of the great cross-roads of the ancient world, situated between the Levant, Mesopotamia and Anatolia, it was an area that made important contributions to the origins of agriculture, the development of village life, the appearance of early literate states and the invention of the alphabet. During the last thirty years, Syria has become the focus of numerous archaeological projects. We will consider the archaeology of Syria from Neolithic until the Hellenistic period.

L/R 236. (CINE352, COML241, GRMN256) 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.

406. (FOLK406) Folklore and the Supernatural. (M) Staff.

Examination of folk beliefs, witchcraft, healing, divination, and spirit phenomena in the context of folkloristic, anthropological, psychological, and especially para-psychological explanations.

SM 439. (AFRC405, HIST405, 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, and Humanism 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 urban 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 502. Science and the Sacred. (M) Staff.

This course will be an intensive exploration of the differences, similarities, and intersections between science and religion.

SM 510. (PSCI536) Civil Religion. (M) Linker.

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 606. (ANTH645, SAST645) Religion and Autonomy. (M) Roberts.

This course focuses on three sorts of religious phenomena- conversion, possession, and submission (or piety)- that raise important theoretical questions for a political-moral ethos in which human autonomy is a paramount value. When is religious conversion "colonization of consciousness"? Does spirit possession provide a means for subordinated or marginalized persons to "speak back" against the dominant? Do those who seek to subordinate their own will to God's (often

transmitted through human authorities) "have agency"? Rather than seeking to answer these questions, we will use ethnographic and historical studies (e.g. Isabelle Nobakov, Saba Mahmood, Talal Asad, Rachel Fukton, Michel de Certeau, Webb Keane), as well as a few philosophical ones (Volosinov, MacIntyre, Strawson, Augustine), to think about the taken-for- granted the political-moral and scholarly framework, that generates such questions in the first place.

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.

118. (AFRC118) Black Sects and Cults. (C) Staff.

Examination of selected non-traditional Black American religious and secular movements, their founders and leaders with close consideration of the contrasts between these groups and more traditional movements. Examples include such cult leaders as "Daddy Grace," "Father Divine," and "The Reverend Ike" as compared with other religious and social leaders such as Martin Luther King and Jesse Jackson.

SM 208. (ANTH282, ENGL282) Native American Religion and Literature. (M) Powell.

"Native American Religion and Literature" will explore the spiritual dimensions of three tribes-- Ojibwe, Cherokee, and Sioux-- using an interdisciplinary focus that includes literature, religious studies, film, and anthropology. We will focus on masterful stories in which Cherokee people turn into bears, thunderbirds talk, and invisible forces are made visible. Rather than seeing these stories as "myths" they will be treated as highly sophisticated forms of philosophy. The class will include two 7-8 analytic essays and one shorter, more descriptive paper.

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, FOLK310) Religious Diversity in America. (M) Staff.

In the 1950's America seemed to be a land of Protestant, Catholic, and Jew. Now it is

clearly also a land of Muslims and Hindus, Buddhists and Taoists, Rastafarians and Neo-pagans and many more religious groups. This course will focus upon a variety of topics: religious diversity in West Philadelphia, Philadelphia and beyond; the politics of religious diversity; religion in American schools and cities; and conflicts and cooperation among diverse religious groups.

SM 318. Religion and Public Policy. (M) Staff.

This is a topics course focussing on the study of cultural institutions and practices.

SM 400. The Religious Right in America. (A) Butler.

From the Scopes Trial to Sarah Palin, conservative religion and political ideology have combined to define and shape public policy. This course will look at the role of conservative religion in American Politics, and the ideas, personalities, and policy it has shaped. Special attention will focus on movements, the use of media in the Religious Right, and the politicians and personalities that have been integral to the movements' impact on Religion and society today.

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.

Jewish Studies

024. (ANTH124, JWST124, NELC155) Archaeology and the Bible; Conflict Insight Understanding. (M) Staff.

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, while being exposed to the interpretive traditions of Anthropology as an alternative approach to the available evidence. Open discussions of the religious, social and political implications of the material covered will be an important aspect of the course.

SM 026. (HIST101, JWST103) Dream in Jew Cult & Trad. (C)

SM 027. (COML057, JWST151, NELC156) Great Books of Judaism. (A) Arts & Letters Sector. All Classes. Carasik.

The study of four paradigmatic classic Jewish texts so as to introduce students to the literature of classic Judaism. Each text will be studied historically--"excavated" for its sources and roots--and holistically, as a canonical document in Jewish tradition. While each text will inevitably raise its own set of issues, we will deal throughout the semester with two basic questions: What makes a "Jewish" text? And how do these texts represent different aspects of Jewish identity? All readings will be in translation.

120. (HIST139, JWST156, NELC051, NELC451) History of Jewish Civilization I: From the Biblical Period to the Early Middle Ages. (B) History & Tradition Sector. All classes. Staff.

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.

121. (HIST140, JWST157, NELC052, NELC452) History of Jewish Civilization II: From the Early Middle Ages to the 17th Century. (A) History & Tradition Sector. All classes. Ruderman.

A broad introduction to the history of Jewish civilization from the early Middle Ages to the 17th Century. An overview of Jewish society and culture in its medieval and Renaissance settings.

122. (HIST141, JWST158, NELC053, NELC453) History of Jewish Civilization III. From the 17th Century to the Present. (B) History & Tradition Sector. All classes. Wenger/Nathans.

This course offers an intensive survey of the major currents in Jewish life from the early modern period to the present. We will trace the process by which the Jews gradually ceased to be a society unto themselves and confronted the sweeping transformations of the modern era, from the Enlightenment and the rise of a bourgeois middle class to projects of nation-building and revolutionary socialism. Within the evolving forms of Jewish religious experience, culture, and identity, we will explore such topics as emancipation, Jewish-gentile relations, the emergence of distinct denominations within Judaism, and the reestablishment of political sovereignty in modern Israel. Weekly readings include broad historical interpretations as well as primary sources such as memoirs, petitions, folklore, and works of literature. Curiosity about Jewish history and a willingness to explore its drama and complexity are the only prerequisites for this course. No prior knowledge of the subject is assumed.

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.

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, NELC186) Jewish Mysticism. (M) Fishman.

Survey of major periods of development of mystical speculation and experience within Judaism. Mystical symbolism as a basis for theosophical 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.

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.

128. (JWST128) Jews, Judaism, and Modernity. (M) Staff.

A survey of Jewish thinkers and movements of the modern period focusing on the historical, intellectual, and social foundations of modern Judaism. Through careful reading of primary sources in translation, students will be exposed to seminal writings that respond both to new challenges and the broader issues of religious continuity and discontinuity.

SM 129. (ANTH129, JWST100, NELC252, NELC552) Themes in the Jewish Tradition. (C) History & Tradition Sector. All classes. Fishman.

Course topics will vary; have included The Binding of Isaac, Responses to Catastrophies in Jewish History, and

Concepts of Jewishness from Biblical Israel to the Modern State.

Though Judaism is rightly known as a culture that exalts the study of text, performance of rituals is no less important for adherents who seek to fulfill divine command, rabbinic obligation and/or communal expectation. Christian thinkers in medieval and early modern Europe identified Jewish "ceremonial law" as a component of sacred Scripture whose authority had expired, and they ridiculed Jews for practicing "carnal" rather than "spiritual" religion. This course has a two-fold focus: Drawing on the insights of anthropology and ritual theory, students will explore the cultural logic of a range of concrete practices undertaken by Israelites and Jews in different geographic locales, from biblical times through the present. Students will also examine the perception and portrayal of Jewish customs in Christian theological, political and proto-ethnographic writings from the 7th -16th centuries. Readings from primary sources will be in English translation.

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.

221. (COML283, FOLK280, JWST260, NELC258) 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 223. (COML257, JWST153, NELC158, NELC458) Jewish Literature in the Middle Ages. (C) Fishman.

An introduction to medieval Hebrew literature, with special attention to poetry, narrative, and the interpretation of the Bible, and to the varieties of Jewish experience that

these literary works touch upon. All readings in translation.

SM 224. (COML380, JWST255, NELC250, NELC550) The Hebrew Bible in Translation. (C) Staff.

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.

SM 225. (JWST225, NELC251, NELC651) Introduction to the Dead Sea Scrolls. (M) Reed.

The discovery of the Dead Sea Scrolls has revolutionized our knowledge of ancient Judaism in the centuries between the Torah and the Mishnah. This course explores the significance of these works for understanding the formation and early interpretation of the Hebrew Bible; the development of Jewish liturgy, law, "science," and "magic"; the development of Jewish and Christian beliefs about the afterlife, end of time, and the messiah; and the history of Israel between the Maccabean Revolt to the first Jewish Revolt against Rome - as well as the shared background of Judaism and Christianity. Readings will include biblical commentaries, parabiblical literature, works about community life, predictions about the end of time, prayers and and poetry, halakhic discussions, and exorcistic incantations and horoscopes. We will also grapple with the challenges of correlating this literary with archaeological data.

SM 226. (HEBR257, JWST257) Studies in Rabbinic Literature. (D)

Staff. Prerequisite(s): Students must be able to read an unpointed Hebrew text.

An introduction to the reading of classical Rabbinic literature. Focus will be on the Mishnah and Babylonian Talmud with parallel readings from Tosefta, Midreshei Halkhah, and the Palestinian Talmud. While traditional Rabbinic commentators will be utilized, the class will be introduced to modern methodologies of Talmudic textual research. Texts will be read mainly in Hebrew with supplementary English readings. Ability to read unvocalized Hebrew required.

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.

SM 241. (JWST241) Charity and Piety in Judaism and Islam. (M) Distribution Course in Arts & Letters. Class of 2009 & prior only. Frenkel.

The course will concentrate on social, literary and religious manifestations of Medieval Judaism and Islam. Special emphasis will be given to charity as a concand institution. Charity as such offers a promising way to understand a given cand the changes it undergoes. It is also offering a valuable perspective from wviev historical change and intercultural encounters. A comparative approach wiladopted, the assumption being that while charity displays many common features Judaism and Islam, the similarities do not mean to deny the uniqueness of the cof piety and charity and their various manifestations in each of these monotheicultures.

Dr. Miriam Frenkel is a senior lecturer at the Hebrew University of Jerusalem, teaching medieval Jewish history in the lands of Islam. She is a Geniza researcand specializes in the cultural encounters between Judaism and Islam. Her Hebrebook, *The compassionate and Benevolent; The Leading Elite in the Jewish Community of Alexandria in the Middle Ages*, 2006, won the Shazar prize .Anotherbook edited by her and by Haggai Ben Shammai, *The Jewish Medieval Library; Booklists from the Cairo Geniza*, 2006, won the Association of Jewish Libraries, Division Bibliography Award. She also co edited a book together with Yaacov Levon *Charity and Giving in Monotheistic Religions*, 2009.

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.

327. (HEBR356, HEBR656) Talmudic/Midrashic Literature. (M) Stern.

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.

SM 355. (NELC355) Topics In Biblical Studies. (M) Staff.

The historical books -- Joshua through Kings, Chronicles and Ezra-Nehemiah--constitute the largest component of the Hebrew Bible, and the questions that these compositions raise are varied and complex. The very definition of these works as "history" has been sometimes questioned. The questions refer to their literary nature, their sources, genres and literary structures; their chronological frameworks and their historical and theological presuppositions; their historical backgrounds and credibility, and more. These questions will be raised and discussed through the comparative study of selected texts from the major historical biblical compositions.

SM 422. (HIST449, JWST449) Jewish Intellectual and Cultural History in the Early Modern Era: From the Spanish Expulsion to Spinoza. (C)

Distribution Course in Arts & Letters. Class of 2009 & prior only. Ruderman.

Major Jewish ideas and ideologies from the fifteenth to the seventeenth centuries in the context of the Renaissance, the Reformation, the scientific revolution, and religious skepticism. Topics include Jewish reflections on catastrophe in the post 1492 era. Jewish and Christian stufy of the Kabbala, Lurianic messianism, Sabbatianism, Hasidism, and cultural developments in the Marano community of Amsterdam.

SM 426. (HEBR486, JWST426) 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 gemres - - Talmudic commentary, codes and responsa. Attention will be paid to the mechanics of different genres, the role of the underlying prooftext, the inclusion or exclusion of variant opinions, the presence of non-legal information, attitudes toward predecessors, balance between precedent and innovation.

SM 429. (COML584, 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 521. (HEBR550, JWST550) A Book of the Bible. (C) Staff. Prerequisite(s):

Knowledge of biblical Hebrew and prior experience studying the Hebrew text of the Bible. Knowledge of Greek is not required. May be repeated for credit. Language of instruction is English. Qualified undergraduates are welcome but need permission from the instructor.

The focus will be on the study of the Hebrew text of a book of the Bible. The book varies from year to year.

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 Sepharadic 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 Jewishtexts. Students must be able to read unvocalized Hebrew. Open to undergraduates only with the instructor's permission.

SM 525. (COML580, JWST525) Varieties of Judaism in the Greco-Roman Era. (H) Reed.

An examination of the varieties of Jewish Thought current from ca. 300 B.C.E. to ca. 200 C.E., and of the ways in which the early Christian church adapted and/or reacted to this Jewish heritage.

SM 529. (HIST550, JWST529) The Religious "Other" in Pre-Modern Jewish Culture. (M) Fishman.

This "bi-directional" course explores the presence of the religious Other as it is refracted in Jewish literature of a particular time and place, and the presence of Jews and Judaism in contemporaneous non-Jewish writings, whether Hellenistic, Christian or Muslim. Attention will be paid to ways in which the belief systems and religious practices of the Other are perceived and portrayed, to internal policies regulating interactions with the Other, and to cross-cultural influences, whether or not these are acknowledged. Primary source readings will be available in English translation.

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.

SM 620. (HEBR556, JWST650) Seminar in Biblical Studies. (A) Staff.

Prerequisite(s): Facility in Biblical Hebrew. In-depth study of a special topic or problem in Biblical studies.

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) Reed.

"What can be known - from an historical perspective - 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"? And how is that this small Galilean and Judean movement came to shape world history and Western culture, even to this day? This course will explore 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."

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 239. Music in the History of Christianity. (M) Matter.

Selected periods of Christian history studies from the point of view of musical expression in Christian worship.

416. (HIST416) Society, Art and Devotion in the Low Countries. (B) Matter/Staff.

This course will deal with the history of the Low Countries during the "Golden Age" of Burgundian rule. The immensely rich resources in art, religion and history will be treated from the points of view of three disciplines: history, art history, and religious studies.

SM 433. Christian Thought From 200-1000. (M) Matter. Prerequisite(s): None--some background in European history helpful.

The development of the major Christian groups from the Central Middle Ages to the beginning of the modern era. Theology, worship, and community identification.

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.

SM 435. Sources for the Life of Jesus. (M) Reed.

A critical assessment of early Christian traditions about Jesus (to ca. 200 CE), with special attention to methodology. Emphasis on applying consistent critical criteria in the analysis of ancient materials and traditions concerning Jesus, from whatever source (opponents, enthusiastic advocates, relatively uninvolved reporters). Problems encountered by any historian dealing with any subject of which the historian was not an eyewitness will be illustrated and elaborated in the investigation of what is known about Jesus.

SM 436. (COML591) The Life and Letters of Paul. (M) Reed.

The purpose of this course is to learn how to understand a noted author/thinker of the past on his own terms and in relationship to his own world. The specific subject matter is PAUL, a Jewish and Christian writer in the Greco-Roman world during the first century of the common era (c.e.). The larger historical context is Judaism and Christianity in the first two centuries c.e.

SM 437. (PHIL429) Medieval Philosophy. (M) Ross.

Critical and historical examination of writings of Augustine, Anselm, Aquinas, Scotus, Ockham, and others.

SM 438. (ARTH410, HIST410) Topics in Medieval History. (C) Treat.

This course introduces students to the development of Jewish and Christian biblical interpretation by focusing on late antique, medieval, and contemporary interpretations of the Song of Songs. Students will encounter a variety of important interpreters in translation, guided by appropriate secondary materials. The course will touch on the interplay of asceticism and eroticism, on issues of gender and religious language, on mysticism, and on the development of allegorical interpretation.

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 530. (GSWS530) The Feminist Critique of Christianity. (C) Matter.

An overview of the past decades of feminist scholarship about Christian and post-Christian historians and theologians who offer a feminist perspective on traditional Christian theology and practice. This course is a critical overview of this material, presented with a summary of Christian biblical studies, history and theology, and with a special interest in constructive attempts at creating a spiritual tradition with women's experience at the center.

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) 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. (COML544) 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. Knowledge of Greek Presupposed.

Student may enter either term.

Selected topics from current research interests relating to early Judaism and early Christianity.

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, re-islamization, 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) 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.

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.

249. Topics in Islamic Religion and Society. (C) Staff.

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?

SM 545. (NELC534) Topics in Islamic Religion. (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.

Spring 2010 Topic: The Persian Intellectual Tradition - This seminar focuses on readings from a variety of sources from across the Persianate world with the aim of providing an advanced introduction to thought and history in some of the most influential societies of the Islamic World. The course will cover a variety of historical, theological, mystical and literary texts in prose as well as poetry.

Buddhism and Hinduism

155. (PHIL050, RELS455, SAST150) Introduction to Indian Philosophy. (C) History & Tradition Sector. All classes. Staff.

The fundamentals of Hindu and Buddhist philosophy, the main patterns of Western response to it, and some basic questions of "comparative philosophy". Selected readings from classical Indian texts in English translation.

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.

This course will survey the many religious traditions that we now call Hinduism. Covering over 4,000 years of history, we will examine points of contact between cultures and peoples to understand how Hinduism has been shaped, changed, and brought together over time. We will examine primary source readings in the Vedas, Upanishads, Epics (Ramayana and Mahabharata), Puranas, inscriptions, medieval devotional literature and modern reformists' works. Sculpture, temple architecture, and painting, coupled with videos of contemporary rituals will help us to understand the importance of visual culture in Hinduism, and illuminate the changes and continuities in practices over time. Concepts such as dharma, karma, and moksha, will be placed into the contexts of the lives Hindus have led throughout history, and aid in a critical examination of topics such as caste, gender, power, and nationalism.

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 Vientianne, 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 263. Studies in Hinduism. (M) Staff. Prerequisite(s): RELS 163/SARS 163 or SARS 101 or equivalent, or permission of instructor.

Religious experience and expression in Hindu India in their diversity and regional variations to the present. Intended as an intermediate/advanced course for students who already have an introductory knowledge of the subject, this course will examine relevant backgrounds and representative primary sources to assess continuity and change in learned and vernacular Hindu attitudes and practices.

276. (EALC265) Zen Buddhism. (C) LaFleur.

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: Monk, Saints, and the Contemplative Life. (M) Distribution Course in Society. Class of 2009 & prior only. McDaniel.

Students who are not Religious Studies Majors and are not honors students must gain permission from instructor to enroll in this course.

455. (PHIL050, RELS155, SAST150) Introduction to Indian Philosophy. (A) Staff.

A survey of Indian philosophical thought from its Vedic beginnings to the early modern period. Fall: Hindu philosophy. Spring: Buddhist philosophy. Selected readings in English translation.

SM 489. (EALC269, EALC669) Japanese Buddhism. (C) LaFleur.

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.

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.

Western Traditions

SM 111. (AFRC111) Religion and Secular Values. (C) Linker.

This course deals with the ways in which current standards for social and public order have been influenced by the interaction between American Jewish and Christian values and American secular and civil values. Issues treated include: racial and ethnic attitudes, sexual equality/morality, pornography, abortion, euthanasia, capital punishment, mental health, economic justice, and environmental issues.

112. (AFRC115) Religious Ethics and Modern Society. (C) Butler.

Topic for Fall 2010: Religion in the Civil Rights Movement: Martin and Malcolm in America Religious beliefs of Malcolm X and MLK formed their core beliefs in their quest for Civil Rights for African Americans. This course explores 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. Participants in this course will leave with a clearer understanding of Christianity, the Nation of Islam, Islam, as well as religiously based social activism. Other emphases will 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, Kermode, 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.

615. (ANTH635) Archaeology and Society in the Holyland. (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 lectures and supplemented by the study of artifacts in the University Museum's collections.

ROMANCE LANGUAGES (AS) {ROML}

FRENCH (FREN)

Basic Language Courses

SM 110. Elementary French I. (C)

For students who have never studied French or who have had very little exposure to the language. Most students with previous French should be in French 121 (elementary French for "false beginners"). All students who have already studied French elsewhere are required to take the placement test. Class work emphasizes the development of speaking and listening comprehension, reinforced by work in reading and writing. Course includes an introduction to French and Francophone culture. Out-of-class homework requires work with workbook, audio materials, in addition to frequent writing practice.

SM 112. Accelerated Elementary French. (A)

An intensive two-credit course covering the first and second semester of the elementary year. See descriptions of French 110 and 120. Students must have departmental permit to register.

SM 116. Elementary Haitian Creole. (C) Contact the Penn Language Center.

SM 120. Elementary French II. (C) Prerequisite(s): French 110.

The continuation of French 110.

SM 121. Elementary French for "False Beginners". (A)

An intensive one-semester language course for students who have had some French before but can benefit from a complete review of elementary French. The course will provide a re-introduction of the basic structures of French with intensive work on speaking, writing and listening designed to prepare students to take Intermediate French. Course includes an introduction to the culture of France and Francophone Europe. Out-of-class homework requires work with online, workbook, and audio materials, in addition to frequent writing practice.

SM 130. Intermediate French I. (C)

Prerequisite(s): Completion of French 120 or 121, or placement into third-semester French.

The first half of a two-semester intermediate sequence designed to help students attain a level of proficiency that should allow them

to function comfortably in a French-speaking environment. Students are expected to have already learned the most basic grammatical structures in elementary French and will review these independently outside of class. This course will build on existing French skills and increase students' confidence and ability to read, write, speak and understand French. The course will additionally introduce students to more complex grammatical structures and more challenging cultural material. Out-of-class homework includes work with online, workbook and audio materials in addition to frequent writing practice.

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 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.

The second half of an intermediate-level sequence designed to develop functional competence in the four skills. Students are expected to have already learned the most basic grammatical structures in elementary French and will review these outside of class. The course focuses on the study and discussion of history and culture of the Francophone world through film, literature and music.

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 also the 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.

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 expand their knowledge of French history, with a focus on World War II and the German occupation of France. In the second dossier, students study youth-related issues (such as upbringing and education, television, unemployment, racism, etc.), along with questions of identity in today's France.

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.

This course is designed to promote advanced-level speaking and writing skills. It offers extensive practice with varied language structures, styles of expression and textual forms. It will also help students better understand contemporary French culture, thought and modes of expression. Activities include the study, analysis and emulation of model texts, discussion and debate about current events as they are treated in the French news media (television, print, Internet sources). Students will take part in class discussions, do one oral presentation based on research and compile a writing portfolio (journal, essays, blog).

SM 217. French Phonetics. (C)

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 French pronunciation, rhythm and intonation. The second half of the course will be devoted to improving aural comprehension by examining stylistic and dialectical differences in spoken French.

SM 221. (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 221 has as its theme the presentation of love and passion in French literature. Majors are required to take either French 221 or 222. They may also take both.

SM 222. (COLL221, COML219) 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. 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. Students are expected to take an active part in class discussion in French. French 222 has as its theme the Individual and Society. Majors are required to take either French 221 or 222. They may also take both.

SM 226. French Civilization, from the Beginnings to 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.

L/R 227. Modern France, 1789-1944. (B) Humanities & Social Science Sector.

Class of 2010 & beyond. Prerequisite(s): Two advanced courses taken at Penn or equivalent.

French political, cultural and social history from the Revolution of 1789 to the liberation of Paris in 1944. Readings in secondary and primary 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.

This course will be taught in French.

SM 228. Modern France 1945-Present. (C)

Among the many dramatic transformations that have marked French culture and society since World War II, the emergence of la jeunesse will be our reference point to examine the major trends of the period. By means of films, short novels and a basic historical text, we will consider the shifts in lifestyle, values, and identity among youth at critical moments in the history of the last 50 years. Conducted entirely in French, this course requires the student to view 7 films outside of class, 1 written mid-term in class, reaction paragraphs for each film, 3 of which will be expanded to relate the films to the required readings of Françoise Sagan, Georges Perec and Rachid Djaidani. Students will also present to the class their research upon some aspect of youth culture or identity of their choice. The written part of that presentation will be integrated into the final exam paper.

L/R 230. (CINE245) 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 réalisme poétique," "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.

SM 231. (AFRC231, AFST231, CINE210) Cinema Africain Francophone. (M)

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 290. The French Short Story. (M)

SM 301. (CINE345) French Identity in the Twentieth Century. (C)

The purpose of this course will be to explore the following issues: What is the specificity of women in French society--what distinguishes the "education" --both familial and institutional--which contributes to the formation of a distinctly feminine sense and self? How has this specificity contributed to the roles and functions played by women over the course of the century? And finally, how have women--individually and collectively--become aware of these forces, and sought to modify them in order to devise introduction to French culture and society. Authors include: de Beauvoir, Carles, Djebar, Duras, Ernaux, Kofman, Weil.

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 France 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)

After a brief history of European integration and a description of the Community's institutions, common programs, and single market, a series of debates on the following topics will be addressed: Federal Europe vs. Europe of Nations; A wider vs. a deeper Community; From an economic and monetary community to a political community? Relations between France, Europe, and NATO (Eurocentrism vs. Atlantism); The cultural and social European Model and its future vs. American liberalism (the unemployment problem); Is there a European citizen? (education and training); Europe and its relations with the rest of the world (Euro vs. dollar and yen). After a video presentation of each topic, two students will lead the discussion. The rest of the students will contribute to the debate by preparing question and comments.

SM 325. (COML324) Advanced French Translation. (M) Prerequisite(s): French 212 or equivalent recommended.

This course is designed to foster an awareness of the differences between syntactical and lexical patterns of French and English. It focuses on the theory and practice of translation. Students will learn techniques to apply to the translation of literary, journalistic and advertising texts from English to French and vice versa and to the subtitling of audiovisual materials. Students should have a good knowledge of French grammar.

SM 330. 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, Pernelle 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) French Literature of the 18th Century. (M)

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 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.

SM 382. (CINE382, 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)

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 393. (COML393) Africa & African Diaspora. (M) Taught in English.

This course will take the form of an introductory seminar designed to provide undergraduate students an overview of significant themes and issues focusing on the historical, political and cultural relationships between Africans and their descendants abroad. It will encompass: a review of different historical periods and geographical locations, from Ancient Egypt to modern American, Caribbean and African states; a critical evaluation of social movements and theories that have developed in the nineteenth and twentieth centuries among scholars of different origins in their attempt to reconstruct Africa as a center and the Diaspora as a specific cultural space; and, an exploration of representations of Africa and the Diaspora in canonical literary works and other forms of fiction like the visual arts.

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.

SM 395. Topics in African Literature. (M)

Topics vary from semester to semester.

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 573. (ARTH573, CINE515, 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. (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 593. (AFRC593, AFST593) Studies in Francophone Literature. (M)

Topics will vary. Seminar will focus on one area, author, or "problematique" in Francophone studies. Examples of an area-focused seminar: The African Contemporary novel or Francophone Caribbean writers. Example of a single-author Seminar: The Poetry and Drama of Aime Cesaire: Examples of a thematic approach: writing and national identity, postcolonial conditions, autobiography. Please see the department's website for the current course description: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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, Leuwens.

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)

SM 602. Theory and Criticism. (M)

Please see the department's website for current course description:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 603. Poetique Du Recit.

SM 606. Postcolonial Theory. (M)

SM 610. Intro to French Cinema. (M)

SM 611. Topics in Cinema Studies. (M)

SM 612. Film Noir. (M)

Topics vary. Please see the department's website for the current course description:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 620. Global Perspectives in French Studies. (A)

Topics vary. Please see the department's website for the current course description:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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 department's website for current course description:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 631. Epic and Romance. (M)

Topics will vary. Please see department's website for current course description:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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 department's website for current course description:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 638. (COML638, MUSC710) Topics: Medieval Culture. (M)

Topics will vary. Please see department's website for current course description:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 640. Studies in the Renaissance. (M)

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:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 652. (COML652, GSWS652) Early Modern French Women Writers. (M)

Topics of will vary. Please see department's website for current course description:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 654. (COML658, ENGL730, GRMN665, MUSC654) Early Modern Seminar. (M)

Topics will vary. Please see department's website for current course description:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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 epistolarity, 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 epistolarity 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:
<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 676. Science and Literature. (M)

SM 680. (CINE680, COML595) Studies in the 20th Century. (M)

Topics will vary. Please see department's website for current course description: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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)

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: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 690. Francophone Studies. (M)

Topics will vary. Please see department's website for current course description: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 692. Caribbean Studies. (M)

SM 693. (AFRC693, AFST693) Topics in Postcolonial Studies. (M)

Topics will vary. Please see department's website for current course description: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 694. Francophone Africa. (M)

SM 695. Postcolonial France. (M)

SM 700. (AFRC708, COML708) Topics in Interdisciplinary Studies.

Topics will vary. Please see department's website for current course description: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 701. Topics in Cultural Studies. (M)

Topics will vary. Please see department's website for current course description: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 702. Topics in Popular Culture. (M)

Topics will vary. Please see department's website for current course description:

<http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 703. Representing Paris. (M)

Topics will vary. Please see department's website for current course description: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

SM 704. The French Atlantic. (M)

Topics will vary. Please see department's website for current course description: <http://ccat.sas.upenn.edu/roml/french/graduate/courses.html>

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. (CINE682) Topics: Literature and Film. (M)

SM 685. 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. (CINE140, COML107, GSWS100) Topics: Freshman Seminar. (C)

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of current offerings.

SM 200. Medieval Culture. (M)

Topics will vary.

SM 201. Advanced Italian I. (C)

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 the language requirement.

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) Introduction to Italian Literature and Culture. (C) Arts & Letters Sector. All Classes. Prerequisite(s): Italian 202 (may be taken concurrently).

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. (CINE240, COML280) Italian History on Screen: How Movies Tell the Story of Italy. (C)

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): Ital 202.

The major purpose of the course, which is conducted entirely in Italian and therefore requires an intermediate/high, to advanced level of the language, is to enable students to acquire language proficiency in the area of the current Italian labor world, so that they can read and comprehend business publications, write and compose business

texts, and participate in business-related conversations. Business terminology will be placed within the framework of many different international work situations and practices, such as industry, trade, insurance, banking, agriculture, communications, etc. Classes will also include lectures on current political, economic, and labor developments in Italy as well as an examination of various Italian views on the creation of the European Internal Market. The course will emphasize, through Italian newspapers and magazine articles, the differences between Italian and American business practices and cultural differences, such as the attitude of the Italian towards money, work, leisure, and consumerism, which will help students to understand the specific nature of the Italian world.

SM 213. (CINE240, COML214) Contemporary Italy Through Film. (M) Arts & Letters Sector. All Classes.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of current offerings.

SM 215. Interdisciplinary Approaches to Literature and Cinema. (C)

Prerequisite(s): Italian 140 or Proficiency. Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of current offerings.

SM 220. Cultura E Letteratura. (C)

Taught in Florence.

SM 222. Topics in Italian Cinema. (C)

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> 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 267. (HIST181) SA: The Medici. (L)

Taught in Florence. Topics vary.

SM 280. Films From Literature. (M)

Topics vary.

SM 288. (CINE240) Modern Italian Culture. (M)

Topics will vary.

SM 300. (ANTH311, COML300, HIST318) Topics in Italian History, Literature, and Culture. (M) Topics will vary.

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. (CINE240, 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, ENGL223, ENGL323) Dante's Divine Comedy. (M) When crosslisted with ENGL 332, 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 335. Medieval and Renaissance Literature. (M) Taught in Florence.

This course will involve close study of the two major narrative works to emerge from medieval Florence. We will take advantage of the study-abroad experience to relate our readings closely to the city and region in which we are living, with visits to neighborhoods and monuments important to the authors or illustrative of the cultural forces that shaped their texts, as well as to the Casa di Dante in central Florence, and the residence of Boccaccio in the Tuscan hill-town of Certaldo. The classes will be dedicated to in-depth interpretation of Dante's "Inferno", of Boccaccio's "Decameron", and the relationship between their vastly different, yet kindred views of the human condition. The course will be given in English. This course may be taken for Italian language credit provided students do reading and writing assignments in Italian. It may also be taken for graduate credit, but additional work and meetings with instructors 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. (CINE340, 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. (COML531) Medieval Italian Literature. (M)

Medieval Italian society, art, intellectual and political history.

SM 531. (COML533, ENGL531, ITAL333) Divina 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.

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, GSW534) 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, GSW537) Boccaccio. (M) Kirkham.

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 539.

SM 540. (COML540, ENGL540, SPAN540) Topics: Renaissance Culture. (M) Renaissance Italian society, art, intellectual and political history.

SM 562. (COML508) World Views in Collision. (M) The impact of paradigm shifts on Italian and European culture.

SM 584. (CINE584) 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 Mariani'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. (CINE548) Italian Women Directors. (M)

In Peter Bondanella's book, "Italian Cinema, from Neorealism to the Present," only two Italian women directors are mentioned: Lina Wertmuller 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. (ARTH583, CINE548, 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. Tools of the Trade. (M)

Theoretical and practical aspects of academic research.

SM 603. Sociolinguistic Varieties. (M)

SM 630. (COML630, FREN630) Medieval Italian Literature. (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. (CINE684) Represen Women Ital Cine. (M)

SM 684. (CINE684) 20th-Century Novel. (M)

Contemporary Italian fiction

990. Masters Thesis. (C)

995. Dissertation. (C)

998. Tutorial. (C)

999. Independent Study. (C)

PORTUGUESE (PRTG)

Basic Language Courses

SM 110. Elementary Portuguese I. (A)

This is a beginning level Portuguese course for students with little or no previous knowledge of the language. This class

gives an introduction to the basic structures of reading, writing, speaking, and listening skills. Class work emphasizes development of speaking and listening comprehension through practical, engaging dialogues and lively role-playing activities. A Brazilian movie is presented and discussed in small groups. Daily homework assignments involve writing exercises, short compositions, and group projects.

SM 114. Portuguese for Spanish Speakers. (C)

Portuguese for Spanish Speakers was designed for students who possess knowledge of Spanish or other Romance languages. The course begins with 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 a third-semester 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 209. Business Portuguese II. (A)

In this course students will develop their Portuguese writing and speaking skills related to business. A cultural and economic context will provide the frame for the discussion of political, economic and geographical current issues in relation to the Lusophone World. The course will also focus on giving presentations and producing different texts, including essays and summaries based on the course readings.

SM 212. Advanced Portuguese I. (A)**SM 215. Portuguese for the Professions. (D)**
Prerequisite(s): Permission of the instructor.

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 and Technology and other themes 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. Instructor's permission required.

SM 216. Business Portuguese I. (A)**SM 217. Business Portuguese II. (B)**
Prerequisite(s): PRTG 202, 216 or instructor's permission.

Portuguese for the professions two 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 the cultural contexts of, but not limited to, Brazil. 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 areas such as economy, health, media, environment, business, science and technology. The course will be conducted in Portuguese.

SM 221. (COLL223, LALS231) Topics in Brazilian Culture. (M) Mercia Flannery. 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>

SM 222. (CINE224, LALS220) Perspectives in Luso-Brazilian Literature. (M) 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 240. (CINE232, COLL223, LALS240, SPAN223) Topics in Brazilian Culture. (C) Arts & Letters Sector. All Classes.

Topics vary. For current course description, please see department's webpage:
<http://ccat.sas.upenn.edu/roml/portuguese/undergraduate/courses.html>

ROMANCE LANGUAGES (ROML)*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)

SM 390. (COML360, ENGL394) Introduction to Literary Theory. (M)

Topics vary.

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. 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 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 must take the online placement examination.

SM 120. Elementary Spanish II. (C)

Prerequisite(s): Successful completion of Spanish 110 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.

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.

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 Cesar Aira's *La Villa*. 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 Grammar. (C)

Prerequisite(s): Spanish 202 or equivalent.

Spanish 212 is an advanced grammar course that emphasizes the acquisition of a solid knowledge of those major points of Spanish grammar. Through discussion and correction of assigned exercises, analysis of authentic readings, and contrastive study of Spanish and English syntax and lexicon, students will develop an awareness of the norms of standard Spanish with the aim of incorporating these features into their own oral and written linguistic production.

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 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.

SM 223. (CINE232, COLL223, COML226, LALS240, PRTG240) Perspectives in Spanish American Literature I. (C) Arts & Letters Sector. All Classes.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of the current offerings.

SM 225. (SPAN525) Spanish in the World. (M) Prerequisite(s): Spanish 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 250. (COML252, LALS252) Major Works of Spanish and Latin American Literature. (C) Arts & Letters Sector. All Classes.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of current offerings.

SM 317. Spanish Phonetics and Morphology. (M) Prerequisite(s): Spanish 219.

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.

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.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of the current offerings.

SM 337. The Medieval Iberian Text. (M) Prerequisite(s): Spanish 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 348. Don Quijote. (M) Prerequisite(s): Spanish 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 350. (LALS350) Spanish Literature of the Golden Age. (M) Prerequisite(s): Spanish 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 355. (LALS355) Topics in Spanish Drama. (M) Prerequisite(s): Spanish 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 373. Spanish Romanticism, 1770-1870. (M) Prerequisite(s): Spanish 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 380. (LALS380) Contemporary Spanish Literature. (M) Prerequisite(s): Spanish 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 381. (CINE381) Contemporary Spanish Poetry. (M) Prerequisite(s): Spanish 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 382. Literature of the Generation of 98. (M) Prerequisite(s): Spanish 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 384. (CINE384) Spanish Novel Since 1939. (M) Prerequisite(s): Spanish 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 386. (CINE385, GSWS386, LALS386) Studies in Spanish Culture. (C) Staff. Prerequisite(s): Spanish 219.

This course covers topics in contemporary Spanish Culture, its specific emphasis varying with the instructor.

SM 390. (CINE390, COML390, LALS396) Introduction to Spanish American Literature. (M)

Prerequisite(s): Spanish 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 391. (LALS391) Spanish American Poetry. (M) Prerequisite(s): Spanish 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. (LALS392) Colonial Latin American Literature. (M)

Prerequisite(s): Spanish 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. Spanish American Essay. (M)

Prerequisite(s): Spanish 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 394. (LALS394) Spanish American Fiction. (M) Prerequisite(s): Spanish 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. (LALS395) Hispanic Theater. (M) Prerequisite(s): Spanish 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. (CINE396, GSWS396, LALS397) Studies in Spanish American Culture. (M) Prerequisite(s): Spanish 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. (CINE397, LALS398) History of Spanish American Culture. (M)

Prerequisite(s): Spanish 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 400. Conference Course for Majors. (A)

Permission required.

Graduate-Level Courses

SM 512. (COML501) History of Literary Theory. (M)

SM 548. Cervantes. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 573. 19th-Century Romanticism. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 574. Realismo. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 576. The Novels of Galdos, 1872-1887. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 580. Contemporary Spanish Literature. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 583. 20th-Century Novel Through 1940. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 596. Spanish American Modernism. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

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. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 630. (COML628) Studies in the Spanish Middle Ages. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

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. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 648. The Novelist Cervantes. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 682. (COML682, ENGL571) Seminar on Literary Theory. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 684. La Novela Realista. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 686. (CINE695) Studies in Spanish Culture. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 687. (COML687, ENGL539) The Spanish Avant-Garde. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 690. (COML691, LALS690) Studies in 19th- and 20th-Century Spanish American Literature. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 692. (COML692, LALS692) Colonial Literature of Spanish America. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 693. Vanguardias culturales hispanoamericanas. (M)

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 694. (CINE694, LALS694) Modern Spanish American Narrative. (M)

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. (COML697) Studies in Latin American Culture. (M)

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

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}

RUSSIAN (RUSS)

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. (CINE125, COML127, GSW125) The Adultery Novel In and Out of Russia. (C) Arts & Letters Sector. All Classes. Platt. All readings and lectures in English.

The course examines a series of 19C and 20C novels (and a few short stories) about adultery, film adaptations of several of these novels, and several original adultery films in their own right. Our reading will teach us about novelistic traditions of the period in question, about the relationship of Russian literature to the European models to which it responded, as well as about adaptation and the implications of filmic vs. literary representation.

Course readings may include: Laclos' *Dangerous Liaisons*, Flaubert's *Madame Bovary*, Tolstoy's *Anna Karenina*, Milan Kundera's *The Unbearable Lightness of Being*, and other works. Films may include: Frears' *Dangerous Liaisons*, Vadim's *Dangerous Liaisons*, Nichols' *The Graduate*, Mikhalkov's *Dark Eyes*, and others. Students will apply various critical approaches in order to place adultery into its aesthetic, social and cultural context, including: sociological descriptions of modernity, Marxist examinations of family as a social and economic institution, Freudian/ Psychoanalytic interpretations of family life and transgressive sexuality, and Feminist work on the construction of gender.

SM 130. Russian Ghost Stories. (C) Vinitsky.

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. (CINE165, SLAV165) 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.

189. 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.

SM 193. (COML150, HIST149) War and its Representation in Russia, Europe and the US. (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 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.

The course will be conducted largely as a seminar. There will also be occasional lectures on specified topics (especially, on the historical groundwork necessary to understand our largely literary readings). A common place of critical discussions of war concerns the impossibility of the adequate representation of experience that in many ways defies understanding or even recall.

In this connection, we will be developing a vocabulary of aesthetic and psycho logical terms relevant to the task of reflecting the impossibilities of life and death in wartime. The goal of the course is to acquire knowledge of literary and cultural history in social and historical context, and to acquire critical skills for analysis of rhetorical and visual representations.

194. (MUSC194) Russian Music: Concert Hall to Dance Club. (M) Amico.

Russia's history has been one not only of violent wars and turbulent revolutions, but also one of a vibrant cultural creation. In this course we will examine Russian music from an ethnomusicological perspective, in relation to these historical, social and cultural contexts. Our studies will take us from the nineteenth century to the present, and from the elite music of the concert hall, to the various rural sites of music making, up to the contemporary urban dance club. Among the topics to be considered: the relationships between art music and movements in both literature and the visual arts; how music supports, subverts or simply "avoids" contributing to political life; how gender is performed in music; and how globalization, technological advances, and piracy change the ways music is created and used.

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. Vinitzky.

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/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?

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. Dostoevsky and His Legacy. (A) Vinitzky.

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. Tolstoy. (B) Vinitzky. 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 masterpiece *The War and Peace* (1863-68) a quintessence of both his artistic method and philosophical insights.

SM 203. (LAW 967) Legal Imagination: Criminals and Justice Across Literature. (M) Vinitzky. Ben Franklin Seminar.

This class will be taught for both SAS and Penn Law School students: 12 students from each side.

This seminar will focus on the legal, moral, religious, social, psychological, and political dimensions of crime, blame, shame, and punishment as discussed in great works of literature. The first part of the course will compare and contrast visions of justice in Eastern and Western Europe and emphasizes on divine versus human justice. The second part will move to the psychology of the individual person, the criminal. Part three of the course will focus on the state institutions of criminal justice.

Readings include Hawthorne's *Scarlet Letter*, Dickens' *Oliver Twist*, Tolstoy's *Resurrection*, Kafka's *The Trial*, and especially Dostoyevsky's *Crime and Punishment* and selection from *The Brothers Karamazov*.

SM 213. (COML213, RELS218) Saints and Devils in Russian Literature and Tradition. (M) Arts & Letters Sector. All Classes. Verkhohantsev.

This course is about Russian literature, which is populated with saints and devils, believers and religious rebels, holy men and sinners. In Russia, where peoples frame of mind had been formed by a mix of Eastern Orthodox Christianity and earlier folk 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 will examine Russian literature concerning the holy and the demonic as representations of good and evil, and we will learn about the historic trends that have filled Russia's national character with religious and supernatural spirit. In the course of this semester we will talk about ancient cultural traditions, remarkable works of art and the great artists who created them. All readings and films are in English. Our primary focus will be on works by Pushkin, Gogol, Lermontov, Dostoevsky, Chekhov, Tolstoy, and Bulgakov.

SM 220. (COML220, HIST220) From the Other Shore: 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.

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 historical 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) Verkhohantsev.

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. (CINE275) 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) Shardakova. 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) Shardakova. 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. Literacy in Russian for Russian Speakers I. (C) Korshunova. 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. Literacy in Russian for Russian Speakers II. (B) Korshunova.

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) Verkholtantsev.

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.

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 Kharmis.

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) Verkholtantsev.

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. (CINE365) 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. (CINE430) 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. (CINE432, 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 mythopoetic 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.

436. (CINE436) Film and Art of the Russian Revolution. (M) Todorov. Forms a part of the LPS Masters in Liberal Arts Program.

This course examines cutting edge trends and artistic experimentation in Russian film, theater, visual arts, and architecture in the context of the October Revolution (1917). Themes include: inventing the Kino-eye; reflexology, bio-mechanics and performance theory; staging the revolution; proletarian culture and sexuality; social engineering of the new man; bodies and machines; cosmism, rocketry and the emergence of the Soviet outer-space doctrine; city planning and constructivist design of the new social condensers; Lenin's mummy and the communist psyche; the Mausoleum and symbolic system of the Red Square.

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)

Korshunova. 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)

Verkholtantsev. 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) Korshunova. 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)

Korshunova. 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) Haunted House: Russian Realism in European Context. (M) Vinitsky.

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.

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SM 785. (ARTH785, COML785) Seminar in 20th Century Art: Russian Avant-Garde: Text, Image, Object, Action. (C) Christine Poggi, Kevin Platt.

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.

164. (CINE164, RUSS164) Russian and East European Film from the October Revolution to World War II. (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. (CINE165, 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 wave. Major filmmakers in discussion include Kalatozov, Tarkovsky, Wajda, Polanski, Forman, Mentzel, Sabo, Kusturitsa, Konchalovsky, Mikhalkov and others.

220. (HIST218) Poets, Priests and Politicians: An Intellectual History of Modern Ukraine. (M) Rudnytsky.

The course is a one-semester survey of literary, philosophical, political and socio-religious issues in Ukraine from the end of the 18th to the beginning of the 21st century. Its goal is to introduce students to an understanding of individual and collective thought in Ukrainian history and enable them to determine Ukraine's role in the making of contemporary Europe. Interdisciplinary in nature and comparative in methodology, the survey focuses on the principal works of imaginative literature and philosophical writings.

Following a theoretical and historical introduction and placing the subject matter within the European context, selected works of Ukrainian classicism and romanticism will be analyzed and interpreted as roots of modern Ukrainian identity. An attempt will be made to point out the elective affinities of Ukrainian intellectuals with their European counterparts and to demonstrate the organic unity of Ukraine's culture with that of Western Europe. The survey will conclude with an analysis of post-modernistic intellectual currents and intellectual life in Ukraine following the Orange Revolution of 2004/05.

399. Independent Study. (C) May be repeated for credit.

499. Independent Study. (C)

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) Shradakova.

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. (CINE392, COML391) Topics in Film Studies. (M)

501. Elementary Polish I. (D)

Wolski-Moskoff. 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 I 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 I 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. (SLAV103) 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)

399. Supervised Work in a Language of Eastern Europe. (M)

Hours and credits on an individual basis.

UNIVERSITY COURSE REGISTER

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 POLICY & PRACTICE (SW) {SWRK}

SOCIAL WORK

601. History and Philosophy of Social Work and Social Welfare. (A) 1 c.u. May be taken by undergraduate juniors and seniors. Departmental permission is required.

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 I. (A) May be taken by undergraduate juniors and seniors. Departmental permission required.

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) May be taken by undergraduate seniors in sub-matriculation program with permission of the department.

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.

611. Contemporary Social Policy. (B) Prerequisite(s): SWRK601.

This course introduces students to the analysis of contemporary social welfare policy. Several social welfare policy areas, including social inequality, poverty, health care, and housing are examined. Each topic area is also used to illustrate a component of the policy analysis process, including the analysis of ideologies and values as they shape policy formulation, the process by which legislation is proposed and enacted, the roles of advocacy and lobbying organizations, and the challenges of policy implementation and evaluation.

612. Group, Organization, and Communities in the Social Environment. (B) Prerequisite(s): SWRK602.

The focus of this course is on developing an understanding of how human behavior occurs to the context of group, organizational, and community relations. The dynamic nature of how groups, organizations and communities come into being, are nourished and change over time and impact upon client systems will be fully explored.

613. Understanding Social Change and Issues of Race and Gender. (B) Prerequisite(s): SWRK603.

This course builds upon the foundation of historical, psychological, sociological, economic, political, and personal knowledge about institutionalized forms of racism and discrimination developed in SWRK603, 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.

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. Integrative Seminar. (L)

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) MSW Elective.

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. (CPLN559, 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.

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. May be taken by undergraduate juniors and seniors with departmental permission.

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.

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

728. Ethnicity in Contemporary America. (M) MSW Elective.

This course focuses on major ethnic groups in America as a way of exploring cultural differences, ethnic retention, and the nature of pluralism in our society. Students examine family patterns, religion, educational institutions and other factors that transmit and maintain cultural and ethnic differences. Students define and develop the implications of these social factors for use in social work practice. MSW 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

731. Sociology of the American Jewish Community. (M) Prerequisite(s): Must be enrolled in Joint MSW/Jewish Communal Studies Program. Elective for Certificate in Jewish Communal Studies program.

This course is an overview of the sociology of the American Jewish Community in the context of the social history of American Jewry. Students will become familiar with the demography and social characteristics of the community as well as its social structure and institutions. The Jewish family, synagogue and communal organizations will be seen through the sociological perspective which will enhance and broaden the analysis of the familiar. Conflict between institutions and patterns of innovation will also be explored along with the educational structures necessary for the continuity of minority identity and leadership into the next generation.

732. The Jewish Family: Institution in Transition. (M) Prerequisite(s): Must be enrolled in joint MSW/Jewish Communal Studies Program. Elective for Certificate in Jewish Communal Studies Program.

This course is designed to give a sociological overview of the contemporary Jewish family in the context of Jewish history and tradition. The traditional Jewish family, the role of the single-parent family, dual-career families, the impact of divorce, and devising a policy to support Jewish family life within the current institutional structures and alternative ones are considered.

733. Catholic Social Thought and the American Catholic. (M) Prerequisite(s): Must be enrolled in Catholic Social Ministry program. Elective for MSW/Catholic Social Ministry Certificate Program.

This course examines the increasing gap between the nation's and the Church's challenge to American Catholics. Racial intolerance and poverty in our own country

are considered. Peace and disarmament teaching are examined for their implications for spiritual living, teaching, and preaching.

734. History of the Catholic Church in America. (M) Prerequisite(s): Must be enrolled in Catholic Social Ministry program. Elective for MSW/Catholic Social Ministry Certificate Program.

This course provides a historical survey of the Catholic Church in the United States from the beginning to the present, with special emphasis on the church in Philadelphia, PA.

735. Social and Economic Development. (C) Macro Practice Elective.

Social Policy reflects the dominant political and economic ideologies of societies at distinctive moments in their history. This course focuses primarily on the evolving nature of the socio-economic policy development process (SED) in the United States and in "low-income" and "developing" nations. Drawing on their current practice experiences, the course will help students identify the unique contributions made by social workers, social welfare and social policy specialists in strengthening the policy frameworks of both their country of origin and those of selected developing nations. Particular attention will be given to the range of SED policy "actors" and the dominant sectors of SED activity in which development-oriented social work practice occurs (e.g. housing, health care, income security, community development, etc.). The contribution of SED policy in promoting social and economic justice, particularly among historically vulnerable population groups, will receive special attention. Given the course's emphasis on comparative policy analysis, students will be expected to demonstrate at least beginning skill in the use of comparative research methods in analyzing an international social work, social welfare, or social policy dilemma of particular interest to them. Macro Practice Elective

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

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 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

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. 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): SWRK715. 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.

745. Policy Research. (M)

Prerequisite(s): SWRK715. Research Option.

This course introduces the process of policy analysis, stressing the joint use of qualitative and quantitative methods. Targeted to both the social work activist and the social worker within the agency, the course first explores how and why policy analyses are used and then introduces specific techniques. Methods will be illustrated through examples of policy research. These examples improve students' skills in understanding how policy analyses may directly impact who they serve and the resources available to those they serve. Assignments develop research skills while allowing students to use methods most suited to their interests. Specific techniques discussed include interviewing, observation, descriptive data analysis, researching the legislative process, cost-benefit analysis, and simple quantitative models. Combining techniques allows for more complete discussions of process evaluation, social experiments, and discriminating between alternative policies.

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. Women's Voices in Social Work and Social Welfare. (M) MSW Elective.

This course offers students a feminist lens through which to think about and examine constructions of gender that affect social work practice and social welfare policies. The course enhances students' knowledge of women's contributions to the field of social work, feminist theories, women's "ways of knowing," and feminist practice approaches as they apply to selected arenas of social work. Special attention is given to economic, psychological, and social risks faced by women and ways in which social workers can better understand, validate, and empower women clients and transform social services to promote human

well-being. The course is predicated on the idea that women are diverse and that gender intersects with other "isms," including racism, ageism, heterosexism, ableism, and classism.

749. Welfare and Economics. (M) MSW ELECTIVE.

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 following goals: the achievement of increased equality in the distribution of income and power, 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. MSW Elective

750. Comparative Studies in Social Welfare. (B) Prerequisite(s): SWRK 715.

Social Work and social welfare are major institutional vehicles through which societies assure a minimal level of living for all their citizens. The content of this course focuses on achieving a fuller understanding of the social, political, and economic dynamics of contemporary welfare development in the United States and other countries. The multi-faceted contributions of social work, the social services, and social welfare to national and international social development within rich and poor countries will receive special attention. Students will be expected to demonstrate beginning skill in the use of comparative methods to analyze cross-national welfare dilemmas of particular interest to them.

752. Welfare Politics. (M)

This course examines the impact of the political environment on the formulation and implementation of social welfare policy. It examines the structure of the American federal system: the division of power between federal, state and local governments and among executive, legislative, and judicial branches. Particular attention will be paid to the role of special-interest groups in achieving social welfare goals within the system. In addition, the role of protest and insurgent political movements in transforming the welfare system is addressed. MSW Elective

754. Fiscal Management and Management Information Systems for Nonprofit Organizations. (M) Macro Practice Elective.

Effective fiscal management and the development of integrated management information systems are two of the

leadership responsibilities shared by senior administrators of all not-for-profit organizations. Building on the content of both the foundational (including SWRK715) and advanced macro practice curricula (SWRK708 & SWRK718), this course will introduce students to the stewardship responsibilities incumbent on administrators of not-for-profit organizations in allocating and accounting for the use of all fiscal, human and other resources under their control. Special emphasis in this course will be placed on identifying principles of financial planning and accountability, the development of effective electronic systems for tracking and monitoring the use of financial resources, the integration of agency-specific financial information into larger reporting and accountability systems, and the application of these principles to enhancing organizational effectiveness and efficiency. Attention also will be given to identifying and resolving ethical dilemmas confronted by organizational managers as they seek to optimize use of the fiscal and other resources for which they are responsible. Macro Practice Elective

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

765. Social Work Leadership and Management. (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

766. Organizational Politics and the Dynamics of Change. (M) MSW Elective.

This course explores how and when organizational change is possible. It is based on two bodies of thought: (1) the behavior of individuals within groups and the behavior of groups within organizations, and (2) the ways conflicts emerge and develop a "life of their own" within human systems. The dilemmas associated with changing human systems are investigated using a paradoxical lens, spotlighting counterintuitive ideas such as "to change, preserve the status quo," and "to grow, cutback." The effectiveness of the change strategies adopted by the "powerful," "the powerless," and those caught "in the middle" is examined. MSW 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.

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.

773. Mental Health Challenges in Childhood and Adolescence. (C) Free 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 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. 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. 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

776. Community and Economic Development. (M) Macro Practice Elective.

This course examines the evolution, practice, and strategies of community economic development (CED) in the United States. The definition of and the history behind community economic development and its relationship to traditional economic development and community organizing are explored. Critical analyses of CED and examination of development strategies that seek to respond to these critiques are considered. The course focuses on the identification and development of skills employed in community economic development. Strategies for community economic development including housing development and rehabilitation, microenterprises and small business development, job training and workforce development, and promotion of the arts are examined. Macro Practice Elective

777. Cognitive Behavioral Treatment with Children and Adults. (C) 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

781. Qualitative Research. (B)

Prerequisite(s): SWRK715. 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.

782. Christian Social Ethics. (M)

Prerequisite(s): Elective/Certificate in Lutheran or Christian Social Ministry course. Must be enrolled in Certificate program.

This course examines the church's historic teachings and current understanding of sexuality, marriage, and family, and of controversial issues in this area through the use of theology, fiction, and films.

783. Alienation and Reconciliation. (M)

Prerequisite(s): Elective/Certificate in Lutheran or Christian Social Ministry course.

This course examines alienation from a theological perspective and then shifts focus to a sociological look at how alienation operates in society, particularly around the dynamics of economics, color, and gender.

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. Poverty, Welfare, and Work. (A) 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 economic, racial and cultural inequalities and, more broadly,

in terms of their meaning-making and "claims-making" aims and rhetoric.

At base, this course examines occupational mobility in America within the broad framework of capitalism, democracy, race, ethnicity, and traditional gender roles, exploring the "life-stage mismatch" of much entry-level employment in the early 21st century. The course draws on research and theory from occupational social work, sociology and economic sociology to explore generative roles for social work professionals in the workplace, in welfare and workforce development organizations, and in the policy arena.

798. (AFRC528, AFRC798, LALS798, NURS640) Advanced Topics. (C)

Titles and Topics vary. See department website for descriptions: <http://www.sp2.upenn.edu/programs/msw/courses.html>

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 will cover a number of new therapeutic approaches and the theories and evidence that support them. For heuristic purposes, the theories considered will be divided between "Theories of Explanation," which help us to understand our clients better, and "Theories of Intervention," which help us to understand the various helping processes. Particular attention will be paid to the processes of how intervention theories and models are developed. Some specific examples, such as cognitive-behavioral, dialectical behavior therapy, existential and other approaches will be examined. The specific orientations to intervention will also, as much as possible, be influenced by student choices and input.

L/L 898. (MSSP897) Advanced Topics.

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.

NONPROFIT/NGO LEADERSHIP (NPLD)

701. Leadership in the Nonprofit World.

785. Group Dynamics and Organizational Politics. (A)

Prerequisite(s): Enrollment in NPLD program; permission required for other students. Course offered in the fall term.

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. Managing and Governing Nonprofit Organizations. (A)

Prerequisite(s): Enrolled in NPLD program or permission of instructor.

This course provides a systematic introduction to the most pressing issues of practice facing nonprofit organizations today. The focus is on studying and applying management tools and frameworks to the challenges faced by real world nonprofit organizations, with the goal of giving students the skills they need to lead effectively in this sector. Among the topics covered are mission definition and management, board governance, collaboration and joint ventures, accountability and stakeholder relations, performance measurement, mobilizing resources, staff recruitment and

management, and volunteer engagement. Students are asked to think about the challenges of running nonprofit organizations in a comparative context, with cases drawn from both the U.S. and abroad. Active participation in case discussion and in-depth application of the tools studied in class to existing nonprofit organizations are essential elements of this course.

The emphasis of this course is on acquiring operational skills through the use of cases of real nonprofit leaders in combination with readings that build core management competencies. The course is designed both for those who may have years of experience managing other people and programs but who want to develop a more systematic mastery of this challenge, as well as for students who are newer to the sector but who hope someday to lead a nonprofit organization.

787. Leadership for the New Economy. (A) Prerequisite(s): Enrolled in NPLD program or permission of instructor.

This fall semester 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.

788. Envisioning and Realizing Possibility. (A) Prerequisite(s): Enrolled in NPLD program or permission of instructor.

This fall semester course, which addresses strategic planning and resource development for civil society organizations,

is dedicated to helping participants become sophisticated strategic thinkers. Resilient organizations engage in a continuous process of self-review and refocusing. This process, referred to as "strategic planning," requires the active participation of a broad range of "stakeholders" who, in their work together, seek to realign the organization's goals, structures, programs and funding patterns so they can be responsive to the changing needs of their service populations and key constituencies. Building on the content of the program's other core courses, *Envisioning and Realizing Possibilities* is designed to strengthen students' leadership competencies, in light of the need to maintain an organization's ability to be innovative, steady and flexible.

790. Accounting for Asset Development. (A) Prerequisite(s): Enrolled in NPLD program or permission of instructor.

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.

SM 792. Transformational Reasoning. (B) Klein. Prerequisite(s): Enrolled in NPLD program or permission of instructor.

This interdisciplinary course is designed for Penn graduate students who are interested in studying leadership, cross-sector collaboration, and social and economic wealth creation through substantial collaborative work in small groups and seminar-style discussions as a learning community. Students who plan on working in the for-profit, nonprofit, government, education, legal, and medical fields are welcome. Using a past/present/future motif, the course will explore the design and impact of collaborative practices through the study of social movements, organizational partnerships, and new organizational forms (i.e. For Benefit Corporations, social enterprises, etc.). Course deliverables include active participation in and outside of class, course readings, and group and individual papers.

SM 793. New Leadership Frontier. (B) Klein.

This interdisciplinary course is designed for Penn graduate students who are interested in studying leadership, cross-sector collaboration, and social and economic wealth creation through substantial collaborative work in small groups and seminar-style discussions as a learning community. Students who plan on working in the for-profit, nonprofit, government, education, legal, and medical fields are welcome. Using a past/present/future motif, the course will explore the design and impact of collaborative practices through the study of social movements, organizational partnerships, and new organizational forms (i.e. For Benefit Corporations, social enterprises, etc.). Course deliverables include active participation in and outside of class, course readings, and group and individual papers.

SM 795. (MSSP795) Applied Leadership Workshop Series A. (A) Prerequisite(s): Permission of Director of NPL program needed to register for course.

This spring semester course consists of three (3) modules, each structured as a two-day (Friday-Saturday) workshop. This is a core elective within Penn's Nonprofit/NGO Leadership program and is open to students from all graduate programs. The workshops, taught by faculty from around the University on various contemporary themes, provide students with leadership aspirations or opportunities for hands-on practical skill development. In the past, workshop topics have included a workshop

on social entrepreneurship, microfinance, nonprofit law, and other current topics that transcend individual interest and are transferable to graduate students from the School of Social Policy & Practice as well as the other graduate and professional schools at the University of Pennsylvania.

SM 796. (MSSP796) Applied Leadership Workshop Series B. (B)

This spring semester course consists of three (3) modules, each structured as a two-day (Friday-Saturday) workshop. This is a core elective within Penn's Nonprofit/NGO Leadership program and is open to students from all graduate programs. The workshops, taught by faculty from around the University on various contemporary themes, provide students with leadership aspirations or opportunities for hands-on practical skill development. In the past, workshop topics have included a workshop on governance, ethics, fundraising and resources development, and negotiations.

900. Field Study. Non-credit course.

Field study is intended to provide the doctoral student with an opportunity to explore the implications of practice for further theory development in the profession. Each field study program is developed in accordance with the student's track identification and his or her individual needs. Concurrently with field study, the student takes a track process seminar. One term as arranged.

SOCIAL WELFARE (PhD)

803. History and Philosophy of Social Welfare.

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. Introduction to 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 semesters 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)

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.

903. Integrative Seminar I. (B)

Prerequisite(s): Completion of all core courses.

The goal of this seminar is to provide a forum for testing new ideas within a scholarly and professional framework in order to assist with the development of a dissertation proposal. Specific objectives include: 1) identifying a research area of interest, 2) increased skill in developing a literature search, 3) developing a capacity to create operational hypotheses or questions, 4) developing a research design, and 5) designing a data analysis and interpretation plan.

904. Integrative Seminar II.

Prerequisite(s): Completion of all core courses.

The goal of this two-semester course is to provide a forum for testing new ideas within a scholarly and professional framework in order to assist with the development of a dissertation proposal. Specific objectives include 1) identifying a research area of interest. 2) increased skill in conducting a literature search, 3) developing a capacity to create operational hypotheses or questions, 4) developing a research design, and 5) designing a data analysis and interpretation plan.

966. The Politics of Welfare.

This course examines the impact of the political environment on the formulation and implementation of social welfare policy. It examines the structure of the American federal system--the division of power between federal, state, and local governments and between executive, legislative, and judicial branches. Particular attention will be paid to the role of special-interest groups in achieving social welfare goals within the system. In addition, the role of protest and insurgent political movements in transforming the welfare system will be addressed.

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, 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

MASTERS IN SOCIAL POLICY (MSSP)

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.

630. Quantitative Reasoning. (A)

Prerequisite(s): Enrolled in MSSP program or permission of instructor.

Quantitative Reasoning is designed to provide students with a broad range of quantitative methods and applications. The course provides a conceptual understanding of inferential statistics including probability theory, confidence intervals, and hypothesis testing. Topics covered are: operationalization and measurement of variables; exploration and categorization of quantitative data; generalization of research findings from samples to populations; and statistical data processing and analysis. Students will have hands-on experience in applying quantitative reasoning to address social policy issues and program evaluation using existing datasets. Students will have the opportunity to present data in different formats and to critique the application of quantitative data in technical reports and professional journals.

631. The Courts 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 structure of policy making in the U.S. in particular policy made via the judicial branch of government. The course will focus on a concrete understanding of the elements of case law including legal research and writing, judicial jurisdiction and forms of authority, the organizational flow of federal and state courts and other legal concepts. This course will help students to understand and interpret case

law using a social problem analysis framework which critically evaluates the social and cultural contexts of such law. Students will also learn strategies to effect social policy change on the judicial side, including writing legal briefs, legal advocacy, and case vs. class action law suits.

SM 632. Capstone Seminar I and II. (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.

668. Economic and Financial Foundations for Social Policy. (A)

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.

SM 795. (NPLD795) Non-Profit Leadership.**L/L 897. (SWRK897) 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.

**SOCIOLOGY
(AS) {SOCl}**

L/R 001. (AFRC002) Introduction to Sociology. (C) Society Sector. All classes. Jacobs, Lareau, Zuberi.

Sociology provides a unique way to look at human behavior and social interaction. Sociology is the systematic study of the groups and societies in which people live. In this introductory course, we analyze how social structures and cultures are created, maintained, and changed, and how they affect lives of individuals. In this course, we will reconsider our taken for granted world and examine what theory and research can tell us about our social world.

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 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.

This introduction to the sociology of the family explores historical, economic, and cultural changes that have shaped the past

and present form of the American kinship system. It will also compare demographic and social trends and consequences of the family patterns across societies, providing perspective on differences and similarities between the U.S. family system and other nations. Students will have an opportunity to engage in research on topics of special interest.

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. Flippin, 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.

The American Dream highlights opportunity for individuals to achieve success based on their own ability and initiative. How well does our society live up to this ideal? Who gets ahead, and who falls behind? Topics include factors that affect life chances in contemporary society: education, social class, race, ethnicity and gender.

SM 011. (AFRC011, URBS112) Urban Sociology. (M) Flippin.

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 sets it in historical perspective. It applies the concepts of 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 actual processes but about the growing awareness of them, and the consequence of this awareness. In answering these questions, we distinguish between active campaigns to

cover the world(e.g. Christian and Muslim proselytism, opening up markets,democratization) and the unplanned diffusion of new ways of organizing trade, capital flows, tourism and the Internet. The body of the course will deal with particular dimensions of globalization, reviewing both the early and recent history of these processes. The overall approach will be 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 points of view. It seeks to develop a concept-based understanding the various 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 covered will include: What is Afro-American Studies?; The History Before 1492; Creating the African Diaspora After 1500; The Challenge of Freedom; Race and Class in the 20th Century; From Black Studies to Africana Studies: The Future of Afro-American Studies.

033. (STSC003) Technology & Society. (C) Society Sector. All classes. Ensmenger, Hersch, Tresch.

"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.

SM 041. (AFRC041, EALC014, GSWS041, URBS010) Topics in Sociology. (D) 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.

L/R 100. (HSOC100) Introduction to Sociological Research. (C) Gibson, Harknett, Koppel, Park, Smith.

As a science, sociology uses various tools to establish knowledge about the social world, as one step in the process of producing explanatory (and ideally, predictive) theory. The purpose of this course is to introduce students to different sociological methods, including survey research and associated quantitative/statistical analysis, interviewing, ethnography, historical-comparative and archival research, experimentation and computer simulation. We will review basic mechanics for applying these methods, and discuss the assumptions behind each and the kind of insight each yields. The class is required of sociology majors, and satisfies the College quantitative data analysis requirement.

L/R 101. (HSOC102) Bioethics. (C) Bosk, Moreno.

Bioethics is intended to introduce students to the complex issues that confront medicine and biotechnology in this time of rapid change. The first part of the course will be devoted to an overview of the standard principles of academic bioethics. We will then consider several clinical topics to which the principles may be applied, including neonatal medicine, death and dying, abortion, and the ethics of human experiments. The last part of the course will address certain "cutting edge" issues including genetics, cloning, stem cells, biodefense, and neuroscience in relation to national security. These subjects will be addressed using the tools and methods of history, sociology, philosophy and law.

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.

104. (GSWS104) Sociology of Sex: Comparative Study. (M) Collins.

Social scientists have argued that sexuality is not an unchanging biological reality or universal natural force, but a cultural construct, shaped by economical, social, and political processes and therefore, like society itself, historical, that is, variable in both time and space. This seminar follows this approach by exploring cultural construction of sexuality as it evolved from Greek antiquity to contemporary U.S.A., and its relationship to gender, class, political hierarchies, religion, ideology, and science. How the meanings of sexuality, codes of sexual regulation and sexual politics have varied over time with changing circumstances?

111. (HSOC111) 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.

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. (HSOC118) 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. (SOCI525) 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.

126. Contemporary Sociological Theory. (C) Collins, Gibson.

A sociological theory is a verbal (but sometimes also mathematical) argument about core social processes underlying the apparently irreducible variety of social life. This course will review theoretical perspectives developed after the "classical" period of Durkheim, Weber, and Marx, and particularly since WWII. Theories to be covered include: micro-sociological perspectives of phenomenology, symbolic interactionism, and neo-Durkheimian interaction ritual theory; social behaviorism, exchange theory, and rational choice theory; neo-Marxian perspectives on power, conflict, and class; accounts of modernity

and post-modernity; and the systems theories of Parsons and Luhmann. Recurring themes will include the micro-macro connection, the relationship between subjectivity and behavior, and the structure-agency problem. The course satisfies the theory requirement for sociology majors.

128. Introduction to Demographic Methods. (C) Elo, Hannum.

This course provides an introduction to basic demographic concepts, data, indicators, and techniques. The course emphasizes hands-on applications of these 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 population composition, and how to apply these measures to study demographic structure and change in 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. Recommended for sophomores, juniors, and seniors.

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 the media and popular culture in society, with a particular emphasis on the power of the entertainment industries, the relationship between cultural consumption and status, and the social organization of leisure activities from sports to shopping. Specific course topics include the globalization of branding and popular culture, the rise of aesthetics and style in everyday life, the importance of social networks in the diffusion of fads, fashions, and mass media; and the social effects of new media technologies in the digital age.

SM 140. Social Conflict. (M) Collins.

Course will emphasize violent and other intense conflict. Micro-sociological observations of conflict and violence as it actually 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 and organized crime; terrorist and clandestine violence; school and workplace rampages. Also considered will be long-term and institutionalized cruelty, including: torture; ethnic cleansing and genocide; and multiple contexts of rape. Escalation and de-escalation of conflict.

L/R 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.

161. (STSC160) Information Age. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Ensmenger.

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--from telephones to computers to video games--as well as their larger social, economic and political context. To understand the roots of these ideas we look at the pre-history of the computer, at the idea of the "post industrial" or "information society," at parallels with earlier technologies and at broad currents in the development of American society.

199. Directed Readings and Research. (C) Various Faculty. Permission of Instructor needed.

Directed reading and research in areas of sociology not listed elsewhere in the undergraduate offerings of this department.

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 introduces students to the theory and practice of survey research. Students will learn about questionnaire design and formatting; sample design and selection; interviewing techniques; data base design and data entry; and elementary data analysis and report preparation. These objectives will be achieved through student involvement in the design of a sample of the connection between migration and health. We will also examine and discuss general sample surveys widely used in the social and biomedical sciences. This course will address three fundamental issues in sample survey design: validity, reliability, and representativeness. In addition, this course will enhance students' analytical skills and prepare them for conducting quantitative analyses.

SM 222. Field Methods of Sociological Research. (M) Bosk, Koppel, Lareau.

This class is intended as an introduction to the field methods of sociological research, with a focus on ethnographic observation and interviewing. The beginning of the course will emphasize the history and current status of these methods in the discipline of sociology, while at the same time preparing students for their own field studies. Students will conduct a piece of original research as part of the course, from data collection through analysis and written results. Along the way, we will discuss issues such as the social role of the field researcher, the ethics of field research, and the strengths and limitations of field methods.

SM 230. (AFRC230, ANTH232, EALC083, PSYC298, SOCI530) Special Topics in Sociology. (C) Staff.

Topics vary from semester to semester. Courses which have been offered in the past have included: Social Issues in Contemporary Korea; Globalization, Development & Adolescence in East Asia. For Fall 2011 - course offered as CwiC - When Disaster Strikes: the Fault of Humanitarian Aid.

SM 231. (ASAM201, GSWS231, JWST236) Special Topics in Sociology. (M) Staff.

Topic vary from semester to semester. Courses which have been offered in the past have included: Persp. on American Poverty, Immigrant Urban Labor in the U.S.

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, the laws of the United States and other countries as well as international law, will be studied. Throughout the course, discussions will include legal controversies relevant to social change such as civil liberties, gender and the law, and issues of State-Building. A comparative framework will be used in the analysis of this interdependent relationship between law 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, and Their 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 develops. Specific topics to be discussed include the factors that make a region competitive, the city's changing role in the region, evolving regional housing markets, and the impacts of the recent global financial crisis on American markets, regions, institutions, and neighborhoods.

SM 260. (STSC260) Cyberculture. (M) Ensmenge, Hersch.

Free speech, free software, MOOS, MUDs, anime and cyberpunk. All of these are elements of a broad set of social, technical and political phenomena generally associated with the emergence of a nascent "cyberculture". In this seminar we explore the ways in which recent developments in information technology -- the computer and the Internet in particular -- related to changing contemporary notions of community, identity, property and gender. By looking at an eclectic collection of popular and scholarly resources including film, fiction and the World Wide Web, we will situate the development of cyberculture in the larger history of the complex relationship between technology and Western society.

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. 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. 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.

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.

273. (HSOC273) Law, Medicine and Public Policy. (C) Bosk.

First the course will develop a perspective for viewing social problems drawn largely on my own work as well as that of Gusfeldt and Edelman. Next we will explore the domains to which a Physician's expertise is limited using Weber, Rosenberg and others. We will then develop a perspective from anthropological and sociological literature on the courts as public arenas for articulating Durkheimian collective conscience. All of this theory building is in the first half of the seminar. The second half of the course will involve an intensive case study of a few dilemmas which have wended their way through the courts. I intend to look at "Baby Doe Regulations" and the Intensive Care Nursery; the problem of the cessation of life-supporting treatment; the legitimacy of mass screening - be it for genetic defects or substance abuse; and the propriety of surrogate motherhood.

275. (HSOC275) Medical Sociology. (C) Bosk, Schnitter.

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) Schnitter.

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, SOCI580) 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. (AFRC300, ASAM300, NURS261) Senior Research 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.

301. Independent Study in Major Concentration. (C) Staff.

Permission of instructor needed.

SM 330. (AFRC387, ITAL300) Special Topics. (M)**SM 340. (AFRC387) Special Topics AFRC Stud. (M)****SM 380. (CRIM280) Neighborhood Dynamics of Crime. (B) MacDonald.**

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 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 on Experiments in Restorative Justice. (C) Angel.

This seminar focuses on examining data from Penn's Jerry Lee Program of Randomized Controlled Trials in Restorative Justice, the largest program of field experiments in the history of criminology. Key questions to be answered by the research program include the effects of restorative conferences on the future crime rates of offenders and victims, on the mental health and medical condition of both, and on the changes over time in these dimensions of the life course of both victims and offenders.

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) Sugrue.

This course provides an interdisciplinary introduction to various perspectives and philosophies that have dominated the discourse on urban poverty throughout history. The course is primarily concerned with the ways in which historical, cultural, political, racial, social, 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 knowledge systems and their respective implications in terms of the questions of what can be known about urban poverty in the contexts of policy circles, academic literature, and the broader social imaginary. We will critically analyze a wide body of literature seeking to theorize urban poverty, ranging from sociological, anthropological/ethnographic, geographical, Marxist, historical, social welfare, and cultural analyses. Primacy will be granted to critical analysis of course readings, particularly with regard to the ways in which various knowledge systems - or "regimes of truth" - create, sustain, and constrict meaning in reference to urban poverty.

SM 425. (GSWS431) Women And Political Activism. (M) Leidner.

This seminar will explore the conditions under which women become politically active and the relevance of gender to forms of activism, organizational practices, and choice of issues. Using contemporary and historical case studies, we will examine women's activism in feminist and anti-feminist movements and organizations; in single-sex organizations devoted to a broad range of goals; and in mixed-gender movements, including civil rights and trade unions.

SM 430. (AFRC630, COMM496, SOCI530, URBS403) Advanced Topics in Sociology. (M) Staff.

Upper level advance topics vary from semester to semester.

SM 431. (LALS431, LTAM431, SOC1131, SOCI531) 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 & Comparative Urban Development. (C) Hill.

Between 1950 and 2030, the percentage of the world's population that resides in cities is expected to double, growing from 30% to 60%. This arch of growth is particularly concentrated in the developing regions of the world, which were heavily urbanized by

the early 20th century due to processes of capitalist industrialization as well as colonial and imperial expansion. In fact, 95% of urban growth during the next generation will take place in the cities of the developing world. Given such predictions, it is no longer adequate to theorize globalization by focusing exclusively on the cities of the developed world. Urban scholars are increasingly calling for 'new geographies of theory' that relocate the center of globalization studies from the cities of Europe and North America. This course will develop a series of analytic frameworks that can be used to study global city/regions, both North and South, from a comparative perspective. These include the global city, neoliberalism, transnational urbanism, postcolonial urbanism, post-border cities and cosmopolitanism. Each of these frameworks represents alternative ways of thinking about global processes in urban settings, and opens the possibility of comparative analysis. In the second part of the course, we will apply these frameworks to recent work on cities in Latin America, Asia

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 437. (ANTH437, HSOC437) Cultural Models & Health. (C) Barg.

There is a great deal of variation among population groups in the incidence of and mortality from most major diseases. Biological and social factors can account for some of this variation. However, there is increasing evidence that behavior- and the cultural models that are linked to health behavior- play an important role too. Cognitive anthropology is the study of how people in social groups conceive of objects and events in their world. It provides a framework for understanding how members of different groups categorize illness and treatment. It also helps to explain why risk perception, helpseeking behavior, and decision making styles vary to the extent they do. This seminar will explore the

history of cognitive anthropology, schema theory, connectionism, the role of cultural models, and factors affecting health decision making. Methods for identifying cultural models will be discussed and practiced. Implications for health communication will be discussed.

SM 453. (CPLN545, 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) Staff.

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 481. (COMM481) Social Networks. (M) Hampton.

Social networks analysis is the study of the patterns of social relations. It has applications in the study of friendship, social support, Internet use, organizational behavior, mental and physical health, and the diffusion of information. This seminar takes a non-mathematical approach to the study of network theories and methods. It is an introduction to the fundamental concepts of social structure, including: network size, diversity, frequency of contact, tie duration, and tie strength. The course focuses on how network structure is related to everyday life, such as health, access to social support, and job attainment. Particular attention is given to the role of communication media in facilitating interpersonal connectivity (face to face, over the telephone, and over the Internet), and the role of information and communication technologies (i.e. the Internet) in social support.

SM 501. Contemporary Sociological Theory. (M) Collins, Gibson.

This course will survey the state of contemporary theory from 1945 to the present, using seminal theoretical works and empirical studies they have generated. Part I will focus on American theoretical traditions, including functionalism, symbolic interactionism, network theory and conflict theory. Part II will examine European theorists including Bourdieu, Foucault, Anthony Giddens, and Habermas. Additional sessions will examine post modernism, theories of globalization, and recent developments in anthropological theory.

SM 514. Medicine and the Body. (M) Sivin.

Until very recently no society's physicians, seeking to understand the contents of the living human body, could do better than construct a disciplined fantasy. The raw materials of this fantasy were what experts knew about the insides of cadavers, what people felt going on inside them and, equally important, each culture's notions of order and process in the world of Nature and in society. The results were remarkably diverse, as we learn not only from comparing the medicine of different times in the same culture. In each case we can reconstruct the relations between the lay imagination, medicine, cosmology, and values. We will draw on tools that many disciplines--from literary analysis to social theory to history of Chinese medicine--apply to the study of the body.

SM 515. (DEMG515) Family Research Workshop. (M) Staff.

This course is designed to provide acquaintances with relevant scholarship and current research for students engaged in empirical work on the sociology of the family, gender studies, and public policy research related to children, youth and families. The class will be devoted to helping students papers and thesis work in this area. Students should come to the class with a research topic in mind. Permission of Instructor Required.

517. 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 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. (AFRC528, EALC083, SOCI222, SOCI430) 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, Schnittker, 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, Schnittker, Smith. Prerequisite(s): SOCI 535 or permission of instructor.

A course on statistical methods for social scientists, applying the general linear model (GLM). Students learn the logic and assumptions underlying the GLM and complete exercises that apply linear modeling techniques using the Stata statistical package to "real-world" data. Issues covered include the logic of statistical modeling, efficient estimation (i.e. statistical precision), specification errors (i.e. what happens when you make incorrect assumptions about how the world works), analyzing group differences with discrete (qualitative) variables (e.g. looking at differences in social processes by gender, or race), representing social processes with multiple equations ("path analysis"), and nonlinear relationships in linear models.

SM 540. Introduction to Economic and Network Analysis. (M) Collins.

Economic sociology examines the production and exchange of goods and services from the viewpoint of the social relationships in which economic activities are embedded, the social conditions for economic change, and the effects of these arrangements upon social inequality and well-being. Topics include historical theories of capitalism; socialist economies and transitions; the global economy; institutions and cultures underpinning various kinds of market and nonmarket exchanges. Network analysis has been on the forefront of new models of how economic exchange is structured. This course surveys network theories of Harrison White, Burt, Zelizer and others, as well as related analyses of network effects upon careers, power, conflict, and social movements.

SM 541. (DEMG541, GSWS532) 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, 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 545. (HIST544) Historical Sociology. (M) Collins.

Some of the most important theoretical questions of the social sciences have been posed by scholars pursuing investigations at the intersections of sociology and history. How are these questions formulated and answered? How important is a consideration of the temporal nature of human actions and social structures and what are its consequences for our understanding of social life? How does the past "matter" to the present? The seminar addresses these questions and reviews methods and research designs of some of the most important works in historical sociology.

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 concepts and skills in ethnographic field research in the social sciences, including participant observation, interviewing, field documentation, and the scholarly presentation of qualitative data. Students will learn to apply these concepts and skills through an assigned set of field exercises, and will be expected to complete 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 the contemporary sociology.

SM 555. Pro-Seminar in Sociological Research. (A) Jacob, Kao, Leidner, Smith.

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 556. Pro-Seminar in Sociological Research II. (C) Collins, Grazian, Hannum, Park, Schnittker, Smith, Wilde.

This graduate seminar for first-year graduate students is a two-semester course. Soci 556 is a continuation of Soci 555 and treats general issues of theory and research in sociology and related social sciences. It continues to be organized around the theme of social stratification.

SM 559. Theories of Religious Behavior. (M) Wilde.

What role does religion play in society? Is religion and religiosity decreasing, increasing, or just changing? How does religion relate to other important institutions in society, such as politics, race, gender and sexuality? How can we understand variation in religious participation and belief? When, why and how does religious change happen? These are some of the questions we will be addressing this semester. The course begins with classical theories in the sociology of religion, and then turns to an overview of the current theories and empirical realities of religion in the U.S. today.

SM 561. (COML562) Sociology of Culture. (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 567. (URBS567) Urban Sociology. (M) Grazian.

This course will examine the urban structures and processes which characterize the social and cultural milieu of the contemporary American city. Specific course topics will include the social organization of local urban subcultures and neighborhood communities, the cultural consequences of gentrification and racial segregation, the reputation of cities in the public imagination, and the commodification of the urban landscape.

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 577. Professions and Society. (M) Jacobs.

This course will examine the role of the professions in contemporary society. The first third of the class will cover classic studies of professional autonomy, self-regulation and professional power. In the middle third we will read and discuss studies of the transformation of the professions over the last 30 years. The final third of the class will focus on issues of access to the professions by women and minorities, and individuals from working class and poor backgrounds.

Requirements: active participation in class, three memos and a term paper.

580. (EALC048, SOCI280) 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 583. (DEMG583, HSSC583) Sociology of Medicine. (M) Bosk.

Health and illness, and medical care, education, and research are examined in a social, cultural and cross-cultural perspective, with special attention to present-day American society. The course is developed around lectures and class discussion.

SM 591. Racial Justice and the Sociology of the Law I. (M) Staff.

A critical examination of the law in perpetuating and eradicating racial injustice. The semester covers the period from the inception and rise of slavery during the colonial period through the Civil War.

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) Hannum, Kao, Park.

This graduate seminar will introduce students to some of the key theoretical and empirical work in the sociology of education. We will focus around the question of stratification and how systems of schooling maintain or alleviate inequality. The class will examine classical approaches to schooling, schools as organizations, schools and their effects on social mobility, (class, race, and gender) stratification in achievement and attainment, tracking/ability grouping, theories and empirical work on social and cultural capital, school choice, and cross-national expansion of education.

SM 601. Contemporary Social Theory. (M) Collins, Gibson.

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.

An overview of the German, French and Anglophone traditions in sociological theory. The major focus will be on the works of Marx and Engels, Weber, Simmel, Durkheim, Mead, and on subsequent developments in these classic schools of theory and research.

SM 603. (DEMG707) Master's Research in Sociology. (C) Bosk, Grazian, Jacobs, 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) Kohler, Smith.

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, Kohler, 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.

SM 611. Structural Equation Models. (M) Allison. Prerequisite(s): SOCI 536 or permission of the instructor.

Part 1 covers linear models with multiple equations and measurement error. The emphasis will be on LISREL-type models with multiple indicators of latent variables. Topics include classical test theory, path analysis with unmeasured variables, introduction to matrix algebra, confirmatory factor analysis, and the analysis of covariance structures. Part 2 covers multilevel methods for longitudinal and clustered data. Topics include fixed-effects models, random effects and mixed effects and mixed models, GEE estimation, random coefficients models, and models for discrete data.

612. 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. 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, Soldo.

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, Guilott, Kohler, Parrado, Schnittker.

Population Processes I and II make up a two-course sequence designed to introduce students to the core areas of demography (fertility, mortality, population aging, and/or migration) and recent developments in the field. PPI is designed as a survey course to introduce students to a broad set of issues in health and mortality, and individual population aging. The course covers topics in demography and social perspectives on health and mortality in developed and developing countries and topics in population aging, such as global trends in disease, disability, and aging, biologic and social aspects of aging, and health inequalities at older ages. The course format consists of lectures and class discussions. The two course sequence is required of Ph.D. 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 634. (DEMG634) Population Processes II. (B) Flippen, Harknett, Kohler, Parrado, Smith.

Population Processes (PP) II make up a two-course sequence designed to introduce students to the core areas of demography (fertility, mortality, population aging and/or migration) and recent developments in the

field. PP II focuses on 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. In addition the course covers topics in family demography. The course format consists of lectures and class discussions. The two course sequence is required of Ph.D. 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.

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. 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. Prerequisite: at least one prior course on social stratification.

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 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

SM 667. Social Interaction. (M) Collins, Gibson.

The dynamics of interpersonal interaction, especially in face-to-face encounters over limited periods of time. Topics include: theory of interaction ritual deriving from Durkheim, Goffman and their contemporary followers; ethnomethodology and conversation analysis, micro-ethnographic studies of non-verbal behavior; sociology of emotions, including theories of Scheff, Katz, Kemper, Hochschild and Collins;

symbolic interactionist theory; task groups and decision-making; electronically mediated interaction; contemporary research on the social nature of mind, cognition, and the self; social networks; methodological choices in the study of interaction; and the relationship between micro and macro.

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) Staff.

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 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 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) Seminar in Demographic Research I. (C) Elo, Kohler.

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 Sociology and Demography.

SM 708. (DEMG708) Seminar: Demographic Research II. (C) Elo, Hannum, Harknett, Kohler.

A second semester of an intensive course in preparing a major independent research paper. This is a required course for second year demography students.

SM 731. (DEMG731) Advanced Demographic Methods. (M) Ewbank, Guillot. Prerequisite(s): SOCI 609 or permission of the instructor.

This course considers a variety of procedures for measuring and modeling demographic processes. These include increment/decrement tables, generalizations of stable population relations, two-sex models, and indirect estimation procedures.

SM 777. (AFRC777, DEMG777) Special Topics in Demography. (M) Staff.

Biodemography: Biodemography is a relatively new and interdisciplinary field that integrates theory and methods from the fields of demography, anthropology, sociology, evolutionary biology, molecular biology and population biology in order to understand demographic behaviors and outcomes. This course contains an introduction to the theory, methods, and literature of biodemographic research. It examines the biological and ecological mechanisms contributing to aging, mortality, fertility, and population growth and decline, and the life history implications of these patterns. The course focuses on modern human populations, but includes also examples from pre-historic and historic populations, as well as non-human model systems (e.g. non-human primates, fruit flies, nematode worms, etc.).

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 bequests? How can economic and sociological approaches be combined in explanatory

models of demography change? 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 in Third World 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 is 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 830. Race Exam. (C)

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}

Foundational Courses

001. (HIST089) Intro 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.

L/R 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.

003. (HIST086, RELS164) History, Culture, 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.

004. (COML005) 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. (MUSC165, 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.

SM 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 India's vernacular languages as well as in the modern world.

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.

SM 050. Religion and Politics in South Asia, 1000-2000. (C) Sreenivasan.

This course will examine the relationship between religion and state in South Asia from circa 1000 to 1800 C.E. The emphasis will be on the role of religion in governance, in political conflicts and in the cultures of ruling elites; we will explore these themes in conjunction with the history of religious reform movements in this period. We will review the rich historiography on religion and politics in South Asia and read primary sources in translation, to explore the politics of religion from the eleventh to the eighteenth centuries. No prior knowledge of South Asia is expected.

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 054. Material Culture of South Asia. (C) Gangulee.

India has been described as a palimpsest of cultures as well as a land of a million mutinies. Material bases of any culture rest on its ideas of itself, its innovations, what it produces and consumes, its ideas of social organization and political governance. In this course we shall examine the material bases of South Asian culture, its mode of production, consumption and distribution of surplus product and how over the last five thousand years, the ideas behind these modes have been put forward, contested and negotiated for acceptance. Some of these ideas have come from emigration and immigration, some from invasion and some have simply sprung up. We will begin by looking at the Indian materiality in language, rituals, spatial analyses of towns, weights and measures. We will go on to the rituals and materiality of the Indo-Aryans, the political thought that evolved, to the scientific thinking and technological innovations, the Grand Mughals, the European colonial period, Nehru's independent India, the liberalized economy of India in 1991 and end with the present.

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.

Recitation will not meet every week. Lecture sessions will be shortened those weeks that recitations are held.

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. (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.

122. (RELS162) Indian Epics. (C) Patil.

This course introduces students to the two great epics of classical India: the Ramayan and the Mahabharata. We will explore how these two works have historically informed India's culture and how it continues to influence it today.

124. (COML077, ENGL077) Literature and Empire. (C) Loomba.

Since the sixteenth century English has been, among other things, an imperial language, and ideas about empire and imperialism have shaped not only many of English literature's central texts but also the development of English literary study as a discipline. This course is an introduction to the way imperial contact and changing ideas about empire and decolonization have shaped literature in English from the sixteenth to the twentieth centuries. We will consider historical and cultural materials to offer contexts for literary production of texts from the sixteenth to the twentieth centuries. The course also will serve as a comprehensive introduction to the way

literary and cultural representations of Europe have been influenced by changing ideas about empire and imperialism. Different versions of the course will vary in the historical and cultural material they cover as they offer a context for literary production.

139. (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 survey the many religious traditions that we now call Hinduism. Covering over 3,000 years of history, we will examine points of contact between cultures and peoples to understand how Hinduism has been shaped, changed, and brought together over time. We will examine primary source readings such as in the Vedas, Upanishads, Epics (Ramayana and Mahabharata), Puranas, inscriptions, medieval devotional literature and modern reformists' works. Sculpture, temple architecture, and painting, coupled with videos of contemporary rituals will help us to understand the importance of visual culture in Hinduism, and illuminate the changes and continuities in practices over time. Concepts such as dharma, karma, and moksha, will be placed into the contexts of the lives Hindus have led throughout history, and aid in a critical examination of topics such as caste, gender, power, and nationalism.

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.

An examination of the fundamentals of Buddhist thought and practice. In addition to reading and discussing selected primary Buddhist sources (in English Translation), we shall review the history and development of Buddhism to its Indian origins through its spread to Southeast Asia, Central Asia, Tibet, China, Korea, and Japan. Primary sources and historical materials will be supplemented by some ethnographic readings dealing with the actualities of Buddhist life in contemporary Southeast and East Asia. This course provides basic background for more advanced courses on Buddhism.

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 postcolonial secular state's attempts to determine Islamic law.

146. (NELC184, RELS146) Islam in the Modern World. (B) Elias.

The purpose of the course is to achieve an understanding of events occurring in the Islamic world by studying how Muslims

view themselves and the world they live in. 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 will include religious, political and literary writings by important Muslim figures. Movements, events and central issues (e.g. the changing status of women and relations between the Islamic world and the West) will be examined in the context of modern nation states. Special attention will be paid to contesting forms of Islam in the late twentieth and early twenty-first centuries and to developments in Islam in the United States, both among converts and immigrants. One of the main objectives is to show that what appear to be similar movements in the Islamic world are, in fact, widely disparate in their origins and goals.

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.

166. (ANTH166) Democracy in India and South Asia. (C) Mitchell.

This course will examine the histories, actors, and practices that have shaped the world's largest democracy. What historical and socio-cultural forces have made Indian democracy unique in the modern world, and distinctive from other South Asian nations that have faced similar colonial history? What conditions have enabled some South Asian nations to embrace democracy and prevented others from doing so? Using primary and secondary historical sources and ethnographic studies of everyday political life in South Asia, this course will focus on political organizations, movements, individuals, and practices that have played a decisive role in establishing and uniquely shaping democracy in South Asian subcontinent. We will pay close attention to the role of individual leaders and charismatic figures, including key women

and minority leaders, and trace the development of "dynasties" within electoral politics. The course will also examine the history of public space as a forum for some of the distinctive practices that have most defined democracy in South Asia, including bandhs (strikes), rasta rokos (road closures), processions, and other non-violent and sometimes violent forms of action.

We will trace pre-colonial, colonial, and contemporary influences, and pay particular attention to ideological role of Gandhian principles, including ahimsa (non-violence) and satyagraha (passive resistance), in establishing popular forms of political practice that continue to be widely utilized in contemporary Indian and South Asian politics.

**169. (ANTH169, NELC189)
Transnational Islam and the Indian Ocean. (C)** Caron.

Histories of trade, political economy, mobility, and religious culture have been deeply intertwined across the entire Indian Ocean rim: from cross-generational networks of merchant-saints of Hadhramaut (Yemen) in the heart of Malaysia's dynamic economy, to African slaves ruling states in India, to pirates at the nexus of global and local economies and Islamism, to present-day migrant laborers in Dubai who send money home to Pakistan to construct mosques and madrasas. How have cross-regional movement and local culture interacted over time under the broad umbrella of "Islam", as various powers extended supremacy over different aspects of this arena since the early modern era? Through the study of this region, with an emphasis on different thematic linkages between the Middle East, East Africa, South Asia, and Southeast Asia, we will think critically about the place of individuals and localities in cross-regional social and cultural change broadly viewed through the lens of "Islam". At the same time we will think about the extent to which a focus on "Islam" is fruitful for analysis, and how it might obscure other interesting questions of either political economy or identity.

By the end of the course, students will also have a good understanding of the historical geography of the Indian Ocean region; the shifting nature of cross-regional interactions over time in that region; and the way this region contributes to continuing change in global political economy.

197. (HSOC107) Science, Technology & Medicine in Colonial India. (C) Mukherji.

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.

213. (CINE215, GSWS213, GSWS513, SAST513) 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 film both reflect and influence contemporary culture.

Screenings will be held.

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.

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.

SM 260. (HIST384, SAST560) Modern History of Afghanistan and Pakistan. (C) Caron.

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.

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 263. (RELS263, SAST664) India In the Traveller's Eye. (M) Staff.

This course is intended to introduce students to the motivations and experiences through which travelers have arrived at a knowledge of India, and thereby to interrogate the role of travel, trade, and exploration in the discovery and colonization of India. It is also designed to train students to read texts critically and to produce coherent arguments about them. The course is organized in five sections: (1) Ancient Pilgrims; (2) The World of the Indian Ocean; (3) Courtly Travelers; (4) Colonial Encounters; and (5) Real and Imagined Places. We will begin with ancient travelers such as the Greeks and Fa-Hsien, then look at the marvelous accounts of Arab sailors and merchants in the India and China Seas, medieval Islamic travelers and European accounts of voyages to the Indies. We will then examine the writings of colonial wanderers in search of the Indian picturesque. We will end with accounts of the rediscovery of real and imagined places, looking at some post-colonial encounters.

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 280. Rivals In a Rising Asia. (C) Gangulee.

Just the thought of almost 4 billion people rising out of poverty and a billion of them them expected to be millionaires is exhilarating and daunting. But there is no single blue print for economic development, at least not yet. Given its natural resources, ideology, politics and cultural sensibilities, each nation experiments with various strategies of development. All we know at this point is that land reform, education, good governance, health, an access to

technology and an open economy contribute heavily towards development. This course will offer the history and implications of socio-economic development in Asia. We will look at the theories of development, their applications and the results on the various nations in China and South Asia. Managing development is also a critical issue. We will examine if social development is a linear outcome of economic growth. We will also analyze topics such as democracy, equity, education, micro-finance, poverty, religions and value systems, sustainable development, intellectual property rights, issues of public health including pandemics and the effect of a rising Asia on the Asian Diaspora, especially on the Asian Americans. In the course of a socio- economic development, China and India are bidding for a world seat.

Though India and Pakistan talk of an attitudinal shift towards each other they still have armies facing one another across Kashmir. Bangladesh has severe economic and political problems that affect its policies regarding India and Pakistan. And, each of these nations have internal problems of their own. There are no pre-requisite courses for this class but we will require an open mind, a liking for critical analysis and developmental issues.

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.

SM 285. (HSOC305, SAST585) Health and Society in South Asia. (C) Staff.

The countries of South Asia have large and diverse populations in need of public, preventative, and curative health services relevant to the health and disease problems of the region. This course will consider the historic origins of health services in South Asia, beginning with a focus on health needs and health services development in the 19th century through the mid-20th century. In a context influenced by politics, economics, and socio-cultural factors, biomedical health services and education emerged as the dominant health system. Yet this system remains tied to foreign health models and contends with the socio-cultural competition of traditional medical systems. Through lectures, discussion, and assignments, this course will explore the historic and contemporary complexity of the health care systems in South Asian countries as they attempt to deliver health care to populations with wide disparities in income, education, health problems and needs. Selected comparative experiences of Asian health care systems, such as Chinese, will be discussed.

288. (ANTH289, RELS260) Body, Power, Society in Early India. (M) Ali.

The course will focus on the social history of the body, widely conceived, in early Indian society. Doctrines of the body will be placed against the context of wider traditions of thinking about ethics and selfhood and viewed in both cultural and historical contexts. Themes will include the evolution of religious doctrines and rituals, the history of emotions and interpersonal relations, the evolution of state and society, and urban and rural cultures. Specific topics treated will include theories of physiology, health, and illness; gesture and movement; sartorial codes, sumptuary regulations, and 'body culture'; gender and sexuality; and the representation of the body in art and literature. In addition to contextual and thematic readings, the course will expose students to a wide variety of primary sources (translated from Sanskrit, Pali and Tamil), including religious and ritual texts courtly literature, art (painting, sculpture, material culture), as well as well as inscriptions and normative treatises.

SM 289. (HSOC226, STSC226) Science, Medicine and Technology in South Asia. (M) Petrie.

This course examines the history of science, technology and medicine in the Indian subcontinent from ca. 1750 to the present. The first half of the semester will focus on the period of British dominance, considering such topics as: the role of

science, medicine and technology in colonial rule and anti-colonial nationalism; Western understandings of and impacts upon Indian environments; the relationship between Western and indigenous forms of knowledge. The second half of the course will examine the post-colonial period, with a particular focus on development and environmental issues and the policies of the governments of India, Pakistan and Bangladesh.

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.

293. (SAST593) Caste & Class in South Asia. (C) Staff.

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.

SM 294. (ANTH281, ANTH581, HIST383, SAST594) Language, Race, and Ethnicity in South Asia: History and the Politics of Culture. (C) Mitchell.

How has India maintained itself as a nation containing 1/6 of the world's population by recognizing 22 official languages and scores of mother tongues? Why have other South Asian countries broken into conflict over linguistic differences? This course examines the shaping of ethnic, racial, and linguistic categories of identity in modern South Asia, and explores the socio-political movements that have emerged in conjunction with these categories. Topics include colonial administrative practices such as the decennial censuses and the Linguistic Survey of India; the rise of regional linguistic movements; the relationships between language, ethnicity, and the writing of history in the context of ethnic conflicts in Sri Lanka; the Dravidian, Non-Brahmin, Adi-Dravida, and anti-Hindi movements in southern India; the creation of Pakistan and Bangladesh; and recent debates over the origins of the Aryans.

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.

350. (RELS360, SAST650) Themes in Indian Philosophy. (C) Sharma.

Topics vary. When the topic is Yoga philosophy, the following applies. Yoga is a classical school of Indian philosophy that consists of a unique metaphysics epistemology, and ethics. Yoga in the contemporary context usually refers to a system of physical and spiritual exercises that draw from this philosophy. In this course, we will read the Yoga Sutras of Patanjali in English translation from the original Sanskrit, with commentary. We will go over all central concepts, technical terms, and historical developments in the philosophy of Yoga. We will also discuss the philosophy of Hatha Yoga in the context of its historical and practical developments. No prior knowledge of Indian philosophy is required for this course.

SM 367. (NELC387, NELC587, SAST667) Silk Road to South Asia. (C) Caron.

'Barbarian hordes'? Cities and saints? Aristocrats and horse nomads? Traders and scholars? Colonial powers and the curtailing of mobility? Global empires and local nationalisms? Iron curtains and Cold

Warriors? Transnational militancy, globalized warfare, and vast mineral wealth? In many ways, Central and South Asia taken together form a microcosm of world history: the meeting of overland and oceanic histories; the meeting of agrarian and nomadic empires; the point where east and west met in the cold war. Our questions for this course are: how have Central Asia and South Asia been interlinked - and sometimes delinked - since the rise of Islam until now? And what can this shifting relationship tell us about topics in world history more broadly? The course is both an introduction to the long-term history of Central and South Asia, and an introduction to ways of thinking about themes in world history.

SM 369. (ANTH369, SAST669) Islam & the Cultural Politics of Nationalism: India, Pakistan, & Afghanistan. (C) Caron.

The creation of the state of Pakistan is often seen as the most tangible expression of the fusion between Islam, nationalism, and social activism in modern South Asia. Yet, such top-down, state-oriented phenomena are only a starting point. From the disciplinary perspective of social and cultural history, this seminar course will explore a range of intertwined expressions of Islam and nation in contemporary South Asia particularly India, Pakistan, and Afghanistan. Many of these expressions have challenged dominant ideological fusions of Muslim identity, national identity, state rule, and collective sovereignty as much as they reinforced it. Diverse weekly topics include "print capitalism" and public-sphere reformism; explicitly modernist ideas of Islam in tension with or in collusion with colonialism; and the histories of modern tribal solidarities and Sufi brotherhoods in their often tense and conflicting connections to anti-colonialism and the post-colonial nation-state. Throughout, we will pay particular attention to the interplay between the above topics and social class and gender; and will tie in narration of the past with ongoing news coverage.

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 383. (SAST683) Global War on Terror. (C) Caron.

This course will focus on the globality of contemporary warfare and its increasingly expansive, though increasingly undefined, social scope, through a multi-dinisional focus on the Afghan conflict in particular. We will explore the development of increasingly wide-reaching non-state interests in formerly localized conflicts, as well as the domestic and global cultural and political changes that have been related to the US's ongoing military actions since 2001.

387. (HSOC412, SAST687) Traditional Medicine in South Asia: Historic Orgins and Contemporary Use. (C) Sharma.

In South Asia, traditional medical systems (Ayurveda, Unani, and Siddha) have deep affiliation with the scientific, philosophical, religious, and cultural systems. This course will examine the historic origins and socio-cultural dimensions of these systems. Topics will include the encounter between traditional and Western medicine in the nineteenth century; twentieth century revival and professionalizing activities in the traditional systems; state a central government support for education, services, and research in traditional medicine; their role in the overall health care system; and their use by patients in urban and rural areas. The world-wide interest in complementary and alternative medicine as it relates to the Indian medical systems will be considered.

SM 397. (HSOC307) Global Med S. Asia. (C)

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 429. Intermediate Telugu. (E) Staff. Offered through Penn Language Center. This is a two-semester course.

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 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 594. (SAST294) Language, Race, and Ethnicity in South Asia: History and the Politics of Culture. (C) Mitchell.

How has India maintained itself as a nation containing 1/6 of the world's population by recognizing 22 official languages and scores of mother tongues? Why have other South Asian countries broken into conflict over linguistic differences? This course examines the shaping of ethnic, racial, and

linguistic categories of identity in modern South Asia, and explores the socio-political movements that have emerged in conjunction with these categories. Topics include colonial administrative practices such as the decennial censuses and the Linguistic Survey of India; the rise of regional linguistic movements; the relationships between language, ethnicity, and the writing of history in the context of ethnic conflicts in Lanka; the Dravidian, Non-Brahmin, Adi-Dravida, and anti-Hindi movements in southern India; the creation of Pakistan and Bangladesh; and recent debates over the origins of the Aryans.

Graduate Courses - 500 Level

223. (COML523, PSCI220, SAST523) Topics in Modern South Asian Literature. (C) PATEL.

This course introduces to the extraordinary quality of literacy production during the past four millennia of South Asian civilization. Selecting for discussion only a few 'masterworks' in translation from pre-modern India (ranging from early Sanskrit and tamil texts through to the great Hindavi romance traditions of the 16th century), the course will also broadly investigate the process of masterpiece-making in South Asia, both through the lens of indogenous of literary analysis. In doing so, the goal will be to come to some contemporary of immensely rich and complicated networks of language, lieterary form and cultural life that have historically informed and continue to inform the production of literature in South Asia.

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. (ARTH501) Proseminar in Indian Art. (C) Meister.

SM 505. (ARTH514) Aspects of Indian Art. (C) Meister.

Aspects of sculpture, painting, iconography, or architecture in the Indian sub-continent. Topic varies.

513. (CINE215, 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.

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?

SM 560. (HIST384, SAST260) Modern History of Afghanistan and Pakistan. (C) Caron.

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.

585. (SAST285) Health and Society in South Asia. (C) Staff.

The countries of South Asia have large and diverse populations in need of public, preventative, and curative health services relevant to the health and disease problems of the region. This course will consider the historic origins of health services in South Asia, beginning with a focus on health needs and health services' development in the 19th century through the mid-20th century. In a context influenced by politics, economics, and socio-cultural factors, biomedical health

services and education emerged as the dominant health system. Yet this system remains tied to foreign health models and contends with the socio-cultural competition of traditional medical systems. Through lectures, discussion, and assignments, this course will explore the historic and contemporary complexity of the health care systems in South Asian countries as they attempt to deliver health care to populations with wide disparities in income, education, health problems and needs. Selected comparative experiences of Asian health care systems, such as Chinese, will be discussed.

Graduate Courses - 600 to 999

SM 610. (CINE793, COML653, ENGL591, SAST310) 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; representations 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.

650. (SAST350) Themes in Indian Philosophy. (C) Sharma.

Topics vary. When the topic is Yoga philosophy, the following applies. Yoga is a classical school of Indian philosophy that consists of a unique metaphysics epistemology, and ethics. Yoga in the contemporary context usually refers to a system of physical and spiritual exercises that draw from this philosophy. In this course, we will read the Yoga Sutras of Patanjali in English translation from the original Sanskrit, with commentary. We will go over all central concepts, technical terms, and historical developments in the philosophy of Yoga. We will also discuss the philosophy of Hatha Yoga in the context of its historical and practical developments. No prior knowledge of Indian philosophy is required for this course.

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 683. (SAST383) Global War on Terror. (C) Caron.

We often hear that "9/11 changed everything". So is this true; and if yes, then how? This course focuses on the shift in national security rhetoric and policy toward intervention in a set of largely Islamic countries as a cornerstone of domestic peace. We will focus on historical changes and continuities in social, governmental, and military structures and discuss how the use of force, as well as other policies, has related to social change in the "Middle East", Afghanistan, and Pakistan (with a focus on the latter two). But just as importantly, we will ask the same questions in relation to Europe and the US. In the process, we will take advantage of our internationalized microcosm in the university and the Philadelphia area. We will explore many of our own countries' public debates of the past decade, through participative and informed discussion, as well as through a number of specialist guest speakers from fields as diverse as civil rights in the US and

687. (SAST387) Traditional Medicine in South Asia: Historic Origins and Contemporary Use. (C) Sharma.

In South Asia, traditional medical systems (Ayurveda, Unani, and Siddha) have deep affiliation with the scientific, philosophical, religious, and cultural systems. This course will examine the historic origins and socio-cultural dimensions of these systems. Topics will include the encounter between traditional and Western medicine in the nineteenth century; twentieth century revival and professionalizing activities in the traditional systems; state a central government support for education, services, and research in traditional medicine; their role in the overall health care system; and their use by patients in urban and rural areas. The world-wide interest in complementary

and alternative medicine as it relates to the Indian medical systems will be considered.

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: Historical Anthropology. (C) Mitchell.

This graduate seminar traces the rise of interactions between the disciplines and methods of anthropology and history, and engages critically with various methodological experiments that have brought together the archive and the field in new ways. Particular attention will be devoted to new questions that have arisen in postcolonial contexts that can help us re-evaluate, question, and extend assumptions and methods generated in the worlds metropolises. Readings will survey anthropologists' discoveries of history (the concept and critiques of ethnohistory, ethnographies of the archive, colonialism and its forms of knowledge the writing of histories of the present), as well as historians' discoveries of anthropology (ritual, symbols, the body, Although the course will situate recent South Asian scholarship and other postcolonial intellectual work in relation to this new disciplinary formation (asking in particular why work on South Asia has been especially influential within its development), readings will be drawn from a range of geographical and historical contexts and would be useful for students working in other regions. As a methodology seminar the primary goal of this course will be to provide opportunities for students to

evaluate and experiment with new approaches to their own research interests and materials.

SM 704. (ANTH706) Society and Public Culture. (M) Mitchell.

This course offers beginning and advanced graduate students an opportunity to practice using a range of theoretical approaches to the study of the spaces, global cultural flows, networks, processes, and forms of public culture within their own developing areas of research. The course focuses on readings and critiques related to the concepts of civil society, the public and counterpublics, mass culture and mobilizations, and the flows, networks of circulation, spaces, media and technologies, and practices of consumption that produce and sustain such phenomena. We will collectively establish working definitions of key terms; review current literature and theoretical approaches to the analysis of public culture; compare modern features of publicness with pre-modern manifestations and functions of publics; and grapple with tensions created by the dichotomies of elite/non-elite and global/local.

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 drawn from a range of authors and would 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.

SM 712. Seminar in Indian Philosophy. (C) Staff.

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, 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

BENGALI (BENG)

403. Beginning Bengali. (E)

Banerjee.H. This is a two-semester course offered through the Penn Language Center. 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. (E)

Banerjee.S. This is a two-semester course offered through the Penn Language Center. 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 I. (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) as 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.

443. Advanced Bengali II. (B)

Banerjee.S.

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. The course also deals with excerpts from literary works by famous writers for example: Rabindranath Tagore, Bibhutibhusan Bandopadhyay, Sarat Chandra Chatterjee, Humayun Ahmed, Sunil Ganguli.

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. (E) Suthar.

This is a two-semester course offered through the Penn Language Center.

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. (E) Suthar.

This is a two-semester course offered through the Penn Language Center.

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.

HINDI (HIND)

400. Beginning Hindi. (E) Parveen. This is a two-semester course.

The course aims at developing an interactive speaking ability on everyday topics. At

this stage there is less emphasis on developing reading and writing skills. The target language is presented in its sociocultural context including body language. For achieving a meaningful and operational control of the language, students acquire basic rules of the language and its use, and a basic vocabulary of about 1200 words. In addition, students learn two scripts: Devanagari script for Hindi in Fall and Nastaliq script for Urdu in Spring. Authentic and simulated video materials are used to bring the South Asian culture live to the classroom. Class activities include watching videos, singing, role-playing, language games and group work.

420. Intermediate Hindi. (E) Gahunia.

This is a two-semester course.

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) Parveen.

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.

440. Advanced Hindi. (B) Parveen.

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) Parveen.

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.

460. Business Hindi. (C) Staff.

This course will advance students' bilingual and bicultural competence to enhance their knowledge and ability to work in the Indian business context. As part of the course the students will learn about the content and culture of Indian business as it operates nationally and internationally. They will get exposed to issues relevant to conducting business in or with India and learn about diverse cultural nuances (such as rural-urban perspectives) that impact marketing strategies by analyzing Hindi advertisements. Also, students will engage with the content and language through guest lectures, print and audio-video texts gathered from national and international media, such as VOA, BBC, and Business Standard. By the end of the semester, students are expected to enhance their knowledge about Indian business, gain linguistic competence (lexical, socio-cultural and pragmatic) to increase their confidence and comfort level in business domains, and access culturally embedded viewpoints about local and global business issues. In order to demonstrate the above, students will engage in projects that will require them to do research, conduct interviews and make presentations of their findings.

MALAYALAM (MLYM)

408. Beginning Malayalam. (E)

Kurichi. This is a two-semester course offered through the Penn Language Center.

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. (E)

Kurichi. This is a two-semester course offered through the Penn Language Center.

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 Panjabi. (E) Gahunia.

This is a two-semester course offered through the Penn Language Center.

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 Panjabi. (E) Gahunia.

This is a two-semester course offered through the Penn Language Center.

This course is designed as a continuation of Beginning Panjabi, 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. (E) Patel.

Students will learn the entire Sanskrit grammar by the end of the first year. They will be able to read Sanskrit texts and compose Sanskrit sentences in addition to carrying out simple conversation. During the year we will also read simple inscriptions and sections from texts like the Ramayana, the Mahabharata, the Bhagavad Gita, Pancatantra, and Yoga Sutra. Throughout the semester, we will also discuss selected readings and visual materials that introduce students to the broad contours of Sanskrit culture.

470. Sanskrit: 2nd Year. (G) Ali.

Prerequisite(s): SKRT 460.

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. (E) Renganathan.

This is a two-semester course offered through the Penn Language Center.

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. (E)

Renganathan. This is a two-semester course offered through the Penn Language Center.

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.

436. Advanced Tamil. (A) Renganathan. V.

This course is intended for learners with a high degree of proficiency in most of the skills. The course is designed to meet the specific needs of the learners. Reading materials for this course can be either classical Tamil texts or modern Tamil prose texts.

TELUGU (TELU)

409. Beginning Telugu. (G) Magier.

This is a two-semester course offered through the Penn Language Center.

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.

429. Intermediate Telugu. (E) Magier.

This is a two-semester course offered through the Penn Language Center.

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

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research in Telugu history, literature or society, or humanities or social science fieldwork in Telugu speaking areas.

URDU (URDU)

401. (NELC401) Beginning Urdu. (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.

421. (NELC421) 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 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.

431. (NELC431) Advanced Urdu. (A)

Qureshi.

Other Languages. Pashtu, Kannada, and Marathi are under (SAST)

405. (PERS111, PERS511) Beginning Pashtu. (G)

Staff. Prerequisite(s): For advanced students. Offered through Penn Language Center.

407. Beginning Kannada. (E)

Rajagopalan. Offered through Penn Language Center. This is a two-semester course.

410. Beginning Marathi. (E)

Ranade. Offered through Penn Language Center. This is a two-semester course.

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. Intermediate Marathi. (E)

Ranade. Offered through Penn Language Center. This is a two-semester course.

425. (PERS113, PERS513)

Intermediate Pashtu. (G) Staff. Offered through Penn Language Center.

427. Intermediate Kannada. (E)

Rajagopalan. Offered through Penn Language Center. This is a two-semester course.

435. (PERS115, PERS515) Advanced Pashtu: Pop Romances. (G)

Staff. 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) Shaman, 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. Fundamentals of Statistics. Descriptive statistics and simple linear regression. Emphasis is on the development of statistical thinking and applications are directed towards the behavioral sciences, especially psychology, and medicine. Topics include probability, statistical inference, hypothesis testing and confidence intervals.

112. Introductory Statistics. (C) Staff.

Prerequisite(s): STAT 111.

Basic ideas of probability and statistics. Statistical methods especially suited for the social, behavioral and biological sciences. Continuation of STAT 111. Focus on multiple regression, analysis of variance, analysis of covariance, and regression diagnostics. Selected topics in the generalized linear modeling including binomial and Poisson regression. Conceptual foundations are addressed as well as hands-on use for data analysis.

430. (STAT510) Probability. (C) Staff.

Prerequisite(s): MATH 114 or equivalent.

Discrete and continuous sample spaces and probability; random variables, distributions, independence; expectation and generating functions; Markov chains and recurrence theory.

431. 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. Stochastic Processes. (C) Foster.

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) Steele. 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 S-Plus 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. (B) 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) Shepp.

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. (INSR451, INSR851, STAT851) Fundamentals of Actuarial Science I.

(A) Lemaire. Prerequisite(s): MATH 104, STAT 430. STAT 430 can be taken concurrently with INSR 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. (INSR452, INSR852, STAT852) Fundamentals of Actuarial Science II.

(B) Lemaire. Prerequisite(s): INSR 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. (INSR453, INSR853, STAT853) Actuarial Statistics. (A) Lemaire.

Prerequisite(s): MATH 104, MATH 114, STAT 430, STAT 431.

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. (INSR454, INSR854, STAT854) Applied Statistical Methods for Actuaries. (B) Lemaire.

Prerequisite(s): MATH 104, MATH 114, 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. No INSR course is a pre-requisite for INSR 834. The Society of Actuaries has approved INSR 834 for VEE credit on the topic of time series.

471. (STAT701) Intermediate Statistics. (B) Foster. Prerequisite(s): STAT 102 or 112 or 431.

This is a course in modern methods in statistics. It will focus on regression, time series, data mining and machine learning. The regression module will extend your knowledge of building multiple regressions. The time series module will introduce you to some ideas in finance. The last two modules will show how these ideas can be applied to large data sets that are more frequently found in the modern age. Throughout the class data based on finance, retail credit, global warming, and the "wikipedia" will be discussed.

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. Modern Regression for the Social and Environmental 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.

510. (STAT430) Probability. (A) Foster. 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.

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) Small. Prerequisite(s): MATH 114 or equivalent and an undergraduate introduction to probability and statistics.

This is a graduate course in applied econometrics. Topics include multiple linear regression, the bootstrap, quantile regression, instrumental variables, maximum likelihood and probit regression.

521. Applied Econometrics II. (B) Shaman. Prerequisite(s): STAT 520.

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 ordinary least squares estimation, the bootstrap and jackknife, instrumental variables, systems of equations, M-estimation, maximum likelihood, the generalized method of moments, discrete response models, and time series analysis.

530. (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.

531. (MATH547) Stochastic Processes. (B) Steele. Prerequisite(s): STAT 530.

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.

541. 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.

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.

550. 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.

551. Introduction to Linear Statistical Models. (B) Brown. Prerequisite(s): STAT 550.

Theory of the Gaussian Linear Model, with applications to illustrate and complement the theory. Distribution theory of standard tests and estimates in multiple regression and ANOVA models. Model selection and its consequences. Random effects, Bayes, empirical Bayes and minimax estimation for

such models. Generalized (Log-linear) models for specific non-Gaussian settings.

552. (BSTA820) Advanced Topics in Mathematical Statistics. (A) Staff. Prerequisite(s): STAT 550 and 551.

A continuation of STAT 550.

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.

701. (STAT471) Advanced Statistics for Management. (B) Foster. Prerequisite(s): STAT 621 or equivalent.

This is a course in modern methods in statistics. It will focus on regression, time series, data mining and machine learning. The regression module will extend your knowledge of building multiple regressions. The time series module will introduce you to some ideas in finance. The last two modules will show how these ideas can be applied to large data sets that are more frequently found in the modern age. Throughout the class data based on finance, retail credit, global warming, and the "wikipedia" will be discussed.

711. (STAT435) Forecasting Methods for Management. (B) Shaman. Prerequisite(s): STAT 621 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 621 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.

851. (INSR451, INSR851, 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. (INSR452, INSR852, STAT452) Fundamentals of Actuarial Science II. (B) Lemaire. Prerequisite(s): STAT 851 or INSR 829.

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. (INSR453, INSR853, 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. (INSR454, INSR854, 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. 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.

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. (OPIM931) 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)

Kakade, 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.

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 Practicum offers the opportunity for small combined teams of PhD's and MBA 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.

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.

TELECOMMUNICATIONS (EG) {TCOM}

500. Introduction to Networks and Protocols. (A) Prerequisite(s):

Undergraduate probability and analysis. Course open to Juniors, Seniors and Graduate Students in SEAS and Wharton. All others need permission of the instructor. Students who have taken ESE 404 may not take TCOM 500.

This is an introductory course on packet networks, protocols and technologies, with a particular emphasis on IP based networks such as the Internet. The course introduces the various design and implementation choices that are behind the development of modern networks, and emphasizes basic analytical understanding in motivating those choices. Topics are covered in a mostly "bottom-up" approach, starting with a brief review of physical layer issues such as digital transmission, compression and information theory, error correction and error recovery strategies. This is then followed by a discussion on how to move from bits to packets and various issues associated with successfully transmitting packets. The course then undergoes a brief digression aimed at exposing students to basic modeling tools useful in the analysis of communications systems, and then proceeds to explore approaches used to allow multiple users to share local communication resources, e.g., multiple access control (MAC) strategies and local area networks. Network layer solutions (IP addressing, naming, and routing) that scale beyond local resources are covered next, before exploring end-to-end mechanisms such as TCP. Finally, the building blocks needed to offer advanced functionality such as quality-of-service and network security are examined.

501. (ESE 501) Networking - Theory and Fundamentals. (B) Prerequisite(s): ESE 530 or STAT 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. Advanced Networking Protocols. (B) Prerequisite(s): TCOM 500 or equivalent.

The course delves into the details of the many protocols whose combined operation is behind the Internet. It starts with reviewing issues associated with naming and addressing, and in particular solutions that work at the Internet scale. This is followed by an in-depth review of the Internet's "control plane," namely the different routing protocols that govern packet forwarding decisions, including unicast (RIP2, EIGRP, OSPF, BGP, etc.) and multicast (DVMRP, CBT, PIM, etc.) routing protocols. The challenges associated with implementing efficient packet forwarding decisions are then discussed and illustrated through several representative techniques and algorithms. Next, the course introduces technologies that implement advanced functionality over IP networks, including signaling protocols, e.g., RSVP, used to request resources from the network, and protocols such as MPLS and MP-BGP that enable the efficient deployment of virtual private networks and traffic engineering solutions. If time permits, topics related to service classes and traffic management may also be covered.

503. (ESE 509) Waves, Fibers and Antennas for Telecommunications. (A) Faculty.

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 communications.

504. Telecommunications Lab: Networks and Protocols. (B)

Corequisite(s): TCOM 502.

This lab course offers students the opportunity to apply skills learned in other TCOM classes, and experience in realistic settings the various networking concepts they have been exposed to. Students will

be tasked with designing, configuring, and trouble-shooting IP based networks using a network testbed. Projects will expose students to networking technologies and solutions including Ethernet LANs, basic IPv4 routed network, inter-domain routing using BGP, as well as time permitting Ipv6, MPLS, Multicast, etc. In addition to successfully configuring and deploying various types of networks, students will be asked to change configuration parameters and observe and analyze the corresponding effects on network protocols and operation. Students will also be asked to examine packet traces from real networks, and use the information they extract from those traces to identify or explain the operational characteristics of the associated networks.

510. Wireless Networking. (B)

Prerequisite(s): TCOM 500 or TCOM 512.

This course provides a basic introduction to wireless networking. The focus is on layers 2 and 3 of the OSI reference model, design, performance analysis and protocols. The topics covered include: an introduction to wireless networking, digital cellular, next generation PCS, wireless LANs, wireless ATM, mobile IP.

511. (ESE 575) Wireless Systems. (M)

Prerequisite(s): Basic knowledge of wireless networks, protocols, and operating system concepts. TCOM 500 or equivalent.

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.

512. (CIS 553) Networked Systems.

(B) Prerequisite(s): TCOM 500 (can be corequisite), and sufficient programming knowledge to edit, write, and debug programs in C, and basic undergraduate mathematical background including elementary probability.

This course covers the design, analysis, and implementation of application- and transport-level protocols. We teach basic techniques of framing, error recovery, reliable delivery, flow control, adaptation to congestion, presentation (and representation) of data, authentication and security, as applied to conversational, transactional, and dissemination-oriented transport and application level protocols. In addition to hands-on experience designing and implementing network protocols in C using the BSD socket interface, we also teach elementary modeling (through both simulation and analytic models) and measurement of network protocols.

514. Web Technologies, Architecture and Integration. (A)

Prerequisite(s): TCOM 500 and knowledge of object oriented programming (Java preferred).

This course introduces the main concepts of Web technologies with special emphasis on modern architecture and integration issues. The topics continually evolve as new Web technologies and protocols emerge. The course starts with an overview of key Web software technologies (Web clients, Web proxies, Web servers, Web gateways) and a discussion of HTTP protocol design and its interaction with TCP/IP. The second part of the course concentrates on Semantic Web, XML and its variants, Semantic Web 2.0, Web Services, and Next Generation Web. This part of the course emphasizes

the emergent technologies needed in web engineering projects. The course concludes with a focus on Web-based architecture and integration issues. The emphasis of this part is on emerging approaches to architect Web applications by using Services Oriented Architecture (SOA). Discussion also include real-time business activity monitoring, Web traffic measurements, Web caching, multimedia over Web, wireless Web, Web security, and Web mining.

The course stresses, through examples and case studies, the role of the most recent Web technology protocols, and standards and their applications in the telecom industry. Students are given opportunities to work with various Web tools, evaluate architectural configurations, and investigate special areas of interest to them.

515. Optical Networking. (M)

Prerequisite(s): Requires undergraduate-level knowledge of engineering mathematics.

This graduate level course explores several important topics related to the analysis and design of optical transport networks. Topics covered include the propagation of signals in optical fiber, optical components, signal rates and formats, transmission engineering, time-division multiplexing (TDM), wavelength division multiplexing (WDM), layered network architectures, virtual topology design, network survivability and network management.

551. (CIS 551) Computer and Network Security. (B)

Prerequisite(s): TCOM 512 or equivalent, 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.

597. Master's Thesis Research. (C)**599. Master's Independent Study. (C)****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}

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.

110. (COML110, ENGL087, HIST246, URBS212) Theatre, History, Culture I: Classical Athens to Elizabethan London. (B) Arts & Letters Sector. All Classes. Schlatter. Required of all Theatre Arts Majors.

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 as it 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. (COML111, ENGL097) Theatre, History, Culture II: Cities at Play from the Renaissance to the Rise of Realism. (C) Arts & Letters Sector. All Classes. Ferguson.

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.

112. (COML112, ENGL098) Theatre, History, Culture III: Modernism to Post Modernism. (C) Arts & Letters Sector. All Classes. Mazer.

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.

SM 114. (ENGL114) Playwriting Workshop. (B) Staff. This course is not open to freshmen.

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 Constantin Stanislavsky, this course takes 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 modern American play. 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.

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. Pending Curriculum Committee Approval.

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. Introduction to Light, Set, and Costume Design. (C) Baratta. Required of all Theatre Arts Majors.

This course will introduce students to the traditional elements of scenic composition, including stage scenery and props, lighting, costume and sound design. Students will gain an appreciation for the breadth of historic scenic convention as well as an understanding of the roles played by historic convention in modern stagecraft. Theatrical relationships between actor/audience/setting/text will be examined using the analysis of play scripts, theatre history, theoretical writings, illustrations and other media as a series of case studies. Emphasis will be given to an understanding of the role of design and technology in the transformational event of the theatre

production, and the various contextual approaches that inform the design process, including the role of the theatre designer/technician as artist and collaborator within the framework of the production team. Project work in this course includes design studies, research and critical writing, project presentation, and a practicum project associated with the Theatre Arts Program production schedule.

SM 131. Concepts of Lighting. (C)

Whinnery. Recommended for majors. Non-majors need permission of instructor. An introduction to the nature and value of lighting in the theatre, emphasizing its functions, history, resources, techniques, and design.

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. Non-majors need permission of instructor.

A history of the development of twentieth-century stage design and the exploration of the design process. Project work in the realization of stage designs through drafting, rendering, and model building.

SM 140. (COML265) Topics in Theatre History. (B) Mazer.

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.

141. (CLST141, COML264) Classical Theatre. (C) Staff.

Development of the history and practice of Greek and Roman theatre from antiquity to the Middle Ages is treated through reading English translations of tragedy and comedy

and examination of the physical setting and staging of drama. Attention is paid to the drama's relation to religion, the role of the audience in theatre, popular stage performances other than plays, public spectacles, and the medieval attitude towards drama.

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 forms to the contemporary theatre.

SM 220. Advanced Acting. (M)

Ferguson, Malague. 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.

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 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. (AFRC309, GSWS251, URBS256) Theatre Workshop. (M)

Various Theatre Professionals. Prerequisite(s): THAR 120, THAR 121. 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. (CINE271, 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. (CINE225, 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, Isben) 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. (CINE225, CLST315, COML267, ENGL256, ENGL356) Advanced Topics in Theatre. (M) Fox, Ferguson, Malague, Mazer, Schlatter. This course, with different topics, may be repeated for credit.

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.

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.

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 290. (GRMN310, GSWS491, HIST491) Topics in Dance History. (C) Arts & Letters Sector. All Classes. Kant. This course, with different topics, may be repeated for credit.

Topics in Dance History examines the development of theatrical dance and performance through the ages. It offers several courses that look at the way in which new languages of the body were articulated. The changes of aesthetic values of movement and dance will be placed within their social development and examined through historical inquiry. Dance as a social activity that reflects and acts upon the societies in which it grows, is understood in a broad context. Therefore students will work with writings, designs, videos and other material to understand the relationship between ideas and artistic expressions. Students will also be introduced to music, literature, theater and fine arts and asked to consider their relationship to dance. The courses range from analyses of 15th century dance treatises to 20th century movement performances.

SM 320. Scene Study. (A) Malague. Prerequisite(s): THAR 220.

Scene Study is the third level acting class, open by permission to those students who have successfully completed Introduction to Acting and Advanced Acting. Building on the work of those courses, Scene Study proceeds with an increased emphasis on the

analysis and performance of the playscript. Students are given the opportunity to identify individual goals and to work on material which challenges them; they will also be encouraged to work from the circumstances of the text, to make strong character choices, and to interact in-the-moment with scene partner(s).

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 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.

**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.

501. Introduction to Applied Statistics. Brusilovski.

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.

L/L 503. (CPLN503) Intro to GIS.

504. Business Geographics. Amos. Prerequisite(s): Prior experience with ArcGIS.

This course will introduce MUSA and other interested graduate students to the use of ESRI's Business Analyst ArcGIS extension and data for use in site selection and store location, market and service area delineation and profiling, real estate investment and portfolio analysis; and community planning. Requirements: Four applications exploring different aspects of retail site selection, market and service area analysis, and community planning.

URBAN STUDIES (AS) {URBS}

SM 010. (AFRC041, SOCI041) Homelessness and 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 012. The History and Politics of Space. (M) Schneider.

How do we understand the places in which we live? How do we "read" a city? What is the relationship between workplace and home, downtown and suburb, inner city and gated communities, department store and

mall, row house and ranch house? How are our lives defined by place, and how do we function as both the producers and products of place? The city is a social and a spatial system, and its organization both reflects and reproduces social categories of race, class, and gender. The current city is also the product of past decisions about where to locate communities and how to allocate resources. Through reading sociological, historical, theoretical, and primary texts, through studying maps and photographs, and through your ethnographic explorations, we will explore the presence of the past in the city around us, the evolution of different kinds of urban and suburban places, and the encoding of wealth and power as well as inequality and poverty in the urban landscape.

SM 016. (MUSC016) Soundscapes of Society. (M) McGlone.

Musical taste and personal sonic experiences are integral to how individuals create and participate in urban spaces. By attending live concerts or valuing particular musical experiences, each individual participates in broad networks of social, economic, and artistic exchange. This seminar will integrate personal experiences at live music events with a serious investigation of how class, race, sexual orientation, and other forms of identity are expressed through the creation of musical soundscapes in urban environments. The Soundscapes of Society seminar will ask how does music reflect social structures in Philadelphia and other urban centers? With an analytic perspective on recent history we will ask, can music be a catalyst for social change?

SM 018. (MUSC018) Soundscapes of Society. (M) McGlone.

Musical taste and personal sonic experiences are integral to how individuals create and participate in urban spaces. By attending live concerts or valuing particular musical experiences, each individual participates in broad networks of social, economic, and artistic exchange. This seminar will integrate personal experiences at live musical events with a serious investigation of how class, race, sexual orientation, and other forms of identity are expressed through the creation of musical soundscapes in urban environments. The Soundscapes of Society seminar will ask how does music reflect social structures in Philadelphia and other urban centers? With an analytic perspective on recent history we will ask, can music be a catalyst for social change?

SM 103. (HIST209) Industrial Metropolis. (A) History & Tradition Sector. All classes. Vitiello. Course open to freshmen and sophomores only.

Although most U.S. cities are no longer thought of as "industrial cities," metropolitan areas today are all products of industrial economies, technologies, and social systems. This course explores the ways in which industrialization and deindustrialization have shaped North American cities over the past two centuries. Major themes include economic geography, ecology, labor and production, suburbanization, outsourcing, energy, and cities' place in the world economy. The class will take regular walking tours of Philadelphia neighborhoods.

104. (HIST153) Urban Crisis: American Cities Since World War II. (B) Society Sector.

All classes. Stern; Katz. 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 112. (AFRC011, SOCI011) 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 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.

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) The Origin & 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 explores the political character of contemporary urban American life. It seeks to familiarize students with the structural and ideological factors (e.g., dynamics of political economy, race, ethnicity, pluralism and gender) that constrain the policy context and define 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 137. (PSCI139) Politics of Poverty and 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.

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 & 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 178. (AFRC078, HIST173) Urban-University Community Relations: Faculty-Student Collaborative Action Seminar. (C)

Harkavy, previously URBS 078; Benjamin Franklin Seminar.

One of the seminar's aims is to help students develop their capacities to solve strategic, real-world problems by working collaboratively in the classroom and in the West Philadelphia community. Students work as members of research teams to help solve universal problems (e.g., poverty, poor schooling, inadequate health care, etc.) as they are manifested in Penn's local geographic community of West Philadelphia.

The seminar currently focuses on improving education, specifically college and career readiness and pathways. Specifically, students focus their problem-solving research at Sayre High School in West Philadelphia, which functions as the real-world site for the seminar's activities. Students typically are engaged in academically based service-learning at the Sayre School, with the primary activities occurring on Mondays from 3-5:30 and Tuesdays from 3-5:30. Other arrangements can be made at the school if needed.

Another 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 life-long societally-useful citizens.

SM 200. Urban Research Methods. (C) Goldstein; Stern. 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 research methods. Micro-computer based quantitative methods, demographic techniques, and ethnographic approaches will be the primary foci of the course. In addition to classroom assignments, students will have the opportunity to undertake their own research involving micro-based statistical analysis of data files which address relevant and timely public policy issues.

SM 202. (EDUC202) Urban Education. (C) Staff.

This course offers an introduction to, and an overview of, many of the key issues

confronting urban public schools in America. Conversations about schooling, and urban schooling in particular, are currently at the forefront of public discussions about how to improve the economy and the nation as a whole. In this course we will examine the historical, social, and cultural contexts of urban education and schooling in society. Beginning with philosophical and theoretical perspectives on why we educate, this course will also explore the ways in which schools are implicated in a range of social issues and we will interrogate the role of education in relation to social mobility, life changes, and civic opportunity. This course will also critically examine recent policies and reform efforts which have been designed to remedy the urban public school "crisis." In addition to readings and class discussions, popular media (e.g. news reports, and films and documentaries on urban schools) will also be used to provide students with an opportunity to explore these larger course themes and issues, particularly as they relate to public schools in Philadelphia.

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 governance of urban areas (state and local government law) and the management of urban growth (land use controls and other techniques for regulating new development).

SM 205. Introduction to Environmental Design: People and Design. (B) Berman.

The built environment of a city is more than a mere backdrop; the design can affect people's experiences. Environmental design focuses on the relationship between people and the built environment. It also looks at how the built environment interacts with the natural one. 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. (CPLN672, URBS506) Public Environment of Cities: An Introduction to the Urban Landscape. (B) Nairn.

The Public Environment of Cities explores urbanism - the study of the environmental, political, economic, socio-cultural, historical, and aesthetic conditions affecting urban life and culture. At the heart of urbanism is our public environment - the parks, squares, and sidewalks in and upon which our public life is played out. The course will explore the city through the examination of three broad themes: Democracy, Diversity, and Design. We examine in detail how contemporary issues affect our perceptions, use, and inhabitation of the public environment and how the open spaces of the city provide frameworks for the daily social life and commerce as well as the important ceremonies, celebrations, and festivities of its inhabitants.

SM 207. (ASAM205) Asian-American Community Fieldwork. (C) Distribution Course in Society. Class of 2009 & prior only. Nair.

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. Also fulfills General Requirement in Society for Class of 2009 and prior.

This course is an introduction to major forces that shape urban life in the United States from the eighteenth century to the present, with a focus on Philadelphia.

Through weekly assignments and discussions, students will examine the physical formation and historical development of cities and learn to "read" the sociological and geographic organization of the contemporary city. Prominent themes include urban growth, decline, and restructuring; the ecological bases of urban life; race, class, and gender relations in urban space; and the formation and re-formation of neighborhoods, downtowns, and suburbs.

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) Methods in Urban Ethnography. (M) Staff.

This course will teach qualitative research techniques such as field notes, participant-observation, interviews, and data interpretation and contextualize them within a discussion of anthropological theory. To put what they are learning into practice, students will engage in participant-observation at field sites in Philadelphia, complete short exercises, and submit ethnographic accounts of their work. Emphasis will be placed on community service and participatory-action research.

L/R 217. (HIST373) America in the 1960's. (M) 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.

SM 220. (HIST214) Current Topics in Urban Studies. (M) Staff.

Topics vary; see department for current course description.

L/R 225. (ARCH255, ENV255) Sustainability in Action. (M)

Hughes/Billymer.

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.

SM 226. (FNAR226, FNAR626) The Photography of Urban Space. (A)

Staff. Prerequisite(s): FNAR 271 or permission of the instructor.

This is a non-studio course in the photography of buildings, streetscapes, and cities. It is designed for photographers interested in the built environment as subject matter, as well as for architecture and planning students. We will hone practical skills in perspective control, lighting, and photographic interpretation of space, so that photographers, architects, and planners can better photograph precedents and their own projects, and better evaluate the use of professional architectural photography for promotion and education.

236. (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. 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. (EDUC240) 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 Dickens, Poe, Baudelaire, Rilke, Doebelin, Marx, Engels, Benjamin, Kracauer, among others. Films include Fritz Lang's *Metropolis* and Tom Tykwer's *Run Lola Run*.

SM 245. (ANTH253, EDUC245) Topics in Urban Education. (M) Staff.

Topics vary; contact department for current course offering

SM 250. Urban Public Policy: Contemporary Philadelphia: A Case Study. (B) Hershberg.

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, "Contemporary Philadelphia: A Case Study," describes our approach.

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, metro columnist and former foreign correspondent for the Philadelphia Inquirer.

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SM 253. (SOC1254) Cities, Suburbs, and Their 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 develops. Specific topics to be discussed include the factors that make a region competitive, the city's changing role in the region, evolving regional housing markets, and the impacts of the recent global financial crisis on American markets, regions, institutions, and neighborhoods.

SM 255. (AFRC255, HIST255) Urban Neighborhoods. (M) Staff.

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. Understanding the Post Industrial City: Media City - New Lifestyles, New Forms. (B) Thomas, Snyder. Previously URBS 429.

Urban lifestyles have a reciprocal relationship with urban form. While lifestyle might have been once determined by the circumstances of birth, limited horizons, and a hierarchical society, today social and physical mobility combined with increasing affluence makes lifestyle yet another choice in the construction of a modern identity. Lifestyle choices have become an engine of urban growth and are instrumental in the transformation of urban life and form of the city.

SM 260. (EALC141, HIST233) World Cities. (M) Staff.

Topics vary; see department for current description

SM 264. (SOC1264) 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.

265. (GSWS007, SOC1007) 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 270. (CPLN676, SOC1270) Ethnicity: The Immigrant City. (B) Society Sector. All classes. 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 US. 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, local and state policy, civil society, 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 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 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) Current Topics in Urban Literature. (M) Staff.

Topics vary. See department for current description.

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, SOC1380) Neighbordh Dyn. of Crime. (B)

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: Urban Sustainability. (A) Nairn.

Metropolitan Nature begins with the premise that in order to understand the complex and skewed relationship between nature and its natural resource base, we must examine different scales simultaneously. The course explores a variety of issues concerning nature's role in the contemporary urban world with a focus on urban sustainability. At its core, sustainability is a radical concept. Co-opted by marketing slogans, stripped of meaning and context, it

has become vague and pliable. It does, however, have a real meaning, which will form the basis for examining nature in the city. Sustainability demands a systems view of both the economy and environment and understanding the management of their interactions. The course focuses on the ecological aspects of the emerging field of ecological economics fostering an understanding of the ecological principles of urban sustainability.

SM 300. Fieldwork Seminar. (B) Staff. Urban Studies majors and minors only.

Students work 15-20 hours per week in field placement and meet weekly with class and instructors. The class is intended to help students reflect from a variety of perspectives on the work that they are doing in their placement organizations. The class format is primarily discussion. Students are required to complete assigned readings, prepare written and oral presentations, and submit a final project.

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.

Course participants will study the stages and strategies in running for public office and discuss the role of various influences on getting elected, including campaign finance and fundraising, demographics, polling, the media, staffing, economics, party organization, etc. The course will also examine how electoral politics varies by level- city, state, national. Students will analyze campaign case studies and the career of the instructor himself. The instructor will also bring in speakers who can provide other perspectives on electoral politics. The instructor is the former Mayor of Philadelphia, former Chair of the Democratic National Committee, and the current Governor of Pennsylvania.

SM 321. (COMM320) Urb Ethno: DC City Life.

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.

322. (FNAR222, FNAR622) The Big Picture: Mural Arts in Philadelphia. (C) Golden/Walinsky/Gensler. Previously URBS 222.

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) Staff.

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) Topics in Academically Based Community Service: 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.

The current course is "Schools and Community Development: A Collaboration with West Philadelphia High School Urban Leadership Academy." 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. Previously URBS 230; 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 352. (ANTH252) Food Habits in Phil Comm. (C)**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.

Senior research project.

SM 403. (CPLN506, ENGL429, GAFL472, SOCI430, SOCI530) Special Topics in Urban Studies. (M)

Staff. Topics vary; see department for current course information

SM 404. Philanthropy & The City. (A)

Goldman/Bauer. 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, HIST405, RELS439) Religion, Social Justice and Urban Development. (B)

Lamas. Urban development has been influenced by religious conceptions of social and economic justice. Progressive traditions within Judaism, Christianity, Islam, Buddhism, and Humanism 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 urban development.

SM 409. (ANTH305, ANTH609) Anthropology and Policy: History, Theory, Practice. (B) Sabloff.

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. This 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 academically based research 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.

SM 410. (FNAR201, SWRK510, URBS510) Urban Communities and the Arts: Research & Policy. (M) Stern.

This course may not be counted as a required studio course for Fine Arts major and minor.

This course will explore methods for examining the role that arts and cultural activities play in urban communities and its implications for urban policy. The course will focus on: 1) examining theories of culture's social impact and how they might be used to formulate research; 2) methods for conducting research on arts and culture; and 3) how cultural research is relevant for various spheres of urban policy, including community development, urban economies, and the needs of children and youth. The major project for the course will require students to collaborate with community resources in studying the connection of theory, research, and policy.

412. Building Non-Profits from the Ground Up. (L) Staff.

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 engage in field assignments and role play, in addition to research and writing.

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 such, 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: Policies and Projects for Making Cities Greener. (M) Ben-Amos.

Cities and Sustainability endeavors to expose students to the methods of implementing environmentally sustainable policies in big cities across the United States. The course will begin with an overview of the various tools at the disposal of American municipalities, exploring the various ways that policies are adopted and then implemented. The course will also review sustainable development and transportation policy as well as agency management. Students will be given the tools to provide political, economic, and critical analysis of different sustainable policy initiatives across the United States through a case study approach. This course is geared towards providing advocates with the tools they need to promote sustainable policies.

Student work will be both project and response driven. Students will work in teams of four to choose a major American city to study and propose a policy, project, or initiative that enhances the sustainability of that city. As they learn about green policies across the US they will apply these lessons in their projects, writing short weekly reports in which they will integrate the weekly readings with the work they must complete for their own group project. Thus students will begin to do comparative studies and apply readings in a practical manner.

SM 420. (HIST440, SOCI420) Perspectives on Urban Poverty. (C) Staff.

This course provides an interdisciplinary introduction to various perspectives and philosophies that have dominated the discourse on urban poverty throughout history. The course is primarily concerned with the ways in which historical, cultural, political, racial, social, 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 knowledge systems and their respective implications in terms of the questions of what can be known about urban poverty in the contexts of policy circles, academic literature, and the broader social imaginary. We will critically analyze a wide body of literature seeking to theorize urban poverty, ranging from sociological, anthropological/ethnographic, geographical, Marxist, historical, social welfare, and cultural analyses. Primacy will be granted to critical analysis of course readings, particularly with regard to the ways in which various knowledge systems - or "regimes of truth" - create, sustain, and constrict meaning in reference to urban poverty.

SM 428. (CPLN528) Research Seminar in 21st Century Urbanism. (B)

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.

L/R 440. (CPLN500) Introduction to City Planning: Past, Present, and Future. (A) Staff.

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 and 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)
Gorostiza.

This course is divided into three segments: a brief historical background on the origins and changing goals of urban redevelopment; a detailed review of contemporary housing problems and the implementation of program responses by public, private and neighborhood groups; an overview of economic development efforts with a focus on a series of contemporary projects as case studies. The format is that of a seminar, mixing lecture, discussion, and guest speakers who are responsible for housing and economic development in the Philadelphia area. The focus is not only on policy choices but on the mechanics of financing, implementation, and attaining employment goals. The course requirements include a take-home, mid-term essay of 5-7 pages, a final case study, and tours of development projects in Philadelphia.

451. (CPLN625, GAFL569) The Politics of Housing & Community 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 downtowns and neighborhoods. A special emphasis this year will be the Obama Administration's response to the foreclosure crisis and the implementation of neighborhood reinvestment strategies by state and local governments.

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. (CPLN545, SOCI453, URBS543) Metropolitan Growth & Urban 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 456. Economics & Urban Affairs. (M) Angelides.

This course discusses contemporary urban issues from an economics perspective, with the dual goal of illuminating the economic foundations of civic affairs and enhancing a student's economic literacy through the use of everyday examples. The first part of the course discusses the broad theory of urban economics by focusing on individual decision makers, both households and businesses, and the incentives they face as the key to understanding how cities operate economically. Significant topics include economic development, zoning, and land use. The second part of the course discusses several topics in detail, including transportation, government taxation and spending, housing, education, and cost-benefit analysis.

We will use current local issues as examples in the course. These issues will include tax reform, the development of the Delaware riverfront, casino locations, the ten-year tax abatements for new construction and rehabilitation, the real estate "bubble," and tax increment financing. At the conclusion of the course the student will be able to apply economic thinking to the analysis of civic issues, understand how economic forces shaped and continue to shape the urban environment, and appreciate the role of government as an enabler or a hindrance.

The emphasis of the course is on the usefulness of economic thought and, as such, focuses more on policy implications than abstract economic modeling. The course will teach any necessary economic tools, though an introductory course in microeconomics is helpful.

SM 457. (SOCI435) Globalization & The City. (M) Hill.

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, URBS560) School Reform and Public Policy. (A)

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.

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 472. (AFRC472) Race and the City: The Origins & Prospects of the Black Underclass. (M) Hershberg.

This course focuses on the origins and prospects of the black underclass and the competing public policies proposed to bring this group into the economic mainstream. The course is particularly concerned with understanding the separate effects on the underclass of racial discrimination and recent structural changes in the economy, transportation, and housing, which have shaped central cities and their regions.

SM 473. (SOCI473) Community Organizing: History and Theory. (M) Staff.

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 480. (AFRC480) Liberation and Ownership. (A) Lamas.

Who is going to own what we all have a part in 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.

SM 483. (ANTH483) Interfaith Action.

SM 489. (AFRC488, AFST489, HIST489) Africans Abroad: Philadelphia's Muslim African Immigrants. (M) Cassanelli, Babou, Dinar.

This seminar will examine the experiences of recent Muslim emigrants and refugees from Africa, focusing on those now living in the city of Philadelphia and the surrounding region. In addition to reading historical and comparative literature on migration, ethnic diasporas, and transnationalism, students will have the opportunity to conduct research on specific African communities in Philadelphia and possibly other cities in our region. African emigres' relations with both their home and host societies will be explored and compared with the experience of other immigrant groups, both Muslim and non-Muslim, 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 religious identity, and the impact of national immigration policies.

SM 506. (CPLN672, URBS206) Advanced Topics in Urban Studies. (M) Staff.

Urban Studies offers various seminars under this course number. These courses explore current urban issues.

SM 510. (FNAR201, SWRK510, URBS410) Urban Communities & The Arts: Research and Policy. (M) Stern.

This course will explore methods for examining the role that arts and cultural activities play in urban communities and its implications for urban policy. The course will focus on: 1) examining theories of culture's social impact and how they might be used to formulate research; 2) methods for conducting research on arts and culture; and 3) how cultural research is relevant for various spheres of urban policy, including community development, urban economies, and the needs of children and youth. The major project for the course will require students to collaborate with community resources in studying the connection of theory, research, and policy.

SM 513. (FOLK513, URBS213) Urban Ethnography.

SM 516. (AFST516, ANTH516, GSW516) 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.

524. (CPLN624) Metropolitan Labor Markets. (B) Wolf-Powers.

Examines metropolitan labor markets through two lenses: the growing discussion of the importance of "knowledge work" to regional economic competitiveness and the persistent challenges of unemployment, underemployment and working poverty. Coursework helps students translate research on labor markets and workforce development into usable knowledge for economic and community development practice.

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 & Education. (C) Lukose, 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 553. (SOCI553) Field Methods in Qualitative Research. (C) Grazian.

This course is designed to introduce graduate students to basic concepts and skills in ethnographic field research in the social sciences, including participant observation, interviewing, field documentation, and the scholarly presentation of qualitative data. Students will learn to apply these concepts and skills through a regularly assigned set of field exercises, and will be expected to complete a semester-long project based on intensive fieldwork at a research site of their choosing. In addition, we will examine both classic and contemporary exemplars of fieldwork in the sociological discipline, and address contemporary issues in ethnographic research, including the role of global and comparative ethnography, reflexivity, and self-presentation in ethnographic writing, and the role of culture in organizing social life in both urban and institutional settings.

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. (EDUC712, 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 567. (SOCI567) Urban Sociology. (M)
Grazian.

This course will examine the urban structures and processes that characterize the social and cultural milieu of the contemporary American city. Specific course topics will include the social organization of local urban subcultures and neighborhood communities, the cultural consequences of gentrification and racial segregation, the reputation of cities in the public imagination, and the commodification of the urban landscape.

SM 608. (HIST608, SOCI608) Proseminar in Urban Studies. (E)
Katz.

In the spring semester 2011, the proseminar will focus on the political economy of urban space. This seminar is required for students in the Urban Studies Graduate Certificate Program. They will be given preference for enrollment, which is limited to 15. The course is designed for Ph.D. students who intend to do urban-related research. It is not open to undergraduates. Master's Degree students will be allowed to enroll only in special circumstances and with the permission of the instructor. To earn credit for the Graduate Certificate Program,

students must complete a research paper during the summer following the seminar.

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. (SOCI624) 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/Identities. (C)
Lukose, Hall. Prerequisite(s): EDUC/URBS 547.

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 713. (EDUC712) POLICY-MAKING
IN EDUC.**

**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. Also fulfills General Education in Sectors IV (Humanities and Social Sciences) and VII (Natural Science and Mathematics) for Class of 2010 and beyond.

Visual Studies 101 provides an introduction to a variety of approaches to understanding the nature of seeing, with attention to its physiological, environmental and cultural bases. The course compares and contrasts how artists, art historians, philosophers, and scientists consider the same broad set of issues. It is typically co-taught by two faculty whose expertise represents two of these different approaches, and whose lectures make explicit connections between different styles of intellectual endeavor. In this sense, the course is a microcosm of the visual studies major.

The topics include - The eye, light and visual system, including both our modern understanding and a discussion of how this understanding developed over time. - The eye and culture, with particular emphasis on artistic depictions and concepts of the role of vision in society. - How perceptual abilities are measured in the lab, and the relationship between seeing and measurement and science. Perception and depiction of scenes, including depth, color, and motion. - How culture endows visual attributes (e.g. color) with meaning. - Depicting the body; seeing the self. - Visual memory and visual cognition. - Philosophy of seeing and science. What does it mean to see? How do we know what we see? Is seeing believing?

102. 2 Dimensions: Forms and Meanings. (C) Tilestone,.

This course will introduce students to the basic concepts of two dimensional studio practice and visual communication. Materials will range from traditional drawing materials such as charcoal and pencil to digital photography, and will explore the use of diverse visual languages. Emphasis will be on both formal and conceptual issues, such as developing

meaning through imagery, narrative, metaphor, and visual modes in contemporary culture. Projects will be structured to deal with basic concepts and techniques, and prepare students to use the studio practice as a form of participation in contemporary culture. Assorted readings will accompany the studio projects each week, covering topics ranging from color theory to critical and theoretical issues in Visual Culture.

103. 3 Dimensions: Time and Space. (C) Kaczynski.

This course will cover the basic concepts of three dimensional design and sculpture such as volume and mass, scale, materiality, form and meaning, context, organic vs. geometric, etc. Students will also be introduced to more contemporary areas of artmaking such as conceptual art, installation, and video and other time based arts. Projects will use both traditional sculptural materials as well as some "non-art" materials.

SM 271. (FNAR271, FNAR571)

Introduction to Photography. (C) Rodewald/Martinez/Diamond/Pfister/Bryant. Lab fee: \$50.00.

This course will introduce students to the basic concepts, processes and techniques used in black and white photography, including camera operation, exposure, darkroom procedures, basic lighting, and their controlled applications. Introduction to Photography is designed to provide beginners with an introduction into the proper methods for creating black and white photographic images. Students will learn how to fully use and understand their SLR 35mm camera in order to successfully expose black and white film. Students will then learn how to professionally process their film and print their negatives onto photographic paper. This course begins with an emphasis on understanding and mastering technical procedures and evolves into an investigation of the creative and expressive possibilities of the medium. A brief introduction into the realm of digital imaging is also incorporated into this course; this includes scanning black and white negatives and the basics of Photoshop image adjustments. No previous experience necessary. Although it is recommended that students purchase their own 35mm SLR cameras for this course, cameras will be available throughout the semester for reservation and checkout from the photography equipment room. Lab fee: \$50.00

SM 301. (ARTH301) What is Visual Studies?. (C) Staff. Prerequisite(s): VLST 101 or Instructor Permission.

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 395. Senior Project. (E)

Prerequisite(s): Permission of Instructor Required. See department for appropriate section numbers. See department for appropriate section numbers.

399. Independent Study. Staff.