Harvard University
Faculty of Arts and Sciences
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Introductory Notes

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of Arts and Sciences

Courses of Instruction, 2013–2014

Introductory Note

The Faculty of Arts and Sciences offers these courses to students registered in Harvard College, the Graduate School of Arts and Sciences, and the School of Engineering and Applied Sciences. A student in good standing in any other School of the University may be admitted to courses by cross-registration. For information on cross-registration, please visit http://crossreg.harvard.edu.

Students are admitted to a course only if they have fulfilled all the requirements for that course as stated in this catalog, or by permission of the instructor. Requirements are usually stated as prerequisites in the course descriptions.

Courses numbered in the 300s or 3000s are for graduate students only. Advanced Standing students in their fourth year of residence in Harvard College, who are candidates for the master's degree, may enroll in these courses with the signature of the instructor on their study cards.

Students registered in the Faculty of Arts and Sciences may enroll in most courses given by other faculties of the University. They also may take courses at the Episcopal Divinity School (graduate students only), the Fletcher School of Law and Diplomacy (graduate students only), and the Massachusetts Institute of Technology (including the Harvard–MIT Program in Health Sciences and Technology). For details on cross-registration procedures, undergraduates should consult Handbook for Students and graduates should consult The Graduate School of Arts and Sciences Handbook. The Harvard University on-line course catalogs containing course descriptions, faculty information, and general information about classes at each school are available at https://coursecatalog.harvard.edu.

Students are able to access the Electronic Enrollment (Study Card) application by selecting the "Academics" tab of http://my.harvard.edu. Within this screen, students will see a block called 'Study Card' and to the left of this block will be the 'Course Planner'. The Course Selection Tool is available to add courses to the shopping list at any time. Once the Course Enrollment (Study Card) tool opens, these courses can be added to the study card.

Explanation of Course

Most courses are numbered with the following general scheme:

100–199 Undergraduates and Graduates
200–299 Primarily for Graduates
300–399 Graduate Courses of Reading and Research

Anthropology, Chemical Biology, Economics, Government, Health Policy, History, Psychology, Religion, and Studies of Women, Gender, and Sexuality courses have four-digit numbers. The following general scheme applies:

910–999 Primarily for Undergraduates
1000–1999 Undergraduates and Graduates
2000–2999 Primarily for Graduates
3000–3999 Graduate Courses of Reading and Research

Unless otherwise specified, Graduate Courses of Reading and Research are half courses offered in both fall and spring terms.

A Capital letters designate elementary courses in language and composition; numerals designate all other courses, with the number 1 (and not zero) as the lowest designation.

hf Half courses extending throughout the two terms of the academic year are designated by hf immediately following the course number.

r Courses that may be repeated for credit are designated by an r immediately following the course number.

* An asterisk before a course title indicates that the instructor must consent to a student's enrollment by signing the study card.

[ ] A course number and title enclosed in brackets indicate that the course is not being offered during the current year. A note indicates when it will next be offered.

( ) A day enclosed in parentheses indicates that the course meets on that day only at the discretion of the instructor.

Catalog Number: The four- or five-digit number below the course title is a course identification number used for computer processing and on the study card. The following catalog numbers, not listed elsewhere in this catalog, have been assigned for the special study opportunities of TIME (for graduate students) and Independent Study (for undergraduates):

Independent Study
TIME-C

TIME-R
TIME-T

Instructor Number: In course listings of Graduate Courses of Reading and Research, each instructor's name is followed by a four-digit identification number used for computer processing and on the study card.

Examination Group: Marked by the phrase EXAM GROUP; in most course listings, the numbers indicate the Examination Group to which the course belongs. Examination Groups usually correspond to class meeting times and ordinarily change if the meeting time changes (see About this Catalog below). Tutorials and 300/3000-level courses are not typically assigned to an Examination Group.

About this Catalog

The University reserves the right to withdraw or modify courses of instruction at any time. Review of academic, financial, and other considerations leads to changes in the policies, rules, and regulations applicable to students, and the Faculty of Arts and Sciences therefore reserves the right to make changes at any time. These changes may affect such matters as tuition and all other fees, degrees and programs offered (including the modification or possible elimination of degrees and programs), degree and other academic requirements, academic policies, rules pertaining to student conduct and discipline, fields or areas of concentration, and other rules and regulations applicable to students.

While every effort has been made to ensure that this catalog is accurate and up-to-date, it may include typographical or other errors. Changes are regularly made to this online catalog.

If you are unable to access the material contained in the Catalog, contact the Accessible Education Office, 1350 Massachusetts Avenue, Holyoke Center 486, Cambridge, Massachusetts 02138. V: 617-496-8707; V/TTY 617-496-3720; or aeo@fas.harvard.edu.

General Education

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on General Education

Edward J. Hall, Professor of Philosophy *(Chair)*
Florian Engert, Professor of Molecular and Cellular Biology
Jay M. Harris, Harry Austryn Wolfson Professor of Jewish Studies and Dean of Undergraduate

Education *(ex officio)*
Eric J. Heller, Abbott and James Lawrence Professor of Chemistry and Professor of Physics
Stephanie H. Kenen, Administrative Director of the Program in General Education and Associate Dean of Undergraduate Education *(ex officio)*
Caroline Light, Lecturer on Studies of Women, Gender, and Sexuality
Robert A. Lue, Professor of the Practice of Molecular and Cellular Biology
Jason P. Mitchell, Professor of Psychology
Parimal G. Patil, Professor of Religion and Indian Philosophy
Tobias Ritter, Professor of Chemistry and Chemical Biology
James Robson, Professor of East Asian Languages and Civilizations
Mary M. Steedly, Professor of Anthropology *(fall term) (on leave spring term)*

As part of the Harvard College Curricular Review, the Faculty of Arts and Sciences voted to replace the existing, thirty-year-old Core Curriculum requirements with a new Program in General Education in order to align these requirements with the educational needs of Harvard College students at the dawn of the twenty-first century. In contrast with the Core Curriculum, which required that students be exposed to a number of different "ways of knowing," the new Program seeks explicitly to "connect a student's liberal education - that is, an education conducted in a spirit of free inquiry, rewarding in its own right - to life beyond college." In addition, General Education seeks to provide new opportunities for students to learn - and for faculty to teach - in ways that cut across traditional departmental and intra-University lines.

General Education requires that students pass one letter-graded half-course in each of eight categories: Aesthetic and Interpretive Understanding; Culture and Belief; Empirical and Mathematical Reasoning; Ethical Reasoning; Science of Living Systems; Science of the Physical Universe; Societies of the World; United States in the World. One of the eight courses must also engage significantly with the study of the past (these courses are identified in the "Note" field of each catalog entry).

For more information on the Program in General Education, please visit the website *www.generaleducation.fas.harvard.edu*.

Aesthetic and Interpretive Understanding

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Courses in the Aesthetic and Interpretive Understanding category focus on the development of aesthetic responsiveness and the ability to interpret forms of cultural expression through the study of literary or religious texts, paintings, sculpture, architecture, music, film, dance, decorative arts, etc. Students learn to engage intelligently and critically with the world of art, literature, and ideas by analyzing works in a theoretical framework.

Aesthetic and Interpretive Understanding

Aesthetic and Interpretive Understanding 11. Poetry Without Borders
Catalog Number: 0416
Stephanie Sandler (Slavic Languages and Literatures)

Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
Studies poetry as a cultural practice that requires and perversely challenges visual, linguistic, geographic, and aesthetic borders. Main topics are translation (poems crossing borders), emigration/exile (poets crossing borders), and poetry and other arts (poems joining with music, film, photography, and philosophy). Poems and prose by Charles Bernstein, Bei Dao, Joseph Brodsky, Paul Celan, Carolyn Forché, Susan Howe, Yang Lian, Stéphane Mallarmé, Haryette Mullen, Vladimir Nabokov, W. G. Sebald, and C. D. Wright, among others; theoretical texts, sound recordings, visual images, films, and poetry performances.
Note: Expected to be omitted in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Aesthetic and Interpretive Understanding 12. Poetry in America]
Catalog Number: 0748
Elisa New (English)
Half course (spring term). M., W., 1-2:30, and a weekly section to be arranged. EXAM GROUP: 6, 7
Surveying 300+ years of poetry in America, from the Puritans to the avant-garde poets of this new century, the course covers individual figures (Poe, Whitman, Dickinson, Frost, Williams, Hughes), major poetic movements (Firesides, Modernist, New York, Confessional, L-A-N-G-U-A-G-E) and probes uses of poetry across changing times. Who, and what, are poems for? For poets? Readers? To give vent to the soul? To paint or sculpt with words? Alter consciousness? Raise cultural tone? Students will read, write about and also recite American poems.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Aesthetic and Interpretive Understanding 13. Cultural Agents
Catalog Number: 0460
Doris Sommer (Romance Languages and Literatures; African and African American Studies) and Francesco Erspamer (Romance Languages and Literatures)
Half course (fall term). M., 3-5, and a weekly section to be arranged. EXAM GROUP: 8, 9
Explore the arts as social and professional resources! Whether you pursue medicine, law, engineering, business, government, etc., the arts will enhance your work and your citizenship. Active citizens construct opportunities for positive social change. A lecture series by a range of professionals demonstrates that change in practically any field depends on art. Theoretical readings (Schiller, Kant, Dewey, Freire, Gramsci, Rancière, Mockus, Boal, Nussbaum, Pasolini, inter alia) are grounded in concrete cases of agency. The final project will be a design for a creative social intervention, including reflections on creating the design.
Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[Aesthetic and Interpretive Understanding 14 (formerly Literature and Arts C-56). Putting Modernism Together]
Catalog Number: 7613
Daniel Albright (English)
Half course (spring term). M., W., at 12, and a weekly section to be arranged. EXAM GROUP: 5

Just as a pine or a willow is known from the shape of its branching, so human culture can be understood as a growth-pattern, a ramifying of artistic, intellectual, and political action. This course tries to find the center of the Modernist movement (1872-1927) by studying the literature, music, and painting of the period, to see whether some congruence of effort in all these media can be found. By looking at the range of artistic production in a few key years, we come to know this age of aesthetic extremism, perhaps unparalleled in Western history.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[Aesthetic and Interpretive Understanding 15 (formerly English 34). Elements of Rhetoric]
Catalog Number: 3820 Enrollment: Limited to 100.
James Engell (English)
Half course (fall term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
Rhetorical theory, originating with Aristotle, in contemporary applications. The nature of rhetoric in modern culture; practical examples drawn from American history and literature 1765 to the present; written exercises and attention to public speaking; the history and educational importance of rhetoric in the West; stresses theory and practice as inseparable.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Aesthetic and Interpretive Understanding 16. Openings: The Illuminated Manuscript
Catalog Number: 30214
Jeffrey F. Hamburger (History of Art and Architecture)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
In an age of mechanical – and now virtual – reproduction, we have lost sight of the basic visual unit that structures our experience of the book:the opening.Employing old and new technologies, this course focuses on medieval books, their decoration and their readers in the Middle Ages (ca. 300–1500), when the book as we have known it, along with allied institutions, such as the university itself, first came into being.
Note: Expected to be omitted in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

Aesthetic and Interpretive Understanding 20 (formerly Literature and Arts A-22). Poems, Poets, Poetry
Catalog Number: 5808
Helen Vendler (University Professor; English)
Half course (spring term). M., W., (F.), at 1, and a weekly section to be arranged. EXAM GROUP: 6
A study of poetry as the history and science of feeling: readings in major lyric poems of England and America. Emphasis on problems of invention and execution, and on the poet's choice of genre, stance, context, and structure. Other topics to be raised include the process of composition, the situating of a poem in its historical and poetic contexts, the notion of a poet's development, the lyric as dramatic speech, and the experimental lyric of the 20th century.
Note: Expected to be omitted in 2013–14. This course fulfills the requirement that one of the

eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Aesthetic and Interpretive Understanding 21 (formerly Literature and Arts A-51). Virgil: Poetry and Reception
Catalog Number: 1565
Richard F. Thomas (The Classics)
Half course (spring term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
Begins with the *Aeneid*, paradigmatic epic of the West, from various perspectives, involving literary aesthetics and translation theory, Homeric and other intertextuality, concepts of heroism and anti-heroism, individual choice vs. public responsibility, critique of empire then, now, and in between. Concurrent attention to Virgil tradition in early Christianity, Dante, Milton, Dryden, the Romantics, post-WWI Modernists; influence on music, art, and iconography. Subsequent focus on the *Eclogues* and *Georgics*, their place in the traditions of European pastoral and didactic, status as works of early Augustan poetry, and reception from Petrarch to Heaney.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Aesthetic and Interpretive Understanding 24 (formerly Literature and Arts B-51). First Nights: Five Performance Premieres
Catalog Number: 0144
Thomas F. Kelly (Music)
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
A study of five famous pieces of music, both as timeless works of art and as moments of cultural history. Close attention is given to techniques of musical listening, and to the details of the first performance of each work, with a consideration of the problems involved in assembling such a picture. Works studied are Beethoven, *Symphony no. 9*; Berlioz, *Symphonie fantastique*; Stravinsky, *Le sacre du printemps*; Handel, *Messiah*; Monteverdi, *Orfeo*. The course concludes with the first performance of a new work especially commissioned for this course.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or Culture and Belief, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

Aesthetic and Interpretive Understanding 25 (formerly Literature and Arts C-55). Surrealism: Avant-Garde Art and Politics between the Wars
Catalog Number: 7818
Susan R. Suleiman (Romance Languages and Literatures; Comparative Literature)
Half course (spring term). T., Th., at 1, and a weekly section to be arranged. EXAM GROUP: 15
An overview of Surrealism in the context of European culture and politics of the 20th century. Focus on major works of writers, artists, and filmmakers associated with the Surrealist movement, chiefly in the period between the two world wars; some attention also paid to earlier works and movements, and to the influence of and reactions to Surrealism after 1945. Discussion of works by Breton, Aragon, Tzara, Lautréamont, Artaud, Eluard, Carrington, Bunuel and Dali,

Dulac, Magritte, Tanning, Ernst, Man Ray, Bellmer, and others. Includes examination of rare books in Houghton Library and/or original art works at local museums.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[Aesthetic and Interpretive Understanding 26 (formerly Studies of Women, Gender, and Sexuality 1133). Race, Gender, and Performance]
Catalog Number: 8829
Robin M. Bernstein (Studies of Women, Gender, and Sexuality; African and African American Studies)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
Introduction to performance studies as it intersects with studies of gender, sexuality, and race. What does it mean to say gender is "performed"? How does performance–both on- and offstage–construct and deconstruct power? Topics include transgressive and normative gender, feminist and queer theatre, athletics, gender in everyday life, drag, AIDS, and weddings. Texts include Eve Ensler, Ntozake Shange, Judith Butler, Anna Deavere Smith, Cherríe Moraga, David Henry Hwang, Bertolt Brecht, Guillermo Gómez-Peña.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

[Aesthetic and Interpretive Understanding 29 (formerly Literature and Arts A-48). Modern Jewish Literature]
Catalog Number: 1250
Ruth R. Wisse (Near Eastern Languages and Civilizations; Comparative Literature)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
Great works of fiction become universal and remain able to surprise, delight, inform, or otherwise overwhelm current readers. What gives them this power? How do writers become adjectives like Babelian, Bellovian, or Kafkaesque? This course moves through the twentieth century through the literature of a multilingual people, with works in Hebrew, Yiddish, German, Russian, Italian, and English. We see how variously Jewish writers interpret modern history and their own situation within it.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Aesthetic and Interpretive Understanding 30 (formerly Literature and Arts A-92). Love In A Dead Language: Classical Indian Literature and Its Theorists]
Catalog Number: 6240
Parimal G. Patil (Study of Religion; South Asian Studies)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
An exploration of love in five genres of classical South Asian literature–epic history, story literature, plays, poetic miniatures, and court poetry. We will pay particular attention to the nature of literary genres and practices and how they were theorized by South Asian intellectuals. Especially relevant are theories of poetic language, aestheticized emotion (especially love), and literary ornamentation.

Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Aesthetic and Interpretive Understanding 31 (formerly Literature and Arts B-85). American Musicals and American Culture]
Catalog Number: 2449 Enrollment: Limited to 150.
Carol J. Oja (Music)
Half course (spring term). Tu., Th., at 12, and a weekly section to be arranged. EXAM GROUP: 14
During much of the 20th century, the Broadway musical stood at the center of American culture, producing tunes and tales that became the hits of their day. It commented–wittily, satirically, relentlessly–on the ever-shifting social and political landscape, with subjects ranging from new immigrants to poverty, power, westward expansion, and issues of race. This course explores the musical artistry and cultural resonances of a cluster of iconic Broadway musicals on stage and screen, including *Shuffle Along, Show Boat, Stormy Weather, The Cradle Will Rock, Oklahoma!,* and *Pacific Overtures.* Readings focus on primary sources drawn from Harvard's illustrious Theatre Collection.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

[Aesthetic and Interpretive Understanding 33 (formerly Classical Studies 154). Ancient Fictions: The Ancient Novel in Context]
Catalog Number: 7862
David F. Elmer (The Classics)
Half course (fall term). M., W., at 1, and a weekly section to be arranged. EXAM GROUP: 6
Did the Greeks and Romans read novels? Fictional prose narratives about adventure and romance in exotic lands were immensely popular in antiquity. We will explore this tradition by reading the five surviving Greek novels, the *Golden Ass* of the Roman Apuleius, and selected other texts, along with works by contemporary theorists and critics. Topics include: definitions of the "novel;" ancient representations of desire; gender and class politics; relationships between secular and religious narratives.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Aesthetic and Interpretive Understanding 34. Interpretation: Artful Reading of Page, Stage, and Screen
Catalog Number: 75613
Julie A. Buckler (Slavic Languages and Literatures)
Half course (fall term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
Explores the practice of interpretation for the humanities. How can we determine whether a given interpretation is valid? Is humanistic interpretation a set of procedures to be learned or an art in itself? What are its aims? We'll test theories and methods of interpretation on a diverse

array of works (text, image, film, performance).
Note: Expected to be omitted in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Aesthetic and Interpretive Understanding 35. Forms in Korean Cultural History]
Catalog Number: 8798
David McCann (East Asian Languages and Civilizations)
Half course (fall term). M., W., at 1:30, and a weekly section to be arranged. EXAM GROUP: 6, 7
This course starts with Korea's self-presentation through the Korea Wave, then turns to the features of twentieth century *modernity*. The third part examines historical case studies in cultural survival. *Korea Indigenous* pursues two modes of study, academic and aesthetic: the study of texts, pictures and other formulations of Korean identities, through discussions and writing; and the creation of the aesthetic, for example through writing poems in the Korean *sijo* form.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

Aesthetic and Interpretive Understanding 36 (formerly Foreign Cultures 94). Buddhism and Japanese Culture
Catalog Number: 3203 Enrollment: Limited to 108.
Ryuichi Abe (East Asian Languages and Civilizations)
Half course (spring term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
This course is designed to enable students to analyze a wide range of Japanese cultural creations—including the traditional Noh theater, modern Japanese paintings, and contemporary anime—by illustrating the influence of Buddhism both on their forms and at their depths. The first part of the course is a study of major Buddhist philosophy and its impact on Japanese literature. The second part observes Buddhist ritual practices and their significance for Japanese performing arts. The last part traces the development of Japanese Buddhist art, and considers the influence of Buddhism on diverse contemporary popular Japanese art media.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

[Aesthetic and Interpretive Understanding 37. Introduction to the Bible in the Humanities and the Arts]
Catalog Number: 92966
Gordon Teskey (English)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
A course on the structure of the Bible, which William Blake called "the great code of art." Major themes include the invention of God, the invention history, and the invention of the city (or rather, of two cities, that of the devil and that of God). About two-thirds of the Authorized Version (King James) of 1611 will be read.
Note: The course does not count for the English concentration "Arrivals" requirement. This



course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Aesthetic and Interpretive Understanding 38. The English Language as Literature]
Catalog Number: 47723
Daniel Albright (English)
Half course (fall term). M., W., at 12, and a weekly section to be arranged. EXAM GROUP: 5
This course will recount the development of English literature, from Caedmon's hymn to *Ulysses*, as a story about the development of the English language, its new musculatures: how the steady accretion of linguistic and word-musical possibilities (French and Latin vocabulary, Italian stanza forms, Germanic and Celtic archaisms, finally a sort of pan-European synthesis) shaped the works of Chaucer, Spenser, Milton, Swift, MacPherson, Wordsworth, Tennyson, Hopkins, Yeats, Joyce, and Beckett.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Aesthetic and Interpretive Understanding 39 (formerly Chinese Literature 150). Old Tales for New Times: The Appropriation of Folklore in Modern and Contemporary China]
Catalog Number: 7777
Wilt L. Idema (East Asian Languages and Civilizations) and David Der-Wei Wang (East Asian Languages and Civilizations)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
This class will look at China's most famous traditional tales, such as Mulan, The White Snake, Meng Jiangnü and Liang Shanbo and Zhu Yingtai (the Butterfly Lovers?). We will study both the richness and variety of these tales in premodern times, and look into their modern and contemporary manifestations in fiction, stage, cinema and other popular media. Special emphasis is put on tradition and modernity, gender and moral dynamics, regionalism and nationalism.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

[Aesthetic and Interpretive Understanding 40. Monuments of Islamic Architecture]
Catalog Number: 94499
Gülru Necipoglu-Kafadar (History of Art and Architecture) and David J. Roxburgh (History of Art and Architecture)
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
An introduction to ten iconic monuments of the Islamic world from the beginning of Islam to the early modern period. The course introduces various types of building-mosques, palaces, multifunctional complexes-and city types and the factors that shaped them, artistic, patronal, socio-political, religio-cultural, and economic. Each case study is divided into two lectures. The first presents the monument or city by "walking" through it. The second is devoted to themes elicited from the example, developed in light of comparative monuments, sites, and/or written sources, and to problems of patronage, production, audience and meaning as they pertain to architectural history.

Note: Expected to be given in 2014–15. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

Aesthetic and Interpretive Understanding 41 (formerly Literature and Arts C-30). How and What Russia Learned to Read: The Rise of Russian Literary Culture
Catalog Number: 7952
William Mills Todd III (Slavic Languages and Literatures; Comparative Literature)
Half course (spring term). M., W., (F.), at 10, and a weekly section to be arranged. EXAM GROUP: 3
A study of the emergence of a secular literary tradition in the Russian imperial period. Focus on cultural institutions (religion, art, literature), issues of the aesthetic and social critique, and problems of interpretation for contemporary and modern readers. Analysis of novels by Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, and Tolstoy.
Note: No knowledge of Russian required. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or Culture and Belief, but not both. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[Aesthetic and Interpretive Understanding 42. Literature and Revolution: Great Books in Moments of Cultural Transformation]
Catalog Number: 88601
James Simpson (English)
Half course (spring term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
What is the function of literary texts in moments, from Plato to the Russian Revolution, that promise total, enlightened societal transformation? Each week, this course will focus on two texts related to selected "revolutionary" moments, one philosophical and one literary. Literary texts do not participate easily in the revolutionary order. They resist the textual simplicities of philosophy. Which do we trust: philosophy or literature? Texts include many found in traditional "Great Books" courses: Plato, Virgil, Augustine, Dante, Luther, Milton, Swift, Rousseau, Twain, Kant, Marx, and Chekov, among others.
Note: Expected to be given in 2013–14. Students who have taken Culture and Belief 18 may not take this course for credit. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Aesthetic and Interpretive Understanding, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[Aesthetic and Interpretive Understanding 44. Arts of Asia]
Catalog Number: 79929
Melissa M. McCormick (East Asian Languages and Civilizations), Yukio Lippit (History of Art and Architecture), and Eugene Wang (History of Art and Architecture)
Half course (spring term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
Examines the materials and artistic processes of artifacts from China, Korea, and Japan, as well as the historical, social, religious, and philosophical contexts in which they were produced. Each

week focuses on a different type of object (ceramics, prints, painting, calligraphy, sculpture, architecture, and performance art) linked to different types of spaces (the tomb, household, palace, temple, shrine, and the city). Emphasizes up-close analysis of objects selected from the Harvard Art Museum's collections. Students will work from the beginning of the semester toward a final project consisting of mounting their own (virtual) exhibition of East Asian art.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

[Aesthetic and Interpretive Understanding 45 (formerly Foreign Cultures 72). Art and Politics in Russia and Eastern Europe]
Catalog Number: 5581
Svetlana Boym (Slavic Languages and Literatures; Comparative Literature)
Half course (fall term). Tu., 2-4, and a weekly section to be arranged. EXAM GROUP: 16, 17
The course examines the relationship between art and politics in twentieth century Russia and Eastern Europe through visual culture, literature, and film. We move chronologically from the Russian revolution and the period of artistic experimentation to the art of Stalin's era, Gulag and the Cold War, examining writer's trials and dissent in Russia and Eastern Europe as well as the non-conformist art of the late twentieth century. Emphasis is placed on close analysis and aesthetic interpretation in a broader political and historical context. We read works by Malevich, Chagall, Eisenstein, Babel, Brodsky, Mandelstam, Mayakovsky, Havel, Kundera, Arendt, Vajda and Nabokov.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures or Literature and Arts C, but not both.

[Aesthetic and Interpretive Understanding 46 (formerly Literature and Arts B-49). Modernisms 1865–1968]
Catalog Number: 7619
Benjamin Buchloh (History of Art and Architecture)
Half course (spring term). Tu., Th., at 1, and a weekly section to be arranged. EXAM GROUP: 15
This course introduces the complex and contradictory history of modernism in the visual arts of Europe and the US, focusing on central figures (e.g. Manet, Picasso, Duchamp, Warhol) and movements (e.g. Cubism, Dada, Soviet Avant-garde), as much as on the key concepts of that history. Lectures will emphasize the methodological diversity developed within recent art history to theorize and historicize Modernism. Readings will comprise key texts by artists, historians, and critics.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

[Aesthetic and Interpretive Understanding 47 (formerly Literature and Arts A-90). Forbidden Romance in Modern China]
Catalog Number: 7766
David Der-wei Wang (East Asian Languages and Civilizations)

Half course (spring term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
This course introduces a unique dimension of Chinese modernity: amorous engagement in fiction and lived experience, its discursive and visual representations, and its institutional implementation (gender, marriage, family, law, nation/state, etc.), censorship, and transgression. It examines how the modern lure of free will and emancipated subjectivity drove Chinese to redefine terms of affect, such as love, feeling, desire, passion, sexuality, loyalty, dedication, revolution and sacrifice. It also looks into how the moral, legal and political consequences of affect were evoked in such a way as to traverse or fortify consensual boundaries and their manifestations.
Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Aesthetic and Interpretive Understanding 49 (formerly Medieval Studies 114). The Medieval Imagination: Visions, Dreams, and Prophecies]
Catalog Number: 3080
Nicholas Watson (English)
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
The medieval imagination was the ambiguous mediator between the world and the mind: a mental space in which either prophetic truths or dreams and diabolic deceptions might be experienced, in which material and spiritual realities were reflected as in a mirror, and in which those complex constructs we call "fictions" found their source. This course investigates dream poetry and visionary writing in the context of medieval psychological theory. Texts to be read include Boethius's *Consolation of Philosophy, The Romance of the Rose,* Dante's *Divine Comedy*, John of Morigny's *Book of Flowers,* and works by Augustine, Julian of Norwich, and others.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Aesthetic and Interpretive Understanding 50 (formerly Literature 128). Literature and Medicine
Catalog Number: 25702
Karen Thornber (Comparative Literature)
Half course (fall term). Tu., 1-3, and a weekly section to be arranged. EXAM GROUP: 15, 16
Examines the relationship between literature and medicine through creative texts that question understandings, shatter binaries, and reconceptualize notions of normality/disability, health/disease, and life/death. Pays particular attention to the work of physician-writers and narratives by patients.
Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Aesthetic and Interpretive Understanding 51 (formerly Italian 131). The Cosmos of the *Comedy*]
Catalog Number: 49715
Jeffrey Schnapp (Romance Languages and Literatures)

Half course (fall term). M., 1-3, and a weekly section to be arranged. EXAM GROUP: 6, 7
This lecture course provides an in-depth introduction to Dante Alighieri's 14th-century masterpiece, the *Divine Comedy*, from the standpoint of its sustained dialogue with some of the most influential epic poems from Roman antiquity: Virgil's *Aeneid*, Ovid's *Metamorphoses*, Statius's *Thebaid*, and Lucan's *Pharsalia*. One of the course's highlights is a multimedia web-based competition in which all enrolled students compete for the annual Bedeviled Harvard prize.
Note: Expected to be given in 2013–14. Conducted in English. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Aesthetic and Interpretive Understanding 53 (formerly Japanese Literature 161). Anime as Global Popular Culture
Catalog Number: 49149
Tomiko Yoda (East Asian Languages and Civilizations) and Alexander Nikolas Zahlten (East Asian Languages and Civilizations)
Half course (spring term). Tu., Th., at 2, weekly film screenings on Mondays 7-9 pm, and a weekly section to be arranged. EXAM GROUP: 16
This course examines a wide range of contemporary animated films and TV series made in Japan through their generic conventions, formal aesthetics, and narrative themes. Special attention will be paid to the relations between anime and various other commercial as well as non-commercial mediums such as manga, live-action films, video games, pop music, character merchandises, and fanzines.
Note: Expected to be omitted in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

[Aesthetic and Interpretive Understanding 54 (formerly Culture and Belief 12). For the Love of God and His Prophet: Religion, Literature, and the Arts in Muslim Cultures]
Catalog Number: 7027
Ali S. Asani (Study of Religion; Near Eastern Languages and Civilizations)
Half course (spring term). Tu., Th., 11:30-1, and a weekly section to be arranged. EXAM GROUP: 13, 14
The course surveys the literary and artistic dimensions of the devotional life of the world's Muslim communities, focusing on the role of literature and the arts (poetry, music, architecture, calligraphy, etc.) as expressions of piety and socio-political critique. An important aim of the course is to explore the relationships between religion, literature, and the arts in a variety of historical and cultural contexts in the Middle East, sub-Saharan Africa, South Asia, Europe, and America.
Note: Expected to be given in 2013–14. No prior knowledge of Islam required. Offered jointly with the Divinity School as 3627. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or Culture and Belief, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade meets the Core area requirement for Foreign Cultures or Literature and Arts C, but not both.

Aesthetic and Interpretive Understanding 55 (formerly Literature and Arts A-40). Shakespeare, The Early Plays - *(New Course)*
Catalog Number: 45945
Marjorie Garber (English; Visual and Environmental Studies)
Half course (fall term). M., W., (F.), at 10, and a weekly section to be arranged. EXAM GROUP: 3
The early comedies, tragedies, and histories, considered in the context of the origins of the English stage and the conventions of Elizabethan drama. Particular attention paid to Shakespeare's development as a dramatist, and to poetic expression, thematic design, stagecraft, and character portrayal in plays.
Note: This course, when taken for letter grade, meets the Department of English Shakespeare requirement. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Aesthetic and Interpretive Understanding 58. Modern Art and Modernity - *(New Course)*
Catalog Number: 99586
Ewa Lajer-Burcharth (History of Art and Architecture), Maria Elizabeth Gough (History of Art and Architecture), and Benjamin Buchloh (History of Art and Architecture)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
The course examines the defining moments in the development of modern European and American art from the eighteenth- through to the twentieth-century. Anchored by a significant date, each lecture focuses on the relationship between a major artistic event and the social, political, cultural, and technological conditions of its emergence. A wide range of media, from painting, sculpture, and print-making to photography, photomontage, video, installation, and performance art, will be considered. Situating the key aesthetic transformations that defined art's modernity in a broader historical context, the course explores the fundamental role of advanced forms of artistic practice in the formation of modern culture and society.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

Cross-listed courses that satisfy the Aesthetic and Interpretive Understanding requirement. Some of these courses may have prerequisites or assume familiarity with the subject matter.

[African and African American Studies 179 (formerly Literature and Arts B-82). Jazz, Freedom, and Culture]
[African and African American Studies 182. From R & B to Neo Soul: Black Popular Music and Cultural Transformation]
[Culture and Belief 28. Hindu Worlds of Art and Culture]
Culture and Belief 40 (formerly Foreign Cultures 67). Popular Culture and Modern China
Culture and Belief 45 (formerly English 101). The History of the English Language
Culture and Belief 54 (formerly Foreign Cultures 76). Nazi Cinema: The Art and Politics of Illusion
English 157. The Classic Phase of the Novel
English 182. Science Fiction

English 192. Political Theatre and the Structure of Drama
***Folklore and Mythology 90i (formerly Aesthetic and Interpretive Understanding 27).**
Fairy Tales and Fantasy Literature
History of Art and Architecture 1. Landmarks of World Art & Architecture
[History of Art and Architecture 10. The Western Tradition: Art Since the Renaissance]
History of Art and Architecture 11. Landmarks of World Architecture
History of Art and Architecture 172w. American Art and Modernity, 1865–1965
Literature 101 (formerly Literature 11). Writing Across Cultures: Literatures of the World (from 1750 to the present)
[Literature 103 (formerly Literature 10). Writing Across Cultures: Literatures of the World (to 1750)]
Medieval Studies 107. Authority and Invention: Medieval Art and Architecture
Music 1a. Introduction to Western Music from the Middle Ages to Mozart
Music 1b. Introduction to Western Music from Beethoven to the Present
Music 2. Foundations of Tonal Music I
***Music 51a. Theory I**
***Music 51b. Theory 1**
[Music 190gw (formerly Music 190rs). South Indian Music]
[Music 194gs. Special Topics: Proseminar]
[Scandinavian 150. The Vikings and the Nordic Heroic Tradition]
[Slavic 148. Strange Russian Writers]

Culture and Belief

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

The aim of courses in the Culture and Belief category is to develop an understanding of and appreciation for the ways that social, political, religious, economic, and historical conditions shape the production and reception of ideas and works of art, either within or across cultural boundaries. Students in these courses examine how cultures and beliefs affect the identities of individuals and communities. Courses in this category draw connections between the material covered in the course and cultural issues of current concern or interest.

Culture and Belief

[Culture and Belief 11. Medicine and the Body in East Asia and in Europe]
Catalog Number: 8736
Shigehisa Kuriyama (East Asian Languages and Civilizations)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
Comparative historical exploration of the striking differences and unexpected similarities between traditional conceptions of the body in East Asian and European medicine; the evolution of beliefs within medical traditions; the relationship between traditional medicine and contemporary experience.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

[Culture and Belief 13. The Contested Bible: The Sacred-Secular Dance]
Catalog Number: 9458
Jay M. Harris (Near Eastern Languages and Civilizations)
Half course (spring term). M., W., F., at 10, and a weekly section to be arranged. EXAM GROUP: 3
A short history of the Bible. Questions addressed include how the Bible became a book, and how that book became sacred; the advantages and burdens of a sacred text; Jewish-Christian disputations; how interpretive efforts helped create and reinforce powerful elites; how that text became the object of criticism; and how the Bible fared after the rise of criticism.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[Culture and Belief 14. Human Being and the Sacred in the History of the West]
Catalog Number: 4605
Sean D. Kelly (Philosophy)
Half course (fall term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
A culture's understanding of what it is to be human interacts with its understanding of what is sacred. Great works of art in the culture typically reflect or articulate these notions. This course will explore the themes of human being and the sacred as they are manifested in some of the greatest works in the history of the West. Readings chosen from among Homer, Aeschylus, Virgil, the New Testament, Augustine, Dante, Luther, Pascal, Kant, Melville, and others.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Moral Reasoning.

[Culture and Belief 16 (formerly Folklore and Mythology 100). Performance, Tradition and Cultural Studies: An Introduction to Folklore and Mythology]
Catalog Number: 6753
Stephen A. Mitchell (Germanic Languages and Literatures; Folklore and Mythology)
Half course (fall term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
Examines major forms of folklore (e.g., myths, legends, epics, beliefs, rituals, festivals) and the theoretical approaches used in their study. Analyzes how folklore shapes national, regional, and ethnic identities, as well as daily life; considers the function of folklore within the groups that perform and use it, employing materials drawn from a wide range of areas (e.g., South Slavic oral epics, American occupational lore, Northern European ballads, witchcraft in Africa and America, Cajun Mardi Gras).
Note: Expected to be given in 2013–14. Required of Concentrators and for the Secondary Field in Folklore and Mythology. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

Culture and Belief 17 (formerly Historical Studies B-06). Institutional Violence and Public Spectacle: The Case of the Roman Games
Catalog Number: 2603

Kathleen M. Coleman (The Classics)
Half course (spring term). M., W., F., at 10, and a weekly section to be arranged. EXAM GROUP: 3
Gladiatorial combat, beast fights, staged hunts, mock naval battles, and exposure of criminals to wild animals were defining features of the culture of ancient Rome. Examining texts and images from across the Roman world, this course seeks to identify and probe the values, attitudes, and social, political, and economic factors that contributed to the popularity of institutionalized violence as public entertainment for six hundred years from the Punic Wars until the Christianization of the Empire.
Note: Expected to be omitted in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

Culture and Belief 19 (formerly Foreign Cultures 70). Understanding Islam and Contemporary Muslim Societies
Catalog Number: 1065
Ali Asani (Study of Religion; Near Eastern Languages and Civilizations)
Half course (fall term). Tu., 7:40-9:40 p.m., and a weekly section to be arranged. EXAM GROUP: 18
The course is an introduction to the fundamental concepts of Islam and the role that religious ideas and institutions play in Muslim communities around the world. Its main concern is to develop an understanding of the manner in which diverse notions of religious and political authority have influenced Muslim societies politically, socially and culturally. Through specific case studies of countries such as Saudi Arabia, Iran, Turkey, Egypt, Pakistan, and Afghanistan, the course considers the role played by ideologies such as jihad, colonialism, nationalism, secularism, and globalization in shaping the ways in which Muslims interpret and practice their faith today. The course briefly considers the contemporary situation of Muslim minorities in Europe and the United States. The course, through on-campus and on-line options, allows those enrolled to engage with students from all over the world.
Note: Offered jointly with the Divinity School as 3628. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures or Historical Study A, but not both.

Culture and Belief 20 (formerly Historical Study A-27). Reason and Faith in the West
Catalog Number: 8149
Ann M. Blair (History)
Half course (spring term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
Examines from an historical perspective one of the central themes in the Western intellectual tradition: the desire to reconcile rational philosophy with religious and biblical authority. Discusses the transformations in conceptions of reason, science, biblical interpretation, and divine intervention (among other themes) in the context of the long period of change from medieval to modern. Readings emphasize primary sources–including, for example, Augustine, Aquinas, Galileo, Descartes, Newton, and Darwin.
Note: Expected to be omitted in 2013–14. This course fulfills the requirement that one of the

eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Culture and Belief 21 (formerly Foreign Cultures 93). Pathways through the Andes–Culture, History, and Beliefs in Andean South America
Catalog Number: 2073
Gary Urton (Anthropology)
Half course (spring term). Tu., Th., 1-2:30, and a weekly section to be arranged. EXAM GROUP: 15, 16
This course explores the arts and cultures of Andean South America from the Pre-Columbian through Colonial periods. Emphasis is on the place of objects–textiles, ceramics, sculptures, and books–in the construction of meanings, identities and values as these changed over time. Readings are drawn from archaeology, ethnohistory, ethnology, art history and original sources. Students will work with Pre-Columbian and Colonial Andean artifacts in the collections of the Peabody Museum.
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Societies of the World, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

Culture and Belief 22. Concepts of the Hero in Classical Greek Civilization
Catalog Number: 3915
Gregory Nagy (The Classics; Comparative Literature)
Half course (fall term). M., W., at 12, and a weekly section to be arranged. EXAM GROUP: 5
The readings, all in English translation, are the Homeric Iliad and Odyssey, seven tragedies (Aeschylus' Oresteia Trilogy, Sophocles' two Oedipus dramas, and Euripides' Hippolytus and The Bacchic Women), and two dialogues of Plato (the Apology and the Phaedo, both centering on the last days of Socrates); also, selections from the New Testament, especially from the Gospel according to Mark, and from the dialogue On Heroes by an eminent thinker in the "second sophistic" movement, Philostratus.
Note: Students who have taken Literature and Arts C-14 may not take this course for credit. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

Culture and Belief 23 (formerly Literature and Arts C-70). From the Hebrew Bible to Judaism, From the Old Testament to Christianity
Catalog Number: 5275
Shaye J.D. Cohen (Near Eastern Languages and Civilizations)
Half course (fall term). M., W., (F.), at 10, and a weekly section to be arranged. EXAM GROUP: 3
The Hebrew Scriptures, what Christians call the "Old Testament" and Jews call the "Bible," are the basis of both Judaism and Christianity. In this course we shall survey how this work of literature, through interpretation and re-interpretation, spawned two different cultural systems. Topics to be surveyed include: canon and prophecy; exegesis and *Midrash*; Shabbat and Sunday; temple, synagogue, church; the Oral Torah and the Logos; sin and righteousness; messiah and

redemption.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

Culture and Belief 25 (formerly Religion 70). Studying Buddhism, Across Place and Time
Catalog Number: 1316
Janet Gyatso (Harvard Divinity School)
Half course (fall term). Tu., Th., 11:30-1, and a weekly section to be arranged. EXAM GROUP: 13, 14
A critical introduction to key ideas, values, people and practices in Buddhist traditions. The course offers a chance to explore Buddhism's distinctive doctrines about human experience, to study the import of its disciplinary and meditative practices, and to appreciate some of its outstanding works of literature. It highlights the way that Buddhism shifted as it spread across Asia and adapted to new cultural contexts, a process that still continues, now across the world. This allows us to study both the historical contributions of Buddhism to the philosophies and self-cultivation traditions of Asia, and the new ways it serves as a global human heritage in the contemporary context.
Note: Offered jointly with the Divinity School as 3830. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

[Culture and Belief 26 (formerly Foreign Cultures 81). The Culture of Everyday Life in China]
Catalog Number: 8733
Peter K. Bol (East Asian Languages and Civilizations) and Michael A. Szonyi (East Asian Languages and Civilizations)
Half course (spring term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
An inquiry into social and cultural life in China, past and present, through an exploration of the patterns of everyday life over the last thousand years in a single region, now known as Jinhua. We use writings from local women and men in the past, interviews with their descendants today, the ancestral halls and genealogies of multi-generational families, shrines and temples of local gods, and extensive photo documentation as sources for understanding how life was experienced by the inhabitants of a community, farmers and scholars alike, and how that community was related to the larger world.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Societies of the World, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

Culture and Belief 27 (formerly Jewish Studies 55). Among the Nations: Jewish History in Pagan, Christian and Muslim Context
Catalog Number: 2338
Rachel L. Greenblatt (Near Eastern Languages and Civilizations)

Half course (fall term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
Can we trace an "authentic" Jewish identity through history, as distinct from many "cultures" of Jews in the multitude of times and places in which they have lived? This course provides an overview of major trends in Jewish civilization from biblical times through the early modern era (to approximately the 17th century), with this and related questions in mind, by engaging in close readings of traditional Jewish sources on the one hand and seeking contextual understandings of Jews and Judaism within various non-Jewish settings on the other.
Note: Required of all secondary concentrators in Jewish Studies, unless excused by the DUS. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[Culture and Belief 28. Hindu Worlds of Art and Culture]
Catalog Number: 24091
Diana L. Eck (South Asian Studies; Study of Religion)
Half course (fall term). M., W., F., at 12, and a weekly section to be arranged. EXAM GROUP: 5
An exploration of the narratives and arts of the Hindu tradition, considering the great gods—Vishnu, Krishna, Shiva, and Devi—that give expression to a profound vision of the world, the images through which the gods are envisioned, the temples and pilgrimage places where they are worshipped, and the rituals and festivals that are part of Hindu life. Readings include the Ramayana, the Bhagavad Gita, the Gita Govinda, the Shiva Purana, and the Devi Mahatmya.
Note: Expected to be given in 2013–14. Students who have taken Literature and Arts C-18 may not take this course for credit. Offered jointly with the Divinity School as 3412. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Aesthetic and Interpretive Understanding, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C or Foreign Cultures, but not both.

Culture and Belief 30. Seeing is Believing: A History of Photography
Catalog Number: 5649
Robin E. Kelsey (History of Art and Architecture)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
Modern society is unthinkable without the photograph, and yet we rarely have occasion to ponder what photographs are, what they do, and how they do it. In this course, we will consider photography from its origins to the digital era, paying particular attention to its role as an engine of belief in various cultural domains. Our goal will be to understand more incisively how photographs define and shape relations between their subjects and their viewers.
Note: Expected to be omitted in 2013–14. Students who have taken Literature and Arts B-24 may not take this course for credit. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

[Culture and Belief 31 (formerly Philosophy 19). Saints, Heretics, and Atheists: An Historical Introduction to the Philosophy of Religion]

Catalog Number: 6837
Jeffrey K. McDonough (Philosophy)
Half course (spring term). M., W., (F.), at 1, and a weekly section to be arranged. EXAM GROUP: 6
An introduction to the history of intellectual reflection on religion and belief in the western tradition. We will read roughly a half dozen perennial works drawn from authors ranging from St. Augustine of Hippo to Friedrich Nietzsche. Along the way, we will think, discuss, and write about topics such as the nature of sin, the origin of evil, the attributes of God, the argument from design, and the relationship between religion and morality.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

[Culture and Belief 32. Back Roads to Far Places: Literature of Journey and Quest]
Catalog Number: 39198
Stephanie A. Paulsell (Harvard Divinity School) and William A. Graham, Jr. (Harvard Divinity School; Near Eastern Languages and Civilizations)
Half course (spring term). M., W., at 10, and a weekly section to be arranged. EXAM GROUP: 3
Explores themes of journey and quest in world literature and the interplay between their literary and religious dimensions. Considers the relationship between physical and interior journeys, home and exile, quest and peregrination. Emphasis will be on careful reading of, and thoughtful essays on, texts such as Gilgamesh, the Bible, Quest of the Holy Grail, Walden, and works by Tolkien, Dante, Teresa of Avila, Ashvaghosha, Hesse, Basho, Shusako Endo, Charles Johnson, Virginia Woolfe, and Cormac McCarthy.
Note: Expected to be given in 2013–14. Offered jointly with the Divinity School as 2490. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Culture and Belief 33. Introduction to the Study of East Asian Religions]
Catalog Number: 34911
James Robson (East Asian Languages and Civilizations)
Half course (fall term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
This course provides an introduction to the study of East Asian religions. It covers the development of Buddhism, Daoism, Confucianism and Shinto. It is not a comprehensive survey, but is designed around major conceptual themes, such as ritual, image veneration, mysticism, meditation, death, and category formation in the study of religion. The emphasis throughout the course is on the hermeneutic difficulties attendant upon the study of religion in general, and East Asian religions in particular.
Note: Expected to be given in 2013–14. Offered jointly with the Divinity School as 3010. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Societies of the World, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[Culture and Belief 34 (formerly Historical Study A-87). Madness and Medicine: Themes in the History of Psychiatry]
Catalog Number: 6692
Anne Harrington (History of Science)
Half course (fall term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
Psychiatry is one of the most intellectually and socially complex and fraught fields of medicine today, and history offers one powerful strategy for better understanding why. Topics covered in this course include the invention of the mental asylum, early efforts to understand mental disorders as disorders of the brain or biochemistry, the rise of psychoanalysis, psychiatry and war, the rise of psychopharmacology, the making of the DSM, anti-psychiatry, and more.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Culture and Belief 35. Classical Mythology
Catalog Number: 69871
Andreas Thomas Zanker (The Classics)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
The myths of the Greeks and Romans: creation myths, Greek gods, Greek heroes and Roman myths. Their relationship to the mythology of neighboring people (Hittites, Babylonians, Hebrews). Their importance for Greek and Roman societies and cultures. Their reception in literature and art from the ancient world to 21st century, and their importance as a foundation of our own modern culture and society. The course will be focused on the analysis of primary sources (read in translation) and works of art (literature, painting, sculpture, movies); ancient mythology will also be studied under the light of modern theories on mythology.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

Culture and Belief 37 (formerly Studies of Women, Gender, and Sexuality 1122). The Romance: From Jane Austen to Chick Lit
Catalog Number: 8181
Linda Schlossberg (Studies of Women, Gender, and Sexuality)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
A critical investigation of the genre's enduring popularity, beginning with Austen's satirical *Northanger Abbey* and three novels credited with providing narrative templates for contemporary romances *(Pride and Prejudice, Jane Eyre, Wuthering Heights)*. We will then read twentieth-century revisions of these works *(Rebecca, Wide Sargasso Sea, Bridget Jones's Diary)*. Topics: the female writer and reader/consumer of literature; moral warnings against romance, "sensation," and titillation; the commodification of desire; Harlequins; the relationship between high culture and low.
Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Culture and Belief 38 (formerly Literature and Arts C-28). Apocalypse Then! Forging the Culture of Medieval Rus'
Catalog Number: 2798
Michael S. Flier (Slavic Languages and Literatures)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
When the natives of Medieval Rus (later Russians, Ukrainians, and Belarusians) accepted Orthodox Christianity in the 10th century, their nature-based paganism gave way to a powerfully sensual belief system that made good use of the visual and the verbal to prepare these newest Christians for the coming Apocalypse and Last Judgment. We investigate this transformation from the conversion of Saint Vladimir and the excesses of Ivan the Terrible through the Time of Troubles and the modern turn of Peter the Great. The class features close analysis of architecture, icons and frescoes, ritual, folklore, literature, and history to understand this shift in worldview, including the role of women. Special attention is devoted to the ways in which Medieval Rus is portrayed in film, opera, and ballet.
Note: All readings in English. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[Culture and Belief 39 (formerly Literature and Arts A-93). The Hebrew Bible]
Catalog Number: 9783
Shaye J.D. Cohen (Near Eastern Languages and Civilizations)
Half course (fall term). M., W., (F.), at 10, and a weekly section to be arranged. EXAM GROUP: 3
This course is a survey of the major books and ideas of the Hebrew Bible (commonly called the Old Testament). The course will also treat the historical contexts in which the Bible emerged, and the Bible's role as canonical scripture in Judaism and Christianity.
Note: All readings in translation. No prior knowledge of the subject is assumed. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Culture and Belief 40 (formerly Foreign Cultures 67). Popular Culture and Modern China
Catalog Number: 8730
David Der-wei Wang (East Asian Languages and Civilizations)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. Four additional sessions to be arranged for screening of films. EXAM GROUP: 4
This course examines "popular culture" as a modern, transnational phenomenon and explores its manifestation in Chinese communities (in People's Republic of China, Taiwan, Hong Kong, Southeast Asia and North America) and beyond. From pulp fiction to film, from "Yellow Music" to "Model Theater", from animations to internet games, the course looks into how China became modern by participating in the global circulation of media forms, and how China helps in her own way enrich the theory and practice of "popular culture".
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Aesthetic and Interpretive Understanding, but not both. This course, when taken for a letter grade, meets the Core area requirement for either Foreign Cultures or Literature and Arts C, but not both.

[Culture and Belief 41 (formerly Historical Study A-67). Gender, Islam, and Nation in the Middle East and North Africa]
Catalog Number: 0352
Afsaneh Najmabadi (History; Studies of Women, Gender, and Sexuality)
Half course (spring term). M., W., F., at 12. EXAM GROUP: 5
This course will focus on how concepts of woman and gender have defined meanings of religious and national communities in the Islamic Middle East and North Africa. It will survey changes in these concepts historically through reading a variety of sources—religious texts and commentaries, literary and political writings, books of advice, women's writings, and films—and will look at how contemporary thinkers and activists ground themselves differently in this historical heritage to constitute contesting positions regarding gender and national politics today.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures or Historical Study A, but not both.

Culture and Belief 42 (formerly Foreign Cultures 92). Communism and the Politics of Culture: Czechoslovakia from the Prague Spring to the Velvet Revolution
Catalog Number: 5237
Jonathan H. Bolton (Slavic Languages and Literatures)
Half course (spring term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
Examines how the intense political pressures of invasion, occupation, and revolution shape a country's intellectual life and are shaped by it in turn, looking at Czechoslovakia's literature, drama, film, and music from the 1948 Communist takeover, through the Prague Spring and Soviet invasion of 1968, to the 1989 Velvet Revolution, a hallmark of the peaceful overthrow of Communism in Central Europe. We consider works by Milan Kundera, Bohumil Hrabal, Vaclav Havel; films by Milos Forman, Vera Chytilova, Jiri Menzel; theories of political dissent and the "anti-politics" of Charter 77; and questions of historical memory in contemporary Prague.
Note: Expected to be omitted in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

Culture and Belief 43. The World of Yiddish
Catalog Number: 94372
Ruth R. Wisse (Near Eastern Languages and Civilizations; Comparative Literature)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
Explores the culture and way of life of what was, before World War II, the largest Jewish community in the world, whose descendants still constitute the majority of American Jews. Its common language, Yiddish, spread with its speakers from Western to Eastern Europe from the 14th century onward. Through interdisciplinary approach, including history, literature, music, popular culture, course examines Yiddish as vehicle of Jewish tradition and modernization. Often associated with humor, its speakers were main victims of Hitler's Final Solution. We will try to identify paradoxical features of Yiddish culture that may account for its exceptional fate.
Note: This course fulfills the requirement that one of the eight General Education courses also

engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures or Literature and Arts C, but not both.

Culture and Belief 45 (formerly English 101). The History of the English Language
Catalog Number: 1987
Daniel G. Donoghue (English)
Half course (spring term). Tu., Th., at 11, and weekly section to be arranged. EXAM GROUP: 13
Everyone who uses English has experienced its idiosyncrasies. Why is pronunciation at odds with spelling? Why so many irregular verbs? What happened to "thou"? What did Shakespeare sound like? How do we know? What about the current stature of English as a world language? This course addresses such questions as it surveys the long history of the language. While the topic is fascinating on its own, a historical knowledge of English gives critical and creative writers more command over the medium of their craft; it also sharpens reading skills. Lectures will be supplemented by exercises from the course website.
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Aesthetic and Interpretive Understanding, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Culture and Belief 46. Music, Debate, and Islam]
Catalog Number: 87585
Richard K. Wolf (Music)
Half course (spring term). Tu., 1-3, and weekly section to be arranged. EXAM GROUP: 15, 16
This course focuses on the arts of sound practiced by Muslims and on debates associated with "music" in a range of Islamic contexts. The purposes are to understand from a musically informed perspective a set of interrelated musical practices that cut across regions (especially South and West Asia); and how different ideologies, philosophies, and texts–associated with Islam locally, nationally, and internationally–shape local understandings and constructions of sound. The content of classes will include lectures, discussions, live musical demonstrations and careful review of audio-visual materials. Students will also have the opportunity to learn to play or sing Persian music.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Aesthetic and Interpretive Understanding, but not both. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

[Culture and Belief 47 (formerly Historical Study B-45). The Darwinian Revolution]
Catalog Number: 8691
Janet Browne (History of Science)
Half course (fall term). M., W., (F.) at 10, and a weekly section to be arranged. EXAM GROUP: 3
Why is evolutionary theory so controversial in the public sphere? This course looks to the history of cultural changes in the West for answers. We cover the intellectual structure and social context of evolutionary ideas as they emerged in the 19th and 20th centuries, with particular emphasis on Darwinism as a major transformation in Western thought. Topics include an

introduction to origin stories in different cultures; the natural history tradition in the West; evolutionary thought before Darwin; key aspects of Darwin's ideas; the comparative reception of Darwinism in Britain, US, Germany, Russia and France; social Darwinism, eugenics and racial theories; early genetics and the search for the gene; religious controversy then and now. The course alternates every year with Culture and Belief 20.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

[Culture and Belief 48 (formerly Literature and Arts A-70). God, Justice, and the Book of Job]
Catalog Number: 7991
Peter Machinist (Near Eastern Languages and Civilizations)
Half course (spring term). M., W., (F.), at 12, and a weekly section to be arranged. EXAM GROUP: 5
An examination of the biblical book of Job along with related texts, ancient, medieval, and modern, that allow us to establish the literary and philosophical traditions in which Job was composed and the literary and philosophical legacy it has left. Particular focus on the ways the texts play off one another in literary form and expression and in their treatment of such themes as divine justice, human piety, and the nature of the divine-human encounter.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Culture and Belief 49 (formerly Literature and Arts A-86). American Protest Literature from Tom Paine to Tupac]
Catalog Number: 7442
John Stauffer (English; African and African American Studies) and Timothy P. McCarthy (History and Literature; Harvard Kennedy School)
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
This interdisciplinary course examines the rich tradition of progressive protest literature in the US from the American Revolution to the rise of Hip Hop, globalization, and modern-day slavery. Using a broad definition of "protest literature," it focuses on the production and consumption of dissent as a site of progressive social critique, using a wide variety of print, visual, and oral forms. We examine the historical links between modes of protest and meanings of literature, and explore how various expressions of dissent function as aesthetic, performative, rhetorical, and ideological texts within specific cultural contexts. "Readings" range from novels to photographs and music.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Culture and Belief 50. The European Postwar: Literature, Film, Politics]
Catalog Number: 88659
Peter E. Gordon (History)

Half course (fall term). M., W., at 1, screening of seven films (approximately every other M., 7-9 p.m.), and a weekly section to be arranged. EXAM GROUP: 6
What happened in the last half century in European culture and politics? How can we read history through culture, and culture through history? This undergraduate lecture survey explores the cultural and intellectual history of post-war Europe, with an emphasis on literature, film, and the role of intellectuals and artists in public and political debate. In this course we will explore some of the greatest works of postwar film and literature, tracing out the transformation of European modernism and the rise of post-modernism, in conjunction with the rise of new modalities of political discourses concerning communism, democracy, colonialism, and sexuality.
Note: Expected to be given in 2013–14. The course includes seven classic novels by postwar European author, and seven of the greatest postwar films by noteworthy European directors. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Societies of the World, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

Culture and Belief 51. Making the Middle Ages - *(New Course)*
Catalog Number: 79782 Enrollment: Limited to 42.
Daniel L. Smail (History; Medieval Studies)
Half course (fall term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
This course offers a general introduction to the cultures and beliefs of medieval Europe through an object-centered study of medieval artifacts and cultural productions. It seeks to kindle the curiosity and spirit of inquiry of students by emphasizing active engagement with problems of interpretation and understanding. The course will serve a dual purpose, both as an invitation to explore the interdisciplinary field of medieval studies and as an introduction to some of the many ways in which we can tease ideas out of the remnants of past societies.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

Culture and Belief 52 (formerly History 1213). The American Evangelical Tradition from Jonathan Edwards to Jerry Falwell
Catalog Number: 5888
David Hempton (Harvard Divinity School)
Half course (fall term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
The purpose of the course is to investigate the evangelical tradition from its origins in the religious revivals of the eighteenth century to its contemporary role in American culture, society and politics. Notwithstanding its often stereotypical characterizations, the evangelical tradition is surprisingly eclectic and complex. A central objective of the course, therefore, is to explore that complexity in relation to gender, ethnicity, social class, and political culture. The course will make use of primary and secondary materials to shed light on evangelical theology, spirituality, and cultural expression in America and in a global context.
Note: Offered jointly with the Divinity School as 2358. This course fulfills the requirement that

one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Culture and Belief 53. Sacred and Secular Poetry - *(New Course)*
Catalog Number: 98258
Judith Ryan (Germanic Languages and Literatures; Comparative Literature)
Half course (spring term). Tu., Th., at 1, and a weekly section to be arranged. EXAM GROUP: 15
Tracing poetry from its origins in religious practice, the course examines the process of secularization and the ways in which modern poems retain traces of sacred texts. As poets grapple with an increasingly secular world, the emergence of modernity is revealed in vivid ways. Class discussions will explore the extent to which reminiscences of the sacred form part of the deeper appeal of poetry and its ability to shape meaning in the modern world.
Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

Culture and Belief 54 (formerly Foreign Cultures 76). Nazi Cinema: The Art and Politics of Illusion
Catalog Number: 3396 Enrollment: Limited to 160.
Eric Rentschler (Germanic Languages and Literatures)
Half course (fall term). T., Th., at 10; screenings W., 4-6; and a weekly section to be arranged. EXAM GROUP: 12
As thinking beings we consider the limits of human potential and wonder what is the worst. The Nazis obsess us because they were masters of extremity who brought to the world unprecedented violence, destruction, and murder. They were also masters of propaganda who engineered sophisticated techniques of mass manipulation; in this endeavor cinema and modern media assumed a seminal role. Why, this course asks, were films so essential to the Hitler regime and so captivating to German audiences of the Third Reich? What explains the continuing allure of what Susan Sontag once spoke of as "fascinating fascism"?
Note: Expected to be omitted in 2013–14. No knowledge of German required. An additional film screening will be held on Sundays, 1-3. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Aesthetic and Interpretive Understanding, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirements for Foreign Cultures or Literature and Arts B, but not both.

Culture and Belief 55. Enlightenment Creations of the Self, Society, and Institutions - *(New Course)*
Catalog Number: 14022
James Engell (English; Comparative Literature)
Half course (spring term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
The Enlightenment creates modern ideas of the self, a just society, and reformed institutions. The course explores six interrelated developments: (1) taking nothing on authority, a spirit of critique examines knowledge, religion, and government; (2) the spread of general knowledge to

populations of increasing literacy; (3) debates about human nature—naturally selfish or sympathetic, altered by race or gender, innate or learned? (4) new institutions for equity and justice, even using violent revolution; (5) efforts supporting abolition, women's rights, and religious toleration; (6) self-consciousness in philosophy, art, and psychology. Thinkers include Pope, Montesquieu, Voltaire, Diderot, Johnson, Rousseau, Burke, Lessing, Gibbon, Smith, Kant, Burney, and Wollstonecraft.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

Culture and Belief 56 (formerly English 193a). The Culture of Capitalism - *(New Course)*
Catalog Number: 42449
Martin Puchner (English; Comparative Literature; Dramatic Arts)
Half course (spring term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
The course asks how cultural products, including literature, theater and film have captured the spirit of capitalism-fuelling its fantasies, contemplating its effects, and chronicling its crises. More than just an economic system, capitalism created new habits of life and mind as well as new values, forged and distilled by new forms of art. Core readings by Defoe, Franklin, O'Neill, Rand, Miller, and Mamet and background readings by Smith, Marx, Taylor, Weber, Keynes, and Hayek.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

Cross-listed courses that satisfy the Culture and Belief requirement. Some of these courses may have prerequisites or assume familiarity with the subject matter.

Aesthetic and Interpretive Understanding 41 (formerly Literature and Arts C-30). How and What Russia Learned to Read: The Rise of Russian Literary Culture
[Aesthetic and Interpretive Understanding 42. Literature and Revolution: Great Books in Moments of Cultural Transformation]
[Aesthetic and Interpretive Understanding 54 (formerly Culture and Belief 12). For the Love of God and His Prophet: Religion, Literature, and the Arts in Muslim Cultures]
[African and African American Studies 182. From R & B to Neo Soul: Black Popular Music and Cultural Transformation]
[Ancient Near East 104. Babylon]
Anthropology 1795. The Politics of Language and Identity in Latin America
Classical Studies 160. Greek East and Latin West after Antiquity: The Birth of Europe - *(New Course)*
Classical Studies 165. Medicine in the Greco-Roman World
***Computer Science 105. Privacy and Technology**
[Economics 1776. Religion and the Rise of Capitalism]
[Ethical Reasoning 26. The Ethics of Atheism: Marx, Nietzsche, Freud]
***Folklore and Mythology 90i (formerly Aesthetic and Interpretive Understanding 27). Fairy Tales and Fantasy Literature**
***Folklore and Mythology 114. Embodied Expression/Expressive Body: Dance in Cultural**

Context
History 1144 (formerly Historical Study B-19). The Renaissance in Florence
[History 1301. Western Intellectual History II: The Prehistory of Modern Thought]
History 1445. Science and Religion in American Public Culture
History of Science 100. Knowing the World: An Introduction to the History of Science
History of Science 108. Bodies, Sexualities, and Medicine in the Medieval Middle East
Religion 40. Incarnation and Desire: An Introduction to Christianity
Religion 110. Religion and International Politics
Religion 1315. Prophecy, Ecstasy, and Dreams in Early Christian World
[Science of the Physical Universe 17 (formerly Science A-41). The Einstein Revolution]
[Slavic 148. Strange Russian Writers]
Societies of the World 30. Moctezuma's Mexico: Then and Now (2012)!
Societies of the World 33 (formerly Foreign Cultures 84). Tokyo
[Societies of the World 41 (formerly History 1050). Medieval Europe]
Sociology 155. Class and Culture
Studies of Women, Gender, and Sexuality 1258. Friends with Benefits?
Studies of Women, Gender, and Sexuality 1424. American Fetish: Consumer Culture Encounters the Other - *(New Course)
The Modern Middle East 111 (formerly Islamic Civilizations 105). Culture and Society in Contemporary Iran
***United States in the World 32 (formerly Religion 1007). The World's Religions in Multicultural America: Case Studies in Religious Pluralism**
[United States in the World 33 (formerly African and African American Studies 193). Religion and Social Change]

Empirical and Mathematical Reasoning

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Courses in Empirical and Mathematical Reasoning teach the conceptual and theoretical tools used in reasoning and problem solving, such as statistics, probability, mathematics, logic, and decision theory. Students develop the ability to apply abstract principles and theories to concrete problems. They also learn how to make decisions and draw inferences that involve the evaluation of data and evidence, and how to recognize when an issue cannot be settled on the basis of the available evidence. Students will become aware of the many mistakes that human beings are prone to making in their reasoning and come to understand how to avoid common pitfalls in inference-making.

Empirical and Mathematical Reasoning

[Empirical and Mathematical Reasoning 11. Making Sense: Language, Logic, and Communication]
Catalog Number: 37079
Bernhard Nickel (Philosophy), Gennaro Chierchia (Linguistics), and Stuart M. Shieber (Harvard School of Engineering and Applied Sciences)
Half course (spring term). Tu., Th., 11:30-1, and a weekly section to be arranged. EXAM GROUP: 13, 14

What is meaning, and how do we use it to communicate? We address the first of these questions via the second, presenting an interdisciplinary approach to the study of human languages. We investigate language as the product of a natural algorithm, that is, a computational facility which grows spontaneously in our species and enables us to expose our thoughts and feelings. Our investigation uses formal models from logic, linguistics, and computer science. These models will also shed light on human nature and basic philosophical issues concerning language.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Quantitative Reasoning.

Empirical and Mathematical Reasoning 13 (formerly Social Analysis 46). Analyzing Politics
Catalog Number: 3544
Kenneth A. Shepsle (Government)
Half course (fall term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
A commonsensical survey of rational theories of politics comprised of: (1) individual choice, (2) group choice, (3) collective action, and (4) institutions. The underlying theme is that politics may be described and understood as rational, goal-seeking behavior by citizens, politicians, bureaucrats, and interest groups in various settings. Students are encouraged to think deeply about current events, history, and public life generally, as well as to analyze the politics of private life--in families, clubs, firms, churches, universities, even Harvard Houses--since private politics, like public politics, may be understood in terms of rational behavior. Instruction is by lecture, small-group section interactions, and experiments.
Note: Expected to be omitted in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[Empirical and Mathematical Reasoning 14. Fat Chance]
Catalog Number: 26591
Joseph D. Harris (Mathematics) and Benedict H. Gross (Mathematics)
Half course (spring term). M., W., F., at 10, and a weekly section to be arranged. EXAM GROUP: 3
This course has three objectives: to learn to calculate probabilities precisely, when we can; to learn how to estimate them, when we can't; and to say exactly what we can and can't infer from these calculations. The course is not mathematically demanding--we assume no mathematical background beyond high-school algebra--but the goal is serious: given that we're asked every day to make consequential decisions on the basis of incomplete knowledge, an understanding of basic probability is an essential tool for life.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Quantitative Reasoning.

Empirical and Mathematical Reasoning 15 (formerly Quantitative Reasoning 50). Medical Detectives
Catalog Number: 5707
Karin B. Michels (Harvard Medical School; Harvard School of Public Health)
Half course (fall term). M., 2-4, and a weekly section to be arranged. EXAM GROUP: 7, 8
Why is there confusion in the scientific community as to whether butter or margarine is worse

for your health? How do epidemiologists find out whether cell phone use increases your risk for brain cancer? What is your risk of contracting diabetes? Discover how researchers draw on quantitative skills to detect causes of acute disease outbreaks and chronic diseases. This course introduces the techniques and methods for empirically based analyses, decisions, and actions in the context of current public health problems.
Note: This course, when taken for a letter grade, meets the Core area requirement for Quantitative Reasoning.

Empirical and Mathematical Reasoning 16. Real-Life Statistics
Catalog Number: 8782
Cassandra Wolos Pattanayak (Statistics)
Half course (fall term). Tu., Th., 2:30-4, and a weekly section to be arranged. EXAM GROUP: 16, 17
This course explores the statistical reasoning underlying everyday life: learn to inform ordinary decisions with statistical understanding and critically assess information reported in the news. Topics include the implications and validity of medical studies; the interpretation and common pitfalls of surveys and election polls; the motivation for diversifying stock portfolios; the strategies behind online dating websites; and the optimal design for wine tastings. The course also unravels fallacies and paradoxes that often mislead. Students will develop the ability to identify, appreciate, and question the frequent appeals to statistical principles encountered in real life.
Note: Expected to be omitted in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Quantitative Reasoning.

Empirical and Mathematical Reasoning 17 (formerly Quantitative Reasoning 22). Deductive Logic
Catalog Number: 2508
Warren Goldfarb (Philosophy)
Half course (fall term). M., W., F., at 10, and a weekly section to be arranged. EXAM GROUP: 3
The concepts and principles of symbolic logic: valid and invalid arguments, logical relations of statements and their basis in structural features of those statements, the analysis of complex statements of ordinary discourse to uncover their structure, the use of a symbolic language to display logical structure and to facilitate methods for assessing arguments. Analysis of reasoning with truth-functions (“and”, “or”, “not”, “if...then”) and with quantifiers (“all”, “some”). Attention to formal languages and axiomatics, and systems for logical deduction. Throughout, both the theory underlying the norms of valid reasoning and applications to particular problems will be investigated.
Note: This course, when taken for a letter grade, meets the Core area requirement for Quantitative Reasoning.

Empirical and Mathematical Reasoning 18. What are the odds?
Catalog Number: 54305
Andrew W. Murray (Molecular and Chemical Biology)
Half course (spring term). M., W., F., at 11, and a weekly section to be arranged. EXAM GROUP: 4
There is the mathematics behind statistics, and then there are the concepts - without a proper

grasp of which you will all too likely fall prey to confusion, error, and even outright deception. This course will teach you a bit about the math, and a lot about the concepts. Take it and achieve enlightenment about such topics as the difference between probability and risk, the nature of statistical inference, and the connections between correlation and causation.
Note: This course, when taken for a letter grade, meets the Core area requirement for Quantitative Reasoning.

[Empirical and Mathematical Reasoning 19 (formerly Quantitative Reasoning 46). The Art of Numbers]
Catalog Number: 9479
Alyssa A. Goodman (Astronomy)
Half course (spring term). Tu., Th., 1-2:30, and a weekly section to be arranged. EXAM GROUP: 15, 16
This course focuses on the insight into quantitative information offered by graphs, tables, charts, maps, and other illustrations. We analyze which of these tools are best for communicating what kinds of data, and why. Ideas about causality, approximation, statistical significance, credibility, and dimensionality will be addressed by analyzing real data and their display. Examples are drawn from epidemiology, astronomy, sports, social-science, finance, geography, politics and economics. Approximately one-half of the course material focuses on web, interactive, and live presentations of data. Textbooks include classic work by Edward Tufte.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Quantitative Reasoning.

[Empirical and Mathematical Reasoning 20 (formerly Quantitative Reasoning 24). The Business and Politics of Health]
Catalog Number: 4667
David M. Cutler (Economics)
Half course (fall term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
Health and medical care pervade every aspect of our lives. This course uses quantitative methods (graphical analysis, algebra, data analysis) to examine issues related to health, disease, and systems for delivering health care. Topics to be covered include differences in health between rich and poor countries, differences in types of medical care and who receives it, and the political context for reforming health care policy. Techniques for analysis will be developed and demonstrated in class and section. The course uses examples from a variety of international settings, but focuses mainly on health and health care in the US.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or United States in the World, but not both. This course, when taken for a letter grade, meets the Core area requirement for Quantitative Reasoning.

Empirical and Mathematical Reasoning 21. Mapping Our World - *(New Course)*
Catalog Number: 94176
Peter K. Bol (East Asian Languages and Civilizations) and Kirk P. Goldsberry (Center for Geographic Analysis; Michigan State University)
Half course (fall term). M., W., at 11 and a weekly section to be arranged. EXAM GROUP: 4

Maps are often the most effective way to stimulate spatial reasoning and provoke new understandings about our world's phenomena. This course introduces contemporary map design, geographic informations systems (GIS) and spatial analysis; our emphasis will be on the concepts and techniques that empower new spatial insights into our world.
Note: This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Cross-listed courses that satisfy the Empirical and Mathematical Reasoning Requirement. Some of these courses may have prerequisites or assume familiarity with the subject matter.

Anthropology 1010. The Fundamentals of Archaeological Methods & Reasoning
Applied Mathematics 21a. Mathematical Methods in the Sciences
Applied Mathematics 21b. Mathematical Methods in the Sciences
Applied Mathematics 101. Statistical Inference for Scientists and Engineers
Computer Science 1. Great Ideas in Computer Science
Computer Science 20. Discrete Mathematics for Computer Science
Computer Science 50. Introduction to Computer Science I
Computer Science 171. Visualization
Economics 10 (formerly Social Analysis 10). Principles of Economics
Economics 1010a1. Microeconomic Theory - *(New Course)*
Economics 1010a2. Microeconomic Theory - *(New Course)*
Economics 1010b. Macroeconomic Theory
Economics 1011a. Microeconomic Theory
Economics 1011b. Macroeconomic Theory
Economics 1123. Introduction to Econometrics
Engineering Sciences 1. Introduction to Engineering Sciences
Engineering Sciences 50. Introduction to Electrical Engineering
Government 50. Introduction to Political Science Research Methods
History of Science 125. "Moneyball" Nation: Science and the Making of Modern America - *(New Course)
Mathematics Ma (formerly Mathematics Xa). Introduction to Functions and Calculus I
Mathematics Mb (formerly Mathematics Xb). Introduction to Functions and Calculus II
Mathematics 1a. Introduction to Calculus
Mathematics 1b. Calculus, Series, and Differential Equations
Mathematics 18 (formerly Mathematics 20). Topics from Single and Multivariable Calculus for Social Sciences
Mathematics 19a. Modeling and Differential Equations for the Life Sciences
Mathematics 19b. Linear Algebra, Probability, and Statistics for the Life Sciences
Mathematics 21a. Multivariable Calculus
Mathematics 21b. Linear Algebra and Differential Equations
Mathematics 23a. Linear Algebra and Real Analysis I
Mathematics 23b. Linear Algebra and Real Analysis II
Mathematics 25a. Honors Linear Algebra and Real Analysis I
Mathematics 25b. Honors Linear Algebra and Real Analysis II
***Mathematics 55a. Honors Abstract Algebra**
***Mathematics 55b. Honors Real and Complex Analysis**

Mathematics 101. Sets, Groups and Topology
Mathematics 154 (formerly Mathematics 191). Probability Theory
Physical Sciences 2. Mechanics, Elasticity, Fluids, and Diffusion
Physical Sciences 3. Electromagnetism, Circuits, Waves, Optics, and Imaging
Physical Sciences 12a. Mechanics from an Analytic, Numerical and Experimental Perspective - *(New Course)*
Physics 11a. Mechanics
Physics 11b. Electricity, Magnetism, and Waves
Physics 15a. Introductory Mechanics and Relativity
Physics 15b. Introductory Electromagnetism
Physics 15c. Wave Phenomena
Physics 16. Mechanics and Special Relativity
Psychology 1900. Introduction to Statistics for the Behavioral Sciences
[Science of the Physical Universe 18 (formerly Science A-39). Time]
Science of the Physical Universe 26. Primitive Navigation
Societies of the World 24. Global Health Challenges: Complexities of Evidence-Based Policy
***Sociology 156. Quantitative Methods in Sociology**
Statistics 100. Introduction to Quantitative Methods for the Social Sciences and Humanities
Statistics 101. Introduction to Quantitative Methods for Psychology and the Behavioral Sciences
Statistics 104. Introduction to Quantitative Methods for Economics

Ethical Reasoning

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Courses in Ethical Reasoning teach students to reason in a principled way about moral and political beliefs and practices, and to deliberate and assess claims for themselves about ethical issues. Students examine the competing conceptions and theories of ethical concepts such as the good life, obligation, rights, justice, and liberty with a focus on developing the ability to assess and weigh the reasons for and against adopting them to address concrete ethical dilemmas. Students in these courses may encounter a value system very different from their own that calls attention to their own ethical assumptions.

Ethical Reasoning

Ethical Reasoning 11. Human Rights: A Philosophical Introduction
Catalog Number: 6441
Mathias Risse (Harvard Kennedy School)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
What are human rights? Why would individuals have such rights? How can rights be universal, and what rights are universal? How can human rights rhetoric be criticized? This course will approach these and related questions philosophically, but with an eye to international politics.
Note: This course, when taken for a letter grade, meets the Core area requirement for Moral Reasoning.

Ethical Reasoning 12. Political Justice and Political Trials
Catalog Number: 5064
Charles S. Maier (History)
Half course (fall term). W., 2-4, and a weekly section to be arranged. EXAM GROUP: 7, 8
Criminal trials have served throughout history to enforce revolutionary change, to impose conformity, or, alternatively, to advance democracy. Students examine trials in their historical and moral context to weigh such issues as who can prosecute; can crimes be defined after the fact; can punishing speech be justified? Cases include Socrates, Louis XVI, General Dyer, the Soviet purges, Nuremberg, Eichmann, American cold-war hearings, and today's international tribunals and truth commissions.
Note: Expected to be omitted in 2010–11. This course, when taken for a letter grade, meets the Core area requirement for Moral Reasoning. This course fulfills the requirement that one of the eight General Education courses also engages substantially with Study of the Past.

Ethical Reasoning 20 (formerly Humanities 11). Self, Serenity, and Vulnerability: East and West
Catalog Number: 2401
Michael J. Puett (East Asian Languages and Civilizations) and Roberto Mangabeira Unger (Law School)
Half course (spring term). Th., 5-7 p.m. and a weekly section to be arranged. EXAM GROUP: 18
This course is a comparative inquiry into certain forms of moral consciousness and their metaphysical assumptions in the high cultures of Eurasia. We organize discussion around a broad background concern as well as a focused foreground theme. The background concern is the meaning or meaninglessness of human life: comparison of some of the ways in which philosophy, religion, and art in the East and the West have dealt with the fear that our lives and the world itself may be meaningless. The foreground theme is the contrast between two answers to the question -- how should I live my life? One answer, valuing serenity achieved through disengagement from illusion and vain striving, is: stay out of trouble. Another answer, prizing the acceptance of vulnerability for the sake of self-construction and self-transformation is: look for trouble. The second answer has come to play a major part in the moral and political projects that command attention throughout the world today. We seek to understand this second answer and to assess it in the light of speculative ideas that have been prominent in Eastern and Western thought. Conversely, we use our chosen theme to explore how Eastern and Western speculation have dealt with the limits of insight into what matters most. To these ends, we consider exemplary writings from several traditions: Chinese, South Asian, ancient Greek, and modern European.
Note: Offered jointly with the Law School. This course fulfills the requirement that one of the eight General Education courses also engages substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Moral Reasoning.

Ethical Reasoning 24. Bioethics - *(New Course)*
Catalog Number: 72195
Daniel I. Wikler (Public Health)
Half course (spring term). Tu., Th., 11:30-1. EXAM GROUP: 13, 14
Bioethics is the study of ethical issues arising in efforts to maintain and restore health, and, more broadly, with charting humankind's future in an era of both technological advances and unmet

need. We will try to reason our way through moral dilemmas that pit health against freedom, prevention against rescue, and the claims of those with competing needs when life itself hangs in the balance. The course will emphasize ethical issues involving health that arise at the global and population levels, particularly those involving peoples and regions with the greatest burden of disease.
Note: This course, when taken for a letter grade, meets the Core area requirement for Moral Reasoning.

Cross-listed courses that satisfy the Ethical Reasoning Requirement. Some of these courses may have prerequisites or assume familiarity with the subject matter.

[Government 10. Foundations of Political Theory]
Government 1061. The History of Modern Political Philosophy
[Government 1093. Ethics, Biotechnology, and the Future of Human Nature]
[Life Sciences 60 (formerly MCB 60). Ethics, Biotechnology, and the Future of Human Nature]
[Moral Reasoning 22. Justice]
[Moral Reasoning 28. Ethics and International Relations]
Moral Reasoning 33. Issues in Ethics
Moral Reasoning 40. Confucian Humanism: Self-Cultivation and Moral Community
Moral Reasoning 54. "If There is No God, All is Permitted": Theism and Moral Reasoning
[Moral Reasoning 56. Self, Freedom, and Existence]
Moral Reasoning 58. Slavery in Western Political Thought
Moral Reasoning 66. Moral Reasoning about Social Protest
[Moral Reasoning 74. The Theory and Practice of Republican Government]
Moral Reasoning 76. Comparative Religious Ethics
Moral Reasoning 78. Classical Chinese Ethical and Political Theory
[Moral Reasoning 80. The Good Life In Classical India]
Moral Reasoning 82. Trust, Vision, and Doubt in Ethics, Politics, and Law
Philosophy 168. Kant's Ethical Theory
Philosophy 174. Recent Ethical Theory
Philosophy 178. Equality and Democracy
[Philosophy 179. Race and Social Justice]

Science of Living Systems

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Courses in Science of Living Systems teach central concepts, facts and theories in the life sciences and engineering, and relate them to problems of wide concern. These courses may explore a range of topics relating to understanding life -- its origins, the way it adapts to and changes the environment, and the ways in which human interventions can affect its trajectory. These courses provide students with the tools to evaluate scientific claims, consider alternative accounts for empirical findings, and appreciate the ambiguity that often surrounds such findings. Whenever possible, students examine the nature of experiments on living systems through laboratory, field, or other hands-on experiences.

Science of Living Systems

Science of Living Systems 11. Molecules of Life
Catalog Number: 9478
Jon Clardy (Harvard Medical School) and David R. Liu (Chemistry and Chemical Biology)
Half course (fall term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
Molecules form the basis of heredity, govern how our bodies develop, allow us to respond to changes in our environment, and carry our thoughts. This course explores the roles of molecules through case studies of our bodies' messengers, modern drugs, and the future of medicine. Examples include sexual development, metabolism, diabetes, nerve transmission, psychiatric disease, infectious disease, cancer, aging and stem cells. Students will connect to lecture material in discussion section through hands-on activities and role-playing scenarios.
Note: This course, when taken for a letter grade, meets the Core area requirement for Science B.

Science of Living Systems 12. Understanding Darwinism
Catalog Number: 5523
Andrew Berry (Organismic and Evolutionary Biology)
Half course (fall term). Tu., Th., 10-11:30, and a weekly section/laboratory to be arranged. EXAM GROUP: 12, 13
An interdisciplinary exploration of Darwin's ideas and their impact on science and society. The course links the history of Darwin's ideas with the key features of modern evolutionary biology. Darwin's celebrated book *On the Origin of Species* provided a compelling solution to one of science's most prominent problems–the origins of biological diversity and of our own species–and a whole new way of viewing the world. The course reviews the development of the main elements of the theory of evolution, highlighting the areas in which Darwin's ideas have proved remarkably robust and areas in which subsequent developments have significantly modified the theory. By also analyzing the historical context of the development of evolutionary thought beyond Darwin, the course emphasizes the dynamic interplay between science and society.
Note: Expected to be omitted in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Science B.

Science of Living Systems 15 (formerly Science B-60). Developmental Psychology: Origins of Knowledge
Catalog Number: 8280
Elizabeth S. Spelke (Psychology)
Half course (spring term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
This course explores the origins and development of knowledge in the human child, in relation to two larger time scales: biological evolution and historical/cultural change. Drawing on evidence from experimental, comparative, and developmental psychology, cultural anthropology, linguistics, cognitive neuroscience, and history of science, it focuses on the development of knowledge of objects, number, space, language, agency, morality and the social world. Questions include: How does human biology constrain and support human cognition? How variable are human knowledge systems across different cultures and times? What aspects of knowledge are

unique to humans? How does knowledge change as children grow and adults gain expertise? *Note:* Students who have taken Psychology 16 may not take this course for credit. For Psychology concentrations, this course meets a Foundation Course requirement. This course, when taken for a letter grade, meets the Core area requirement for Science B.

[Science of Living Systems 16. Human Evolution and the Human Body]
Catalog Number: 0470
Daniel E. Lieberman (Human Evolutionary Biology)
Half course (spring term). Tu., Th., 1-2:30, and a 90-minute weekly section to be arranged. EXAM GROUP: 15, 16
How and why did humans evolve to be the way we are, and what are the implications of our evolved anatomy and physiology for human health in a post-industrial world? To address these questions, this course reviews the major transitions that occurred in human evolution, from the divergence of the ape and human lineages to the origins of modern humans. Also considered are the many effects of recent cultural and technological shifts such as agriculture and industrialization on human health.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Science B.

Science of Living Systems 17 (formerly Science B-23). The Human Organism
Catalog Number: 6581 Enrollment: Limited to 90.
Joseph D. Brain (Harvard School of Public Health) and Stephanie A. Shore (Harvard School of Public Health)
Half course (spring term). M., W., at 12, three two-hour laboratories, and periodic section meetings to explore special topics in depth. EXAM GROUP: 5
The physiology and pathology of the human body are presented with an emphasis on cardiovascular, respiratory, endocrine, and reproductive biology. Besides learning human biology, students will explore critical determinants of their own health as well as the health of diverse communities in rich and poor countries. Topics include the normal functioning of the human body and its responses to infection, injury, and environmental stress. We will analyze the relative power of diagnosis and treatment of disease (medicine) versus primary prevention of disease (public health) in promoting global health. Activities include classroom discussions and demonstrations, laboratories, and a directed term paper.
Note: This course, when taken for a letter grade, meets the Core area requirement for Science B.

[Science of Living Systems 18 (formerly Science B-65). Evolutionary Biology: Sex, Survival, and the Orgy of Species]
Catalog Number: 9680
Jonathan Losos (Organismic and Evolutionary Biology)
Half course (fall term). Tu., Th., 11:30-1, and a 90-minute weekly section to be arranged. EXAM GROUP: 13, 14
Five to ten million species roam the earth today--or maybe ten times that many. Where did these species come from? What processes regulate their diversity? We now know that Darwin's theory of evolution by natural selection is correct, but many other processes also affect evolutionary change. Competition for mates is particularly important and evolutionary divergence of species

is often driven by differences in reproductive biology. This course will examine theories of how evolution occurs, including runaway sexual selection, sperm competition, adaptive radiation, disruptive selection, sympatric speciation and host-parasite interactions.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Science B.

Science of Living Systems 19. Nutrition and Global Health
Catalog Number: 50018 Enrollment: Limited to 250.
Christopher P. Duggan (Harvard Medical School; Harvard School of Public Health), Wafaie W. Fawzi (Harvard School of Public Health) and Clifford W. Lo (Harvard Medical School)
Half course (spring term). M., 3-5, and weekly section to be arranged. EXAM GROUP: 8, 9
This course will introduce students to nutrition and global health problems through exploration of demographic, epidemiological, biological, social, political, and economic determinants of nutritional status. Emphasis will be placed on the role of nutritional status and dietary intake, both as a determinant and as a consequence, of these health problems. Students will be encouraged to think critically about the major challenges to improve nutrition and health at a global level, with a focus on nutrition and infectious diseases, maternal and child health, and chronic diseases. Nutritional assessment, study design, and efficacy of nutrition interventions, will be explored in detail.
Note: This course, when taken for a letter grade, meets the Core area requirement for Science B.

Science of Living Systems 20. Psychological Science
Catalog Number: 16308 Enrollment: Limited to 510. Limited enrollment for fall term only.
Fall: Daniel T. Gilbert (Psychology); Spring: Steven Pinker (Psychology)
Half course (fall term; repeated spring term). Fall: M., W., 1-2:30, and a weekly section to be arranged; Spring: Tu., Th., 2:30-4, and a weekly section to be arranged. EXAM GROUP: Fall: 6, 7; Spring: 16, 17
An introduction to the sciences of mind, including foundational concepts from neuroscience, evolution, genetics, philosophy, and experimental methods, and specific topics such as perception, memory, reasoning and decision-making, consciousness, child development, psychopathology, personality, language, emotion, sexuality, violence, morality and social relations.
Note: Students who have taken Science B-62 or Psychology 1 may not take this course for credit but may use those courses to satisfy the General Education requirement for Science of Living Systems or the Core area requirement for Science B. This course, as well as Science B-62 and Psychology 1, meet the Tier 1 requirement for Psychology. This course, when taken for a letter grade, meets the Core area requirement for Science B.

[Science of Living Systems 21. Evolutionary Medicine]
Catalog Number: 58084
Charles Nunn (Human Evolutionary Biology) and Peter Ellison (Human Evolutionary Biology)
Half course (spring term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
Evolutionary medicine is a new field seeking to apply the principles of evolution to understanding human health and disease. This course will involve lectures and case studies. Lectures will focus on general principles including: elements of evolutionary theory; interpreting

data in relation to specific hypotheses; major human infectious, chronic, and genetic diseases; and human anatomy and physiology in evolutionary perspective. Case studies will be chosen to illustrate these principles and will engage students in small discussion groups and independent research.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the Core area requirement for Science B.

Science of Living Systems 22. Human Influence on Life in the Sea
Catalog Number: 42977
Robert M. Woollacott (Organismic and Evolutionary Biology) and James J. McCarthy (Organismic and Evolutionary Biology)
Half course (fall term). Tu., Th., 11:30-1, and a weekly two-hour section or lab to be arranged.
EXAM GROUP: 13, 14
Many important marine fish stocks are over-harvested and their futures are in doubt. Other human activities, such as pollution and anthropogenic climate change, are also affecting the stability and productivity of marine ecosystems. This course will ask what we need to know about the causes and effects of anthropogenic change to best protect marine ecosystems and ensure sustainable harvests from the sea.
Note: This course, when taken for a letter grade, meets the Core area requirement for Science B.

Science of Living Systems 25 (formerly Science B-40). Trees, Forests and Global Change
Catalog Number: 2635
Donald H. Pfister (Organismic and Evolutionary Biology) and Andrew Richardson (Organismic and Evolutionary Biology)
Half course (spring term). Tu., Th., 10-11:30, and a weekly section/laboratory to be arranged.
EXAM GROUP: 12, 13
Forests cover nearly one third of the earth's land surface area. They provide a vast range of products and services to human civilization, and are important for economic and cultural reasons. This class will provide students with an introduction to the biology and ecology of forest ecosystems. An overarching theme throughout the course will be to understand how climate change will affect forests and the ecological services we derive from them, and in turn how forests can affect their own growth environment and climate change itself.
Note: This course, when taken for a letter grade, meets the Core area requirement for Science B.

Cross-listed courses that satisfy the Science of Living Systems Requirement. Some of these courses may have prerequisites or assume familiarity with the subject matter.

Chemistry 27. Organic Chemistry of Life
Life and Physical Sciences A. Foundational Chemistry and Biology
Life Sciences 1a. An Integrated Introduction to the Life Sciences: Chemistry, Molecular Biology, and Cell Biology
Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
Life Sciences 2. Evolutionary Human Physiology and Anatomy
MCB 52. Molecular Biology
MCB 54. Cell Biology

MCB 80. Neurobiology of Behavior
OEB 10. Foundations of Biological Diversity
OEB 52. Biology of Plants
Psychology 15. Social Psychology
[Science of the Physical Universe 20. What is Life? From Quarks to Consciousness]
Science of the Physical Universe 22. The Unity of Science: From the Big Bang to the Brontosaurus and Beyond
SCRB 10. Human Developmental and Regenerative Biology

Societies of the World

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Courses in Societies of the World provide students with an international perspective by acquainting them with values, customs, and institutions that differ from their own, and help students to understand how different beliefs, behaviors, and ways of organizing society come into being. These courses may focus primarily on a single society or region, or they may address topics that transcend national boundaries, analyzing the flow and transformation of money, goods, people, resources, information, or ideas between and among different societies. The courses may take a variety of disciplinary approaches, and may treat topics from a contemporary perspective or a historical one. Students will develop an awareness of the diversity of ways in which human beings have organized their social existence.

Societies of the World

[Societies of the World 12 (formerly Historical Study A-13). China: Traditions and Transformations]
Catalog Number: 5243
Peter K. Bol (East Asian Languages and Civilizations) and William C. Kirby (History)
Half course (fall term). M., W., F., at 11, and a weekly section to be arranged. EXAM GROUP: 4
Modern China presents a dual image: a society transforming itself through economic development and social revolution; and the world's largest and oldest bureaucratic state, coping with longstanding problems of economic and political management. Whatever form of modern society and state emerges in China will bear the indelible imprint of China's historical experience, of its patterns of philosophy and religion, and of its social and political thought. These themes are discussed in order to understand China in the modern world, and as a great world civilization that developed along lines different from those of the Mediterranean.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A or Foreign Cultures, but not both.

Societies of the World 13 (formerly Historical Study A-14). Japan in Asia and the World
Catalog Number: 5373
Andrew Gordon (History) and David Howell (East Asian Languages and Civilizations)
Half course (spring term). M., W., (F.), at 10, and a weekly section to be arranged. EXAM GROUP: 3

Japan is a collection of islands, but its past and present unfolds through continuous interaction with wider worlds. This course places Japan in contexts of Asian and global history. It begins with the people, institutions, and ideas of premodern Japan, from the emergence of a court-centered state 1500 years ago to a warrior-dominated society centuries later. We then examine the tumultuous process of change from the 19th century through the present and explore how people in Japan have dealt with the dilemmas of modernity that challenge us all.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A or Foreign Cultures, but not both.

Societies of the World 14 (formerly Historical Study A-88). The British Empire
Catalog Number: 9910
Maya Jasanoff (History)
Half course (spring term). M., W., at 10, and a weekly section to be arranged. EXAM GROUP: 3
Less than a century ago the British Empire ruled a quarter of the world. This course surveys the empire's extraordinary rise and fall from the American Revolution to World War II. Course presents a narrative of key events and personalities, introduces major concepts in the study of British imperial history, and considers the empire's political and cultural legacies for the world today. Includes multimedia presentations, digital exercises, and works by Niall Ferguson, Linda Colley, Rudyard Kipling, and Mahatma Gandhi.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

[Societies of the World 15 (formerly Historical Study B-64). The Cuban Revolution, 1956-1971: A Self-Debate]
Catalog Number: 6974
Jorge I. Domínguez (Government)
Half course (fall term). M., W., F., at 10, and a weekly section to be arranged. EXAM GROUP: 3
Focus on the insurrectionary war, the consolidation of power, Fidel Castro's role, the role of organized labor and the peasantry, the US-Cuban conflict, the alliance with the Soviet Union, the choice of economic strategy, the "remaking of human beings," the role of intellectuals, and the support for revolutions in Africa and Latin America. The instructor debates himself, presenting two or more views on each topic. Readings include original documents in translation.
Note: Expected to be given in 2013–14. Sections offered in English or Spanish. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B or Foreign Cultures, but not both.

Societies of the World 18 (formerly History 1205). Europe Since the Second World War
Catalog Number: 4588
Mary D. Lewis (History)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
Considers the political, economic, social and cultural development of Europe since the end of the Second World War. Examines post-war reconstruction; decolonization and the Cold War; the

development of social democracy, new social movements, and the welfare state; the birth and expansion of the European Union; the emergence and importance of "immigrant politics" and new extreme-right movements; the events of 1989 and their significance.
Note: Expected to be omitted in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

[Societies of the World 19. Western Ascendancy: The Mainsprings of Global Power from 1600 to the Present]
Catalog Number: 77527
Niall Ferguson (History)
Half course (fall term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
From the scientific revolution to the industrial revolution, from representative government to the consumer society, from capitalism to nationalism and socialism, the ideas and institutions of "the West" (meaning Europe and its colonies of settlement) came to dominate the world in the five centuries after around 1500. But what were the mainsprings of Western power? Taking a comparative historical approach, this course seeks to identify the key economic, cultural, social, political and military differences between the West and "the Rest."
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

[Societies of the World 21 (formerly Foreign Cultures 63). China's Two Social Revolutions]
Catalog Number: 1884
Martin K. Whyte (Sociology)
Half course (spring term). M., W., at 1, and a weekly section to be arranged. EXAM GROUP: 6
A general overview of the patterns of social life in China and how these have changed since the revolution in 1949. The socialist transformations led by Mao Zedong after 1949 and the market and other reforms led by Deng Xiaoping after Mao's death receive equal emphasis. Topics covered include political institutions, work organizations, village life, cities, religion, family life, population control, gender relations, inequality, and schooling.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

[Societies of the World 22. Asia in the Making of the Modern World]
Catalog Number: 26005
Shigehisa Kuriyama (East Asian Languages and Civilizations), Ian J. Miller (History), and Parimal Patil (Study of Religion; South Asian Studies)
Half course (spring term). Tu., 11:30-1, and a two-hour section to be arranged. EXAM GROUP: 13, 14
This course spotlights familiar aspects of everyday life in contemporary America, and reveals how a deeper understanding of them often requires study of peoples and events in distant places and times. In addition to making startling discoveries about global history, students will also learn the creative use of electronic databases and archival resources, and gain experience with multimedia presentations (mini-documentaries, podcasts).

Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Societies of the World 24. Global Health Challenges: Complexities of Evidence-Based Policy
Catalog Number: 92634 Enrollment: Limited to 180.
Sue J. Goldie (Harvard School of Public Health)
Half course (spring term). M., W., at 10, and a weekly section to be arranged. EXAM GROUP: 3
This course introduces the global health challenges posed by failure to adequately reduce infections, malnutrition, and maternal-child health problems in the most vulnerable populations, escalating rates of non-communicable diseases/injuries, and emerging health risks that cross national boundaries. We will assess social responses to these challenges at the community, national, and global levels. Through an understanding of population health measures, we will examine patterns of disease/mortality between and within countries, capture important time trends, and identify determinants of health inequalities. While emphasizing science driven policy, comparative case examples will illuminate influential systemic factors, health system performance, and the economic/social/political climate.
Note: This course, when taken for a letter grade, meets the General Education requirement for either Societies of the World or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis or Quantitative Reasoning, but not both.

Societies of the World 25 (formerly Anthropology 1825). Case Studies in Global Health: Biosocial Perspectives
Catalog Number: 9587
Arthur M. Kleinman (Anthropology; Harvard Medical School), Paul E. Farmer (University Professor; Harvard Medical School; Harvard School of Public Health), Anne Becker (Harvard Medical School), and Salmaan Keshavjee (Harvard Medical School)
Half course (fall term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
Examines, through lectures and case-based discussions, a collection of global health problems rooted in rapidly changing social structures that transcend national and other administrative boundaries. Students will explore case studies (addressing AIDS, tuberculosis, mental illness, and other topics) and a diverse literature (including epidemiology, anthropology, history, and clinical medicine), focusing on how a broad biosocial analysis might improve the delivery of services designed to lessen the burden of disease, especially among those living in poverty.
Note: Course counts as Social Anthropology. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[Societies of the World 26 (formerly Historical Study A-21). Africa and Africans: The Making of a Continent in the Modern World]
Catalog Number: 5568
Caroline M. Elkins (History)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13

Understanding Africa as it exists today requires an understanding of the broader historical trends that have dominated the continent's past. This course will provide an historical context for understanding issues and problems as they exist in contemporary Africa. It will offer an integrated interpretation of sub-Saharan African history from the middle of the 19th century and the dawn of formal colonial rule through the period of independence until the present time. Particular emphasis will be given to the continent's major historical themes during this period. Selected case studies will be offered from throughout the continent to provide illustrative examples of the historical trends.
Note: This course fulfills the AAAS 11, Introduction to African Studies, course requirement for a concentration or secondary field in African and African American Studies. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A or Foreign Cultures, but not both.

[Societies of the World 27 (formerly Historical Study A-75). The Two Koreas]
Catalog Number: 0786
Carter J. Eckert (East Asian Languages and Civilizations)
Half course (spring term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
This course seeks to provide a broad historical context in which to understand the contemporary political division on the Korean peninsula. It examines key historical forces that have created and shaped the two Koreas before, during, and after the actual partition of the country in 1945. Topics include nascent nation-building efforts between 1876 and 1910, the impact of Japanese colonialism and the Cold War, and North/South development and interaction after 1948. The course interweaves political, socioeconomic, and cultural themes within an historical framework centered on nation-building while also highlighting a number of major historiographical issues in modern Korean history.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

[Societies of the World 28. Exploration and Empire Building]
Catalog Number: 47498
Kelly A. O'Neill (History)
Half course (fall term). M., W., F., at 10, and a weekly section to be arranged. EXAM GROUP: 3
This course studies the relationships between scientific study, aesthetic representation, and imperial power. Students will examine documentary and visual records of encounters between indigenous peoples, agents of rival empires, and the physical environment along the vast Siberian and Pacific frontiers.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engages substantially with the Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Societies of the World 30. Moctezuma's Mexico: Then and Now (2012)!
Catalog Number: 3196
Davíd L. Carrasco (Harvard Divinity School; Anthropology)

Half course (fall term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
Explorations of the mythical and social origins, glory days and political collapse of the Aztec Empire and Maya civilizations followed by study of the sexual, religious and racial interactions of the "Great Encounter" between Mesoamerica and Europe. Focus on the archaeology, cosmovision, human sacrifice, divine kingship, the mystery of 2012 and rebellion in Mesoamerican cities and in colonialism. Hands-on work with objects at the Peabody Museum aid in examining new concepts of race, nation and the persistence of Moctezuma's Mexico in Latino identities in the Mexico-US Borderlands.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or Culture and Belief, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

Societies of the World 31. Political Economy After The Crisis
Catalog Number: 80232
Dani Rodrik (Harvard Kennedy School) and Roberto Mangabeira Unger (Harvard Law School)
Half course (spring term). W., 1-3, and a weekly section to be arranged. EXAM GROUP: 6, 7
Alternative ways of thinking about contemporary market economies and their reconstruction, explored in three contexts: the recent worldwide financial and economic crisis and the struggle for recovery, the effort to advance socially inclusive economic growth in richer as well as in poorer countries, and the character and consequences of globalization. In considering these substantive themes, we also explore the nature of economics as a discipline: its past, present, and future. Students should have some acquaintance with economics, but no advanced training is required. Addressed to undergraduate and graduate students outside as well as within economics.
Note: Extended take-home examination. Offered jointly with the Kennedy School as PED-233 and the Law School as 2390. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Societies of the World 33 (formerly Foreign Cultures 84). Tokyo
Catalog Number: 9691
Theodore C. Bestor (Anthropology)
Half course (spring term). M., W., (F.), at 1, and a weekly section to be arranged. EXAM GROUP: 6
Tokyo has been one of the world's great metropolitan centers since the 17th century, both the urban hub of Japanese society and culture, and the place where Japanese domestic society and global influences have intersected. This course examines trajectories of change in Tokyo's urban culture, lifestyles, social structure, and spatial environment across the city's history, using ethnography, history, literature, diaries, architecture, photography, art, cartography, animation, film and the Internet to explore Tokyo as an urban culture in comparative perspectives drawn from anthropology, history, and other social sciences.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or Culture and Belief, but not both. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

Societies of the World 34 (formerly Foreign Cultures 46). The Caribbean: Globalization, Socio-Economic Development & Cultural Adaptation

Catalog Number: 6357
Orlando Patterson (Sociology)
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
Caribbean societies are largely the economic and political creations of Western imperial powers and are among the earliest products of globalization. Though *in* the West, they are only partly *of* it, and their popular cultures are highly original blends of African, European and Asian forms. The course examines the area as a system emerging through genocide, piracy, plantation slavery, colonialism and globalization, from a situation of great social and cultural diversity to the present tendency toward socio-economic and cultural convergence. Patterns of underdevelopment and government are explored through national case studies (Puerto Rico, Cuba, Jamaica & Haiti) and selected, region-wide modern issues (hurricanes, earthquakes and other natural disasters; migration & transnationalism; crime & drug trafficking), as are cultural adaptations through studies of Afro-Caribbean religions, folkways, and music. America's special role in the region is emphasized.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

[Societies of the World 35. Conditional Equality: The Case of the Jews of Europe in Modern Times]
Catalog Number: 88298
Jay M. Harris (Near Eastern Languages and Civilizations)
Half course (fall term). M., W., (F.), at 12, and a weekly section to be arranged. EXAM GROUP: 5
This course is a study in the relations between majorities and minorities in modern Europe, using the Jews as a focus. It will examine the ways in which the equal status of a minority is negotiated through cultural and political interaction, both subtle and blunt. It will further focus on the role that such negotiations have in the formation of identities of both the majority and the minority. Finally, it will examine the ways in which majorities can exercise control over minorities rendering them conditionally rather than fully equal participants in the national projects of the age.
Note: Expected to be given in 2013–14. Students who have taken Historical Study A-44 may not take this course for credit. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Societies of the World 36 (formerly Historical Study A-16). Modern India and South Asia
Catalog Number: 9058
Sugata Bose (History) and Amartya Sen (University Professor; Economics)
Half course (fall term). M., W., at 10, and a weekly section to be arranged. EXAM GROUP: 3
This course provides the historical depth and the comparative context in which to understand contemporary South Asia through an historical inquiry into the making and multiple meanings of modernity. It explores the history, culture, and political economy of the subcontinent which provides a fascinating laboratory to study such themes as colonialism, nationalism, partition, the modern state, economic development, refashioning of religious identities, center-region problems and relations between Asia and the West. Significant use of primary written sources (in English)

and multi-media presentations.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A or Foreign Cultures, but not both.

[Societies of the World 37 (formerly Historical Study A-89). The Chinese Overseas]
Catalog Number: 7869
Michael A. Szonyi (East Asian Languages and Civilizations)
Half course (fall term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
This course introduces the emigration of people from China to other parts of the world over the last five centuries. It considers the causes of emigration, the ties that emigrants retained to China, and the communities that Overseas Chinese created abroad. It compares the experiences of emigrants and their descendants in Southeast Asia and in North America. Last, it tries to situate the recent wave of Chinese migration to North America in global and historical context.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Societies of the World 38. Pyramid Schemes: The Archaeological History of Ancient Egypt
Catalog Number: 36776
Peter Der Manuelian (Near Eastern Languages and Civilizations; Anthropology)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
Surveys ancient Egyptian pharaonic civilization. Emphasizes Egyptian material culture: pyramids, temples, tombs, settlements, and artifacts. Explores major developmental themes that defined the Egyptian state: the geographical landscape, kingship, social stratification, and religion. Follows a chronological path with excursions into Egyptian art, history, politics, religion, literature, and language (hieroglyphs). Also touches on contemporary issues of object repatriation, archaeology and cultural nationalism, and the evolution of modern Egyptology. Includes field trips to the Egyptian collections of the Peabody Museum and the Museum of Fine Arts, Boston, along with immersive 3D computer models in Harvard's Visualization Center. No prior experience in Egyptology expected.
Note: Expected to be omitted in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Societies of the World 40 (formerly Anthropology 1174). The Incas: The Last Great Empire of Pre-Columbian South America
Catalog Number: 5311
Gary Urton (Anthropology)
Half course (fall term). Tu., Th., 1-2:30, and a weekly section to be arranged. EXAM GROUP: 15, 16
This course guides students on an exploration of the largest and most complex civilization of Pre-Columbian America–the Inca Empire of Andean South America. We will address such questions as how did a civilization emerge and thrive at 12,000 feet above sea level? How could a state-level society exist without markets, the wheel, or writing? In addition to lectures and discussions, students will experience the products of Inca civilization through hands-on study of

artifacts in the Peabody Museum of Archaeology and Ethnology.
Note: Expected to be omitted in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[Societies of the World 41 (formerly History 1050). Medieval Europe]
Catalog Number: 4278
Michael McCormick (History)
Half course (fall term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
This course will examine the emergence of medieval civilization from the ruins of the ancient world, and the evolution of that civilization into modern Europe. Themes include: the fall of Rome, the spread of Christianity, the rise and fall of Byzantium, the challenge of Islam, the Vikings, the Crusades, commerce and agriculture, the Feudal Revolution, the Twelfth Century Renaissance, spirituality and persecution, the origins of law and government, the Black Death, and the Italian Renaissance.
Note: Expected to be given in 2013–14. This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or Culture and Belief, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

Societies of the World 42. The World Wars in Global Context, 1905-1950
Catalog Number: 98327
Charles S. Maier (History)
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
Examines the origins, military history, and successive postwar settlements of World Wars I and II in the framework of evolving empires, fascist, communist, and democratic ideological mobilization, forced resettlement and cultures of mass violence, ongoing economic and social change (and persistence). Attention to Asian and African as well as European and American transformations.
Note: Students who have taken Historical Study B-53 or Historical Study B-54 may not take this course for credit. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

[Societies of the World 43 (formerly Historical Study B-67). Japan's Samurai Revolution]
Catalog Number: 4164
Ian J. Miller (History)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
On July 8, 1853, Commodore Mathew C. Perry steamed into Japan's Edo Bay with four heavily armed US Navy warships. Two were the so-called "black ships," ominously painted coal-burning steamships of the latest design. There, within view of a stunned populace, Perry issued an ultimatum: open the country to trade or face unstoppable bombardment. Thus began Japan's modern engagement with the outside world, a new chapter in the broader encounter between "East" and "West." Through primary sources, discussion and lecture, this course examines

Japan's rapid development from samurai-led feudalism into the world's first non-Western imperial power.
Note: Expected to be given in 2013–14. No Japanese language skills required. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

Societies of the World 44. Human Trafficking, Slavery and Abolition in the Modern World
Catalog Number: 70642
Orlando Patterson (Sociology)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
This course surveys the nature, types and extent of modern servitude, distinguishing broadly between those resulting from international trafficking such as trans-national prostitution, human smuggling into bonded labor, child soldiering and organ trafficking, and more intra-national forms such as debt-bondage and the domestic exploitation of women and other vulnerable groups. Examines the conceptual and theoretical issues raised in attempts to distinguish among these types of differential power relations; the empirical difficulties of estimating the magnitude of what are inherently secretive processes; and the ideological controversies surrounding the subject. Explores ethical, socio- political and practical issues raised by these trends.
Note: This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[Societies of the World 45 (formerly Chinese History 118). Beyond the Great Wall: China and its Nomadic Other]
Catalog Number: 6134
Mark C. Elliott (East Asian Languages and Civilizations)
Half course (fall term). Tu., Th., 1-2:30, and a weekly section to be arranged. EXAM GROUP: 15, 16
The interaction between sedentary and nomadic civilizations is one of the great themes of human history. This course focuses on the classic case of relations between China and Inner Asia from ancient times to the 21st century. Approaching the problem from historical and theoretical perspectives, the course addresses the political, economic, social, and cultural dimensions of the storied Great Wall frontier.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Societies of the World 46 (formerly Anthropology 1621). The Anthropology of Arabia
Catalog Number: 89167
Steven C. Caton (Anthropology)
Half course (fall term). Tu., Th., at 9, and a weekly section to be arranged. EXAM GROUP: 11
The Arabian Peninsula (Saudi Arabia, the Gulf States, Oman and Yemen) is the focus of this course. Among topics to be addressed are: tribal organization and its continuing importance; gender relations; varieties of Islam and their influence; old and new forms of urbanism. Primary reading materials are ethnographic.

Note: No background in anthropology or Middle East studies required. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

Societies of the World 47. Contemporary South Asia: Entrepreneurial Solutions to Intractable Social & Economic Problems
Catalog Number: 85573
Tarun Khanna (Harvard Business School)
Half course (fall term). M., W., 3:30-5, and a weekly section to be arranged. EXAM GROUP: 8, 9
South Asia is home to two of the world's seven billion people. The primary objective of the course is to engage students with the modern day challenges affecting South Asia, and to examine a range of entrepreneurial attempts to solve these problems. The course focuses on several categories of social and economic problems faced by the countries of South Asia, with specific focus on the realms of Education, Health, and Financial Inclusion. The goal is to understand ways in which entrepreneurial action can effectively tackle major socioeconomic problems in South Asia, by combining knowledge of historical causes, qualitative and quantitative evidence, and context-specific knowledge of the commonalities and differences across South Asian countries. No prior knowledge of South Asia is required.
Note: Unlike other General Education courses, this course assumes advanced coursework in a relevant social science and thus is open to freshmen and sophomores only with permission of the instructor. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis. The course is designed for advanced undergraduates as well as graduate students from all parts of the University. Offered jointly with the Business School as 1266, the School of Public Health as GHP 568, the Kennedy School as PED-338, and the Graduate School of Education as A-819.

Societies of the World 48 (formerly Economics 1400). The Future of Globalization: Issues, Actors, and Decisions
Catalog Number: 5906
Lawrence H. Summers (University Professor; Economics) and Robert Z. Lawrence (Harvard Kennedy School)
Half course (spring term). M., W., 1-2:30, and a weekly section to be arranged. EXAM GROUP: 6, 7
Course will cover the economics and politics of globalization across an array of topics: international trade, development assistance, international financial flows, global warming, immigration/labor mobility, foreign investment. Within each topic we will discuss three elements: what are the important issues, illuminating the economic analytics crucial to understanding the topic; who plays a role in each of the issues to understand the motivations and constraints facing the actors engaged in globalization.
Note: Jointly offered with the Kennedy School as ITF-225. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Societies of the World 49. The Worlds of Business in Modern China - *(New Course)*
Catalog Number: 29129 Enrollment: Limited to 54.

William C. Kirby (History; Harvard Business School)
Half course (spring term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
China was home to the world's largest economy two centuries ago. Two decades from now, it will be the world's largest economy again. This course uses business as a lens through which to study modern China. Using new Harvard Business School cases, we explore traditional family firms and internet startups; state-owned enterprises and their private-sector challengers; and the catalytic role of Hong Kong, Taiwan, and foreign enterprise in shaping contemporary China. Case studies cast light on larger themes: the role of party and government (national and local) in business and society; the legal environment; and the global impact of China's development. *Note:* This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Cross-listed courses that satisfy the Societies of the World Requirement. Some of these courses may have prerequisites or assume familiarity with the subject matter.

African and African American Studies 20. Introduction to African Languages and Cultures
[Ancient Near East 104. Babylon]
[Anthropology 1125. The Moche of Ancient Peru: Politics, Economy, Religion and Art]
Classical Studies 160. Greek East and Latin West after Antiquity: The Birth of Europe - *(New Course)*
Culture and Belief 21 (formerly Foreign Cultures 93). Pathways through the Andes– Culture, History, and Beliefs in Andean South America
[Culture and Belief 26 (formerly Foreign Cultures 81). The Culture of Everyday Life in China]
[Culture and Belief 33. Introduction to the Study of East Asian Religions]
[Culture and Belief 50. The European Postwar: Literature, Film, Politics]
Government 20. Foundations of Comparative Politics
Government 40. International Conflict and Cooperation
[Government 1100. Political Economy of Development]
Government 1171 (formerly Societies of the World 32). The Making of Modern Politics: The Development of Democracy in Europe from the Middle Ages to the European Union
Government 1295. Comparative Politics in Latin America
History 1011. The World of the Roman Empire
[History 1060. Europe and Its Borders, 950-1550]
[History 1266. Central Europe, 1789-1918: Empires, Nations, States]
[History 1282. The Russian Revolution: An International History]
History 1513. History of Modern Latin America - *(New Course)*
[History 1704 (formerly Societies of the World 39). Slavery and Slave Trade in Africa and the Americas]
History 1920. A Global History of Modern Times
Religion 110. Religion and International Politics
South Asian Studies 190. Religious Nationalism and Ethnic Conflict in Modern South Asia - *(New Course)*

United States in the World

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Courses in United States in the World examine American social, political, legal, cultural, and/or economic practices, institutions, and behaviors from contemporary, historical, and/or analytical perspectives. These will help students to understand this country as a heterogeneous and multifaceted nation situated within an international framework by examining ideas about what it means to be an American, about the persistence and diversity of American values, about the relations among different groups within the United States and between the United States and the rest of the world. Courses may compare the American situation to other societies of the world, or show change over time within the United States. These courses prepare students for civic agency by providing critical tools to understand these issues in a historical and/or comparative context.

United States in the World

United States in the World 11. American Health Care Policy
Catalog Number: 4045
Richard Frank (Harvard Medical School)
Half course (fall term). M., W., 3:30-5, and a weekly section to be arranged. EXAM GROUP: 8, 9
Health care in America poses fundamental policy challenges to our ability to protect low income Americans from the costs of illness; to produce high quality care; to efficiently use health care resources, and to allow Americans to die without pain, in the company of family, as they desire. This course aims to offer students a solid understanding of the American health care system, the potential impact of new reform legislation, and challenges that will remain in the future.
Note: Students who have taken General Education 186 or Extra-Departmental Courses 186 may not take this course for credit. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[United States in the World 12 (formerly History of Art and Architecture 17y). American Encounters: Art, Contact, and Conflict, 1560-1860]
Catalog Number: 8937
Jennifer L. Roberts (History of Art and Architecture)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
An introduction to early American art from a transnational, cross-cultural perspective. We begin with the global struggle for control of the North American continent, tracing the colliding artistic traditions of multiple European colonial powers, Native American groups, and slave cultures. We then examine the cultural constitution of U.S. nationhood as it developed through (and against) the visual and material cultures of Europe and the Atlantic and Pacific worlds. Icons of a seemingly familiar national heritage—such as Washington's portrait on the dollar bill—are revealed as complex formal negotiations emerging from international dynamics of commerce, politics, religion, science, and migration.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B or Historical Study B, but not both.

[United States in the World 13 (formerly Historical Study A-34). Medicine and Society in America]
Catalog Number: 1552
Jeremy Alan Greene (History of Science)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
Surveys major developments in the history of American medicine since 1500. Emphasis on setting the practice of medicine and the experience of health and disease into broad social, cultural, and political contexts. Topics include the social and cultural impact of epidemic disease; the nature of demographic and epidemiological change; the development of medical therapeutics and technologies; the growth of health care institutions; the rise of the medical profession; and debates about the allocation of health care resources. Evaluates the role of medicine in addressing social needs as well as the social and economic determinants of patterns of health and disease.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

[United States in the World 15 (formerly Social Analysis 66). Is the American Racial Order Being Transformed?]
Catalog Number: 0916
Jennifer L. Hochschild (Government; African and African American Studies)
Half course (fall term). M., W., at 10, and a weekly section to be arranged. EXAM GROUP: 3
Is a fundamental transformation occurring in the American racial order? If so, are these changes for the better or the worse? We first briefly explore the history of American racial and ethnic dynamics, then examine four transformative forces: immigration, multiracialism, genomics, and the movement of young adults into political and economic power. We then consider blockages to transformation: incarceration of young black men, wealth disparities, and treatment of Muslims and undocumented immigrants. We conclude by considering various ideal futures for race and ethnicity in the U.S.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[United States in the World 16 (formerly Historical Study A-86). Men and Women in Public and Private: the US in the 20th Century]
Catalog Number: 4182
Nancy F. Cott (History)
Half course (fall term). M., W., at 12, and a weekly section to be arranged. EXAM GROUP: 5
This course offers historical perspective on the social relations and relative power of the sexes, tracing changes and continuities over the past century in family lives, work, popular culture and politics. We will look at sexuality, masculinity, and femininity, centering these in US social, cultural and political history in the context of a wider world.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

[United States in the World 17 (formerly Social Analysis 72). Economics: A Critical Approach]
Catalog Number: 1885
Stephen A. Marglin (Economics)
Half course (fall term). M., W., (F.), 1-2:30, and a weekly section to be arranged. EXAM GROUP: 6, 7
This course critically examines the assumptions of modern economics and how these assumptions mold the ideas and conclusions of the discipline. A principal question is the appropriate scope of the market. This question will be examined both theoretically and through examples drawn from both microeconomics and macroeconomics; possible examples include health care, the environment, international trade, social security, and financial crisis and unemployment.
Note: Expected to be given in 2013–14. Primarily taught in lectures, with section meetings offering a chance both to clarify concepts and to discuss applications. Calculus is not used, and there is no mathematics prerequisite. Unlike Economics 10, this course does not fulfill the introductory course requirement for the Economics Department. Moreover, most upper level courses in Economics normally require Economics 10 as a prerequisite; without this prerequisite, enrollment is at the discretion of the instructor. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[United States in the World 18. Thinking About the Constitution]
Catalog Number: 11083 Enrollment: Limited to 150.
Laurence H. Tribe (University Professor; Harvard Law School)
Half course (spring term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
What difference does our Constitution make? Does it matter whether we think about it only as a text, as living practice, or as a set of mostly unwritten principles? This course will explore such questions by investigating several concrete constitutional controversies—about abortion, birth, and dying; about embryo research; about race and gender; about the Obama health insurance reform; about sexual intimacy and same-sex marriage; about religion, free speech, and campaign finance; about workers' rights; about informational privacy; and about emergency presidential action. Readings will be drawn from judicial and other writings about the Constitution, its history, and its interpretation.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[United States in the World 19. American Food: A Global History]
Catalog Number: 43817
Joyce E. Chaplin (History)
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
Europeans "discovered" America in search of foodstuffs, specifically spices. And food has been central to the American experience from the starving time in early Virginia to the problem of obesity in the United States today. But what is American about American food? How have individual food choices and national food policies connected Americans to the larger world, both

the social worlds of other human beings and the natural world of all other living beings?
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

United States in the World 20 (formerly Moral Reasoning 74). The Theory and Practice of Republican Government
Catalog Number: 1489
Daniel P. Carpenter (Government)
Half course (spring term). M., W., at 10, and a weekly section to be arranged. EXAM GROUP: 3
A theoretical and historical survey of the evolution of republican (representative) government, with a particular focus upon European and American institutions. We will alternate between philosophical treatments and empirical studies of republican regimes. Questions include: How did republican government evolve (in England and France) centuries before mass elections? What institutions besides elections keep the ruled attuned to the people? Did arguments for legislative supremacy prefigure the rise of parliamentary authority? If so, how? How did modern republics co-evolve with institutions of slavery? What is the role of virtue in a democratic republic? How can government ensure the "rule of the wise" without fostering autocratic power? What critique might republican theory advance of populist and libertarian arrangements, and how populist and libertarian critics respond?
Note: This course, when taken for a letter grade, meets the General Education requirement for United States in the World or Ethical Reasoning, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Moral Reasoning.

[United States in the World 23 (formerly English 177). Art and Thought in the Cold War]
Catalog Number: 7704
Louis Menand (English)
Half course (spring term). M., W., at 12, and a weekly section to be arranged. EXAM GROUP: 5
Culture of the early Cold War (1945-1965) in the context of political events and intellectual developments. We will be particularly interested in the unintended consequences of Cold War policies and in trans-Atlantic cultural exchange. Subjects include the literature of totalitarianism, Abstract Expressionism, the Beats, the philosophy of higher education, the Warren Court, film noir, and the French New Wave.
Note: No auditors permitted without permission of the instructor. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[United States in the World 24 (formerly Sociology 19). Reinventing Boston: The Changing American City]
Catalog Number: 9395
Robert J. Sampson (Sociology) and David Luberoff (Harvard Kennedy School)
Half course (fall term). Tu., Th., 1-2:30, and a weekly section to be arranged. EXAM GROUP: 15, 16

American cities have changed in extraordinary ways. In the last half of the 20th century, there was gloom about urban life and many cities were projected to decline and decay. Many did but Boston and other cities blossomed, becoming models of urban renaissance. Using Boston as a case, this course considers issues of economic change, technology, neighborhood inequality, political governance, elite relations, cultural institutions, crime, race and ethnic relations, immigration, gentrification and suburbanization. Regular guest speakers. Requirements: 5 short memos on neighborhood visits; 1 term paper; midterm essay and take-home final exam.
Note: Expected to be given in 2013–14. May be counted for introductory concentration requirement, if letter-graded. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

United States in the World 26 (formerly Studies of Women, Gender, and Sexuality 1000sc). Sex and the Citizen: Race, Gender, and Belonging in the United States
Catalog Number: 64666
Caroline Light (Studies of Women, Gender, and Sexuality)
Half course (spring term). M., W., at 10, and a weekly section to be arranged. EXAM GROUP: 3
Even before the formal establishment of the United States, assumptions about sex have helped determine who is entitled to - and not entitled to - the privileges and protections of full citizenship. This course investigates the roles that sex, gender, and sexuality have played in configuring notions of citizenship over time as well as the ways in which sexual rights remain a site of contestation and struggle in the modern United States.
Note: This course, when taken for a letter grade, meets the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[United States in the World 28 (formerly Historical Study B-43). Slavery/Capitalism/Imperialism: The US in the Nineteenth Century]
Catalog Number: 5470
Walter Johnson (History; African and African American Studies)
Half course (spring term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
This course treats the history of the 19th-century US and the Civil War in light of the history of US imperialism, especially the War of 1812, the Mexican-American War, and the illegal invasions of Cuba and Nicaragua in the 1850s. Likewise, it relates the history of slavery in the US to the Haitian Revolution, the Louisiana Purchase, Indian removal, Atlantic cotton, land and money markets, and the hemispheric history of antislavery.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

United States in the World 29 (formerly Literature and Arts B-20). Designing the American City: Civic Aspirations and Urban Form
Catalog Number: 3243
Alex Krieger (Harvard Graduate School of Design)
Half course (spring term). Tu., Th., at 1, and a weekly section to be arranged. EXAM GROUP: 15

An interpretive look at the American city in terms of changing attitudes toward urban life. City and suburb are experienced as the product of design and planning decisions informed by cultural and economic forces, and in relationship to utopian and pragmatic efforts to reinterpret urban traditions in search of contemporary alternatives. Topics include: persistent ideals such as the single-family home, attitudes toward public and private space, the rise of suburbs and suburban sprawl, cycles of disinvestment and renewed interest in urban centers, and impacts of mobility and technology on settlement patterns.
Note: Offered jointly with the Graduate School of Design as DES 0330200. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

[United States in the World 30. Tangible Things: Harvard Collections in World History]
Catalog Number: 21669
Laurel Thatcher Ulrich (University Professor; History) and Sarah Anne Carter (History and Literature)
Half course (spring term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
People make history through the things they make, collect, exhibit, exchange, throw away, or ignore. Over four centuries, Harvard has not only amassed books and manuscripts but art works, scientific instruments and specimens, ethnographic objects, and historical relics of all sorts. By learning how and why particular things arrived in Cambridge and what happened to them when they got here, students will discover how material objects have shaped academic disciplines, reinforced or challenged social boundaries, and defined America's place in the world. This is an interactive course, with weekly visits to museums and close-up investigation of specimens and artifacts.
Note: Expected to be given in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

United States in the World 31 (formerly Social Analysis 54). American Society and Public Policy
Catalog Number: 6661
Theda Skocpol (Government) and Mary C. Waters (Sociology)
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
In the US compared to other major nations, how have social problems been defined and redefined in recent decades; why do they appear differently to various groups; and how are public policies about problematic social conditions debated, devised, and changed? This course synthesizes various kinds of evidence–demographic, attitudinal, ethnographic, and institutional–to probe the creation and impact of major public policies about social support for families and workers; immigration and citizenship, and access to higher education.
Note: This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

***United States in the World 32 (formerly Religion 1007). The World's Religions in Multicultural America: Case Studies in Religious Pluralism**
Catalog Number: 8833 Enrollment: Limited to 56.

Diana L. Eck (South Asian Studies; Study of Religion)
Half course (fall term). Tu., Th., 11:30-1, and a weekly section to be arranged. EXAM GROUP: 13, 14
An exploration of the dynamic religious landscape of the US with special focus on Muslim, Hindu, Buddhist, and Sikh traditions in the most recent period of post-1965 immigration. How are faith and freedom negotiated in a more complex society? In what contexts do minority religious communities encounter long-dominant Christian and Jewish communities? How is America changing as religious communities struggle with civic, constitutional, ethical, and theological issues, especially in the post-9/11 period? Readings, films, discussion, and class projects will focus on particular cases and controversies.
Note: Offered jointly with the Divinity School as 3847. This course, when taken for a letter grade, meets the General Education requirement for United States in the World or Culture and Belief, but not both. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[United States in the World 33 (formerly African and African American Studies 193). Religion and Social Change]
Catalog Number: 8058
Marla F. Frederick (African and African American Studies; Study of Religion)
Half course (fall term). M., W., at 1, and a weekly section to be arranged. EXAM GROUP: 6
Religion has inspired new understandings of social and political engagement. From early protest oriented struggles for civil rights in the US to the more recent personal responsibility calls of neo-pentecostal discourses, this course takes African American religious engagement with the process of democracy as a starting point for thinking about how other communities around the world have employed religion as a means of advancing social change. Through ethnography, auto/biography, and documentary film, this class compares and contrasts the influence that religious moods and motivations have had on calls for democracy and social change in places like Latin America, the Middle East and West Africa. In each instance the course questions the place of the US government and US religious bodies in these global efforts towards change.
Note: Offered jointly with the Divinity School as 3700. This course, when taken for a letter grade, meets the General Education requirement for United States in the World or Culture and Belief, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

United States in the World 34. The Civil War from Nat Turner to *Birth of a Nation*
Catalog Number: 43416
Amanda Claybaugh (English) and John Stauffer (English; African and African American Studies)
Half course (spring term). M., W., at 12, and a weekly section to be arranged. EXAM GROUP: 5
This interdisciplinary course reframes traditional understandings of the Civil War in three ways. First, by showing that civil conflict in the United States began well before 1861 and ended well after 1865, taking the form of slave uprisings and Klan terrorism, as well as conventional war. Second, by showing that the former Confederacy won this longer Civil War by establishing a new order of black freedom. And third, by placing this war in the context of international politics and trade. "Readings" range from fiction, film, letters, and speeches to poetry, pamphlets, prints

and photographs, songs, and history.
Note: This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

United States in the World 35. Dilemmas of Equity and Excellence in American K-12 Education
Catalog Number: 55027 Enrollment: Limited to 80.
Katherine K. Merseth (Harvard Graduate School of Education)
Half course (fall term). M., W., 1-2:30, and a weekly section to be arranged. EXAM GROUP: 6, 7
Events such as Teach for America's 20th anniversary and films like Waiting for Superman highlight urgent concerns about the quality and reach of American schooling in the 21st century. Against this backdrop, the course grapples with several dilemmas that have defined American K-12 education throughout history. What constitutes educational excellence? Can excellence be achieved for everyone? Why do we have schools and what is their purpose? Given that families, politicians, and the courts often disagree vehemently about the answers to these questions, the course considers who and what will define the future of American education and its role in society.
Note: This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[United States in the World 36. Innovation and Entrepreneurship: American Experience in Comparative Perspective]
Catalog Number: 27723 Enrollment: Limited to 95.
Mihir Desai (Harvard Business School)
Half course (spring term). Tu., Th., 4–5:30. EXAM GROUP: 18
What gives rise to entrepreneurial opportunity and innovative activity? How do innovators and entrepreneurs think about the world? How are organizations born and how do they grow? How can innovation and entrepreneurship address the major challenges facing the world? The course will address these questions by bringing together faculty members of Harvard University to provide a diverse set of perspectives on the nature of innovation and entrepreneurship. The course has three complementary pedagogical methods. Members of the Harvard Business School faculty will provide a set of interactive lectures using case studies that illustrate how for-profit and not-for-profit organizations recognize and capitalize on opportunities. Second, faculty members from around the University will provide lectures on specific areas related to their expertise. Third, a set of group projects that allow students to work in the field with sponsoring organizations will be completed over the course of the semester.
Note: Expected to be given in 2013–14. Unlike other General Education courses, this course assumes advanced coursework in a relevant social science and thus is open to freshmen only with permission of the instructor. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

United States in the World 38. Forced to be Free: Americans as Occupiers and Nation-Builders - *(New Course)*
Catalog Number: 26219

Andrew Gordon (History) and Erez Manela (History)
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
The United States has launched numerous projects of military occupation and nation-building in foreign lands since the late 19th century. These have been contradictory enterprises, carrying ideals of freedom and self-determination "offered" by force or by fiat. This course will assess the meanings and legacies of these projects by examining the ideas, strategies, policies, and outcomes of occupations ranging from the Philippines and Haiti early on, to Japan, Germany, and Korea in mid-century to, most recently, Afghanistan and Iraq. The course focuses on American activities and ideas but also examines the responses of the occupied.
Note: Expected to be omitted in 2013–14. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Cross-listed courses that satisfy the United States in the World Requirement. Some of these courses may have prerequisites or assume familiarity with the subject matter.

African and African American Studies 10. Introduction to African American Studies
Economics 10 (formerly Social Analysis 10). Principles of Economics
[Economics 1356. Economics of Work and Family]
[Empirical and Mathematical Reasoning 20 (formerly Quantitative Reasoning 24). The Business and Politics of Health]
Government 30. American Government: A New Perspective
***Government 94q. US-Latin American Relations: Seminar**
History 1445. Science and Religion in American Public Culture
[History 1465. The United States in the World since 1900]
History 1511. Latin America and the United States - *(New Course)*
Religion 50. Religion, Law and American Politics - *(New Course)*
Sociology 107 (formerly United States in the World 21). The American Family
Sociology 190. Life and Death in the US: Medicine and Disease in Social Context

Graduate Seminars in General Education

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

These seminars for graduate students are committed to the discussion, development, and design of undergraduate courses that will be appropriate for the new Program in General Education. Graduate students actively engage with faculty to consider central conceptual and analytic themes, course design and pedagogy, as well as other important decisions in the development and implementation of courses in general education.

Interested graduate students should contact the specific faculty members for more information and check with their home departments about whether these courses will fulfill requirements for relevant graduate degrees.

Graduate Seminars in General Education

[*History 2414. The American Attic (Graduate Seminar in General Education)] - *(New Course)*
Catalog Number: 44981 Enrollment: Limited to 12.
Jill M. Lepore and Robin E. Kelsey
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
This interdisciplinary graduate seminar is dedicated to developing an undergraduate course on the attic as both a place and a realm of the imagination. Students will explore the historical and aesthetic richness of archives.
Note: Expected to be given in 2014–15. The seminar will design and develop a General Education course on these themes for undergraduates.

Music 295r. California in the ’60s (Graduate Seminar in General Education)
Catalog Number: 77487
Kate van Orden
Half course (fall term). Th., 1–3.
California in the ’60s This seminar will design and prep an undergraduate course for non-concentrators on music in California during the "long" sixties, from 1964-71. Principal themes will include youth, culture and the counter-culture politics of black power, women’s liberation, and psychedelia; music includes surf rock, folk rock, acid rock, and singer-songwriters; artists include the Beach Boys, The Doors, Jefferson Airplane, Sly Stone, The Byrds and Joni Mitchell.
Note: The seminar will design and develop a General Education course on these themes for undergraduates.

Core Curriculum

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

All students who entered Harvard College prior to September 2009 must meet the requirements of the Core Curriculum in order to graduate, unless they choose to switch to the Program in General Education. Students should consult the General Education Office (gened@fas.harvard.edu, 617-495-2563, Holyoke Center Fourth Floor) to discuss options for completing Core Curriculum requirements or for switching to General Education requirements.

For more information on the Program in General Education, please visit www.generaleducation.fas.harvard.edu.

Courses that meet Core area requirements are denoted in the "Note" field at the end of the respective course listing. Students may also find these courses by using the advanced search option in the Course Planner tool on my.harvard.edu; there is a field to search by Core Curriculum requirement.

Freshman Seminars and House Seminars

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Freshman Seminars

Jay M. Harris, Harry Austryn Wolfson Professor of Jewish Studies and Dean of Undergraduate Education *(Chair)*
Andrew H. Knoll, Fisher Professor of Natural History and Professor of Earth and Planetary Sciences *(on leave fall term)*
Sandra Naddaff, Senior Lecturer on Literature and Comparative Literature *(Director of Freshman Seminars, ex officio)*
Stephanie Sandler, Ernest E. Monrad Professor of Slavic Languages and Literatures
Mary C. Waters, M. E. Zukerman Professor of Sociology

The Freshman Seminar Program

Freshman Seminars are designed to intensify the intellectual experience of incoming undergraduates by allowing them to work closely with faculty members on topics of mutual interest. Enrollment is limited to the first two terms of students who enter as freshmen. Freshman Seminars are graded SAT/UNS and may not be audited. For information on the Freshman Seminar Program, please visit our website at www.freshmanseminars.college.harvard.edu.

Freshman Seminars 2013-14

***Freshman Seminar 21g. How Did the First Stars and Galaxies Form?**
Catalog Number: 74245 Enrollment: Limited to 15.
Abraham Loeb
Half course (spring term). M., 1:30–3:30.
Since the Universe is expanding, it must have been denser in the past. Therefore, there must have been an early time when stars like our Sun or galaxies like the Milky Way did not exist because the Universe was denser than they are. We therefore face the important question about our

origins: how and when did the first stars and galaxies form? Primitive versions of this question were considered in religious and philosophical texts for
thousands of years. The Seminar will summarize the fundamental principles and scientific ideas that are being used to address this question in modern cosmological studies.
Note: Open to Freshmen only

Freshman Seminar 21i. Evolution, Buddhism, and Ethics - *(New Course)
Catalog Number: 97898 Enrollment: Limited to 15.
John Wakeley
Half course (fall term). M., 3–5.
Darwin's theory of evolution by natural selection, today supported by genetics, is often seen as antagonistic to religion. Buddhism is one of the world's major religions, yet is sometimes described as scientific. In fact, science and religion have a lot to say to each other, in particular about what can be done versus what should be done. This course explores points of contact between evolutionary genetics and Buddhism, centering on the notion of "emptiness," and building knowledge of each so that ethical questions about animals in research, genetic testing, and human genetic engineering can be discussed.
Note: Open to Freshmen only.

***Freshman Seminar 21p. Materials, Energy, and Society**
Catalog Number: 74031 Enrollment: Limited to 15. There are no prerequisites.
David R. Clarke
Half course (fall term). M., 2:30–6.
Advances in materials and energy technology have paced the development of Society from the Stone Age to the present. Today, we are facing an over-reliance on fossil fuels, a growing population, and its consequences on Global Warming. Starting with our current and anticipated future energy needs, this course, which includes substantial weekly laboratory content, explores the role of materials in evolving alternative energy technologies as well as their impact on worldwide resources.
Note: Open to Freshmen only.

***Freshman Seminar 21q. Biological Impostors: Mimicry and Camouflage in Nature**
Catalog Number: 8762 Enrollment: Limited to 12.
Michael R. Canfield
Half course (spring term). Th., 2:30–4:30.
Plants and animals imitate one another and their surroundings to escape notice and avoid predators. This seminar explores the evolution of mimicry and camouflage using case studies that reveal the range of visual, behavioral, acoustical, and chemical means by which this deception is accomplished.
Note: Open to Freshmen only.

***Freshman Seminar 21s. Germs**
Catalog Number: 2067 Enrollment: Limited to 12.
Ralph Mitchell
Half course (fall term). W., 1:15–3:15.
Germs are responsible for the disruption of whole civilizations and for the maintenance of the

ecological balance on planet Earth. Explores the importance of germs as causative agents of disease in humans, animals, and plants and emerging diseases. Investigates why epidemics occur, the role of germs in the control of the ecological balance on Earth -- how microbes affect the cycling of elements, and climate control. Are there dangers to inserting microbial genes into crops?
Note: Open to Freshmen only.

Freshman Seminar 21v. Black Holes, String Theory and the Fundamental Laws of Nature - *(New Course)
Catalog Number: 60008 Enrollment: Limited to 15.
Andrew Strominger
Half course (spring term). Tu., 7–9 p.m.
This seminar will review both our established knowledge of the fundamental laws of nature as well as our best guesses and attempts to understand what might lie beyond our current knowledge. The black hole information puzzle, the nature of space and time at short distances, string theory, the Higgs boson, unification of the forces, quantum gravity and the origin of the universe will be among the topics covered.
Note: Open to Freshmen only.

***Freshman Seminar 21w. Research at the Harvard Forest: Global Change Ecology-Forests, Ecosystem Function, the Future**
Catalog Number: 0060 Enrollment: Limited to 11.
David R. Foster
Half course (spring term). Four weekends at the Harvard Forest in Petersham, MA.
This course explores state-of-the-art research, tools and measurements used to investigate and predict climate change through ongoing studies at the Harvard Forest's 3,500 acre outdoor laboratory in Petersham, MA. The seminar consists of four weekend-long field trips (Friday evening-Sunday) to the Harvard Forest and a final on-campus meeting. Students develop skills for evaluating, discussing, and presenting the ecological evidence for climate change, including feedbacks between forests and the atmosphere and long-term impacts on forest ecosystems.
Note: Open to Freshmen only. Four weekends at the Harvard Forest in Petersham, MA (Fri, 3pm-Sun, late afternoon) dates TBA. Transportation, accommodations, and meals at the Harvard Forest will be provided.

***Freshman Seminar 22i. The Science of Sailing**
Catalog Number: 7269 Enrollment: Limited to 12.
Jeremy Bloxham
Half course (fall term). W., 6–8 p.m.
Explores the application of simple physics to various natural phenomena associated with sailing. Topics addressed range from hydrostatics (e.g. why do boats float?) to meteorology (e.g. why do sea breezes veer during the afternoon?). Explores in depth the generation of lift and drag by the flow of air over sails and the flow of water over keels and rudders, examining critically the numerous incorrect explanations in the popular literature.
Note: Open to Freshmen only.
Prerequisite: Participants in this seminar should have a good high school physics background and have some knowledge of sailing.

***Freshman Seminar 22t. Why We Animals Sing (the ways we do)**
Catalog Number: 22509 Enrollment: Limited to 15.
Brian D. Farrell
Half course (spring term). M., 2–4:30.
We will become familiar with sounds and structures of the different kinds of acoustic animals, including birds, mammals, frogs and insects, and the different kinds of habitats in which they produce their songs and calls. We will explore the evolution and biology of music in humans.
Note: Open to Freshmen only.

***Freshman Seminar 22u. E. coli in Motion**
Catalog Number: 28895 Enrollment: Limited to 15.
Howard C. Berg
Half course (fall term). W., 2:30–4:30.
The bacterium Escherichia coli lives in your gut. It is a model system for understanding how cells monitor their environment and respond by moving in a purposeful manner. We will learn about the microscopic world in which E. coli lives and the mechanisms that it has devised to make its way in this world.
Note: Open to Freshmen only.
Prerequisite: A reasonably strong background in high-school science, mainly math and chemistry.

***Freshman Seminar 23e. The Scientific Method: A Roadmap to Knowledge**
Catalog Number: 14833 Enrollment: Limited to 15.
Robert Sackstein (Medical School)
Half course (spring term). Tu., 4:30–6:30.
This course is designed to provide a working knowledge of the scientific method, thereby fostering development of fundamental skills in logic and experimental design. The various forms of reasoning (inductive, abductive, deductive) will be discussed in context of the practice of science. Through critical analysis of historical and contemporary scientific reports, students will gain an understanding of creating appropriate hypotheses, of controlled experimentation, and of the breadth and limits of conclusions drawn from experimental data.
Note: Open to Freshmen only.

***Freshman Seminar 23k. Insights from Narratives of Illness**
Catalog Number: 1904 Enrollment: Limited to 12.
Jerome E. Groopman (Medical School)
Half course (spring term). W., 1–3.
A physician occupies a unique perch, regularly witnessing life's great mysteries; it is no wonder that narratives of illness have been of interest to both physician and non-physician writers. Examines and interrogates both literary and journalistic dimensions of medical writing from Tolstoy to Oliver Sacks as well as newspapers and periodicals. Studies not only mainstream medical journalists, but so called alternative medical writers such as Andrew Weil also. Work with different forms of medical writing.
Note: Open to Freshmen only.



***Freshman Seminar 23l. Medicine, Law, and Ethics: An Introduction**
Catalog Number: 4235 Enrollment: Limited to 15.
Shahram Khoshbin (Medical School)
Half course (spring term). M., Th., 7–9 p.m.
Explores medical, legal, and ethical aspects of medical care, with particular attention to medical decision-making at the beginning and end of life, participants in research on human subjects, human reproductive technologies, mental illness, and experimentation on animals. Historical background of present-day medical practices and relevant law to be discussed.
Note: Open to Freshmen only.
Prerequisite: All students are welcome, but this seminar is particularly geared to pre-medical and pre-law students. Students are advised that this course is intended to be introductory.

***Freshman Seminar 23m. Nutrition and Public Health**
Catalog Number: 8823 Enrollment: Limited to 15.
Clifford Lo (Public Health)
Half course (fall term). Tu., 6:30–8:30 p.m.
Introduction to the critical reading of technical nutrition and medical literature; surveys current issues in public health and public policy relating to nutrition. Critical analysis of different types of medical literature: historical monographs, metabolic laboratory observations, clinical case reports, epidemiological surveys, prospective randomized controlled trials, metaanalyses, and literature reviews. Prepares science and non-science concentrators to examine critically current controversies for themselves; requires active participation and presentation by students.
Note: Open to Freshmen only. Clinical rounds with Nutrition Support Services at Children's Hospital are optional.

***Freshman Seminar 23p. Physics, Math and Puzzles**
Catalog Number: 71288 Enrollment: Limited to 15.
Cumrun Vafa
Half course (fall term). Section I: W., 4:30–6:30; Section II: F., 4-6.
Principles of modern physics are based on simple but at the same time deep concepts. Many of these concepts are naturally encountered when solving mathematical puzzles. The aim of this seminar is to illustrate the connection between physics and mathematics and use simple ideas and puzzles to shed light on this relation. We will also draw upon ideas encountered in the context of string theory and higher dimensional realizations of our universe. Recommended for students deeply interested in both physics and mathematics.
Note: Open to Freshmen only.
Prerequisite: This seminar is recommended for students with a strong background in both math and physics and with keen interest in the relation between the two subjects.

***Freshman Seminar 23s. The Seven Sins of Memory**
Catalog Number: 8910 Enrollment: Limited to 12.
Daniel L. Schacter
Half course (spring term). M., 3–5.
Examines fallibility of memory from both cognitive and neuropsychological perspectives. Seven basic "sins" of memory: transience, absent-mindedness, blocking, misattribution, suggestibility, bias, and persistence. The first three reflect different types of forgetting. The next three involve

distortion or inaccuracy. Persistence, the last, refers to pathological remembrances. Can "sins" be conceptualized as by-products of adaptive features of memory, rather than as flaws in the system or blunders made by Mother Nature during evolution?
Note: Open to Freshmen only.

***Freshman Seminar 23y. All Physics in 13 Days**
Catalog Number: 95524 Enrollment: Limited to 13.
John M. Doyle
Half course (fall term). Friday, Hours to be arranged.
This seminar will introduce 13 key pieces of knowledge about our physical world: 1) Boltzmann factor and thermal equilibrium, 2) Turbulence, 3) Reaction rates, 4) Indistinguishable particles, 5) Quantum waves, 6) Linearity, 7) Entropy and information, 8) Discharges, ionization, 9) Relativity, 10) Nuclear binding energies, 11) Photon modes, 12) Diffraction, 13) Resonance. Each week we will discuss one of these principles and see how we might gain an understanding of our physical and technological world.
Note: Open to Freshmen only.
Prerequisite: Professor Doyle has made a change to the prerequisites. Since this is a fall term course, applicants will not be required to have taken Mechanics 11a, 15a, or 16. Please know, though, that this seminar will be geared to students likely to go on in physics or related areas, such as chem/phys or engineering. The introduction to certain principles is done with the expectation that students will return to a more formal course on the subject in the future.

***Freshman Seminar 24e. The Physics and Applied Physics Freshman Research Laboratory**
Catalog Number: 3573 Enrollment: Limited to 12.
Jene A. Golovchenko
Half course (fall term). W., F., 3–5.
Exposes students considering careers in science or engineering to environment of a modern research laboratory. Research teams construct, perform, analyze, and report on cutting-edge experiments in physical, engineering, and biological sciences. Projects provide insight into the mathematical, mechanical, electronic, chemical, computational, and organizational tools and skills that characterize modern experimental science. Past projects focused on atomic, nuclear, and solid state physics, materials science, dynamical systems, and biophysical science. Projects highlight both team and individual effort.
Note: Open to Freshmen only. This class will meet off-campus at the Rowlands Institute at Harvard. Transportation will be provided at no charge to students.

***Freshman Seminar 24g. A Brief History of Surgery**
Catalog Number: 74216 Enrollment: Limited to 15.
Frederick H. Millham
Half course (fall term). Th., 7–9 p.m.
In this seminar, students explore the historical foundation of modern surgical practice. They will study the medical notions of the ancients, and then see these notions overturned in The Enlightenment. Advances of the 19th century will be studied in detail. We will end with a session on combat casualty care, aided by an experienced combat surgeon. Students will write a 5 page paper on a topic in surgical history and will present their work to the class.
Note: Open for Freshmen only.

***Freshman Seminar 24k. The Surprising Science of Happiness**
Catalog Number: 21444 Enrollment: Limited to 15.
Nancy Lee Etcoff (Medical School)
Half course (spring term). Tu., 3–5.
After a century of studying how to cure mental illness, scientists have started to explore what makes us happy. What have they discovered? In this course, we will critically examine the findings from the new science of happiness revealing how they are altering our understanding of what happiness is, the optimal ways to achieve and increase it, the role of circumstance in its occurrence, its effect on our bodies, and its place in human nature.
Note: Open to Freshmen only.

***Freshman Seminar 24n. Child Health in America**
Catalog Number: 6367 Enrollment: Limited to 12.
Judith Palfrey (Medical School) and John G. Palfrey
Half course (fall term). M., 4–6.
Reviews history of children's health care in the United States; explores the impact of geography, environment, nutrition, clean water, as well as scientific discoveries of the late 19th and the early 20th centuries and the emergence of high technology care in middle and late 20th century. Does America provide children the best possible health care available? Compares United States epidemiology with that of other developed and developing nations. Explores how child health delivery is financed.
Note: Open to Freshmen only.

***Freshman Seminar 24p. Getting to Know Charles Darwin**
Catalog Number: 36551 Enrollment: Limited to 12.
William Friedman
Half course (fall term). W., 2–6.
We will read a selection of Darwin's publications, as well as his private correspondence, paying close attention to the man behind the science as revealed by his writings. We will get to know Darwin, the avid breeder of pigeons, lover of barnacles, devoted father and husband, gifted correspondent and tactician, and remarkable backyard scientist. Together, the class will reproduce ten of Darwin's classic Down House experiments and observations that were central to his case for natural selection and evolution.
Note: Open to Freshmen only. Required field trips to the Arnold Arboretum of Harvard University, the Museum of Comparative Zoology, and a local pigeon fancier will be included.

***Freshman Seminar 24u. "How Did I Get Here?"--Appreciating "Normal" Child Development**
Catalog Number: 81872 Enrollment: Limited to 15.
Laura Marie Prager (Medical School)
Half course (spring term). Tu., 4–6.
How do we conceptualize "normal" growth and development? In this seminar, we will examine stages of child development from many vantage points: neurobiological, physical, cultural, and psychological. Readings will include classic papers on development, textbook chapters that provide overviews of specific developmental stages, recently published research articles on brain development and genetic inheritance, selected contemporary children's and young adult

literature, personal memoirs, and short stories written about childhood. We will also examine clips from contemporary films. Assignments will consist of three short response papers and a longer final paper. There are no prerequisites for this course.
Note: Open to Freshmen only.

***Freshman Seminar 25e. Autism**
Catalog Number: 92389 Enrollment: Limited to 15.
Charles A. Nelson (Public Health)
Half course (fall term). M., 1–3.
Autism is an increasingly common disorder, frequently found in the popular press and Hollywood movies. It affects roughly 1:100 individuals, approximately 500 times the rate of just a few decades ago. Sadly, despite the considerable financial resources devoted to the study of autism we still do not know what causes the disorder, why its severity varies so enormously from person to person and how best to treat it. This seminar will be broad in scope, focusing on the following key themes: genetic, neurological and possibly environmental causes of autism, risk factors for developing the disorder, best way to characterize the disorder, best treatment options.
Note: Open to Freshmen only. Note: The instructor will arrange field trips to various clinics that provide services for individuals with autism.

***Freshman Seminar 25g. The Impact of Infectious Diseases on History and Society**
Catalog Number: 8075 Enrollment: Limited to 15.
Donald A. Goldmann
Half course (fall term). Th., 7–9 p.m.
Mankind's journey- farming, urbanization, exploration, trade, globalization -has been marked by devastating encounters with infectious diseases. Infections have affected wars, political dynasties, global balance of power, social structure, public health policy, economics, and the arts. This course explores these themes by studying infections such as plague, syphilis, smallpox, malaria, sleeping sickness, tuberculosis, cholera, yellow fever, polio, and influenza. It investigates how the epidemiology of these diseases, and society's response, inform contemporary policy and future threats.
Note: Open to Freshmen only.

***Freshman Seminar 25k. You Are What You Eat**
Catalog Number: 3913 Enrollment: Limited to 15.
Karin B. Michels
Half course (fall term). M., 4–6:30.
What does food do to our bodies? What does a healthy diet entail? What is known about the role of nutrition in preventing or curing disease? Explores and critically evaluates diet recommendations and knowledge about the role of diet in maintaining health. Discusses the obesity epidemic, with a focus on childhood obesity and the role of school lunch programs. Explores local resources including Harvard Community Gardens and Food Literacy Program and how meals are prepared at the Harvard University Dining Services. Discusses genetically modified foods and mindful cooking and eating. Will review the book "Eat, drink, and be healthy".
Note: Open to Freshmen only.

***Freshman Seminar 25n. Understanding Psychological Development, Disorder and Treatment: Learning through Literature and Research**
Catalog Number: 9589 Enrollment: Limited to 12.
Nancy Rappaport (Medical School)
Half course (fall term). W., 3–5.
Deepens understanding of human development and how individuals cope with serious emotional or social difficulties (neglect, bipolar disorder, autism, depression). We will use multiple perspectives: medical texts that provide practical knowledge, narrative readings to understand how patients experience the meaning of illness, speaking with patients about their experiences, and portrayals of development-related mental illness in the press. Examines the fundamental need for tenderness and making meaning, the resourcefulness required for resiliency and the context of vulnerability.
Note: Open to Freshmen only.

***Freshman Seminar 25o. Building a Living Cell One Brick at a Time**
Catalog Number: 48982 Enrollment: Limited to 12.
Alain Viel
Half course (fall term). W., 2–5.
Synthetic biology is an emerging multi-disciplinary field of research aimed at developing solutions to problems impacting our individual lives and ultimately our long-term survival as a species. We need to find alternative and renewable sources of energy and food, new ways to process and recycle limited resources, and tools to detect and address environmental pollutants. These and other challenges can be addressed by the development of microorganisms re-engineered to perform new functions. In this "hands-on" laboratory course students will design experiments and build and then test synthetic biological systems. Additionally, students will present and discuss selected topics in synthetic biology.
Note: Open to Freshmen only

***Freshman Seminar 25p. Neurotoxicology: Biological Effects of Environmental Poisons**
Catalog Number: 1838 Enrollment: Limited to 15.
S. Allen Counter (Medical School)
Half course (fall term). W., 2–4.
Explores wide range of environmental and man-made neurotoxic substances and effects on human and animal populations. Attention to pediatric exposure to neurotoxic agents and associated neurodevelopmental disabilities, as well as neurobehavioral and immunological changes. Examines impact of lead and mercury poisoning, PCBs. Investigates neurophysiology and neurochemistry of a number of other neurotoxins, including arsenic, tetrodotoxin, saxitoxin, botulinum, curare, cocaine, and "nerve gas." What dangers do these toxins pose? What can or should be done to prevent exposure?
Note: Open to Freshmen only.

***Freshman Seminar 25q. Understanding Emotions**
Catalog Number: 94303 Enrollment: Limited to 15.
Matthew Leeds
Half course (fall term). Th., 3–5.
Large and small, simple and complex, self-evident and confusing, emotions in all their variety

are a fundamental part of life. But just what are emotions? Are they the same in all cultures? What, if any, functions do they serve? Can we control our emotions? What role do they play in development, personality, relationships and well-being? What effects can they have on physical health? And do they present special challenges to scientific study? This seminar will take up these and other fundamental questions, and will discuss methods used to study emotion and the current state of knowledge about human emotion.
Note: Open to Freshmen only

***Freshman Seminar 25t. AIDS in Africa**
Catalog Number: 0024 Enrollment: Limited to 14.
Myron Essex (Public Health) and Tun-hou Lee (Public Health)
Half course (spring term). M., 1–3.
HIV/AIDS has infected or killed more than sixty million people, and no vaccine is expected within five to ten years. About two-thirds of current infections are in ten percent of the world's population in sub-Saharan Africa, where few patients receive life-saving treatment. Explores dimensions of AIDS in Africa including the evolution and epidemiology of HIV, the pathobiology of AIDS, prevention of infection, and treatment of disease. Encourages multidisciplinary approaches, using country-specific illustrations of successful interventions.
Note: Open to Freshmen only.

***Freshman Seminar 25w. Responsibility, the Brain, and Behavior**
Catalog Number: 0049 Enrollment: Limited to 15.
Ronald Schouten (Medical School)
Half course (fall term). Th., 7–9 p.m.
Explores philosophical and legal bases of the concept of individual responsibility as applied in the criminal justice system. Examines how forensic mental health professionals assess an individual's mental state at time of an alleged criminal act, the legal standards applied, and the social and political forces that help shape the legal decision. Considers the insanity defense; examines modern concepts of the biological basis of behavioral disorders and their relationship to existing standards of criminal responsibility.
Note: Open to Freshmen only. The seminar may include a required trip outside of class time to Bridgewater State Hospital, Massachusetts's maximum security forensic hospital. Transportation will be provided free of charge.
Prerequisite: There are no prerequisites, but an interest in law, psychology, or related fields would be advantageous.

***Freshman Seminar 25x. Human Brain in Health and Disease: A Neurologist's Perspective**
Catalog Number: 25887 Enrollment: Limited to 15. The course is intended for those who have scored -5- on AP Biology or Chemistry.
Thomas N. Byrne
Half course (fall term). Tu., 7–9 p.m.
Brain function serves as the basis for how we make rational and irrational decisions, learn to read or not (dyslexia), learn and remember or not (amnesia), empathize and understand the perspective of another or not (autism). The mind is shaped by the interaction of the brain and environment. Our understanding of the brain enables us to attempt to modify the environment to enhance the mind. This course will look at these issues in individuals with normal brain function

and those with neurological disorders.
Note: Open to Freshmen only.

***Freshman Seminar 25z. Stress and Disease (Biobehavioral Aspects of Health and Disease)**
Catalog Number: 1691 Enrollment: Limited to 12.
Donald B. Giddon (Dental School)
Half course (fall term). W., 2–4.
This seminar on biobehavioral bases of health and disease focuses on the interaction of injurious or infectious agents and the physical and social environment in the development and maintenance of stress-related disorders. What factors are stressful for given individuals? What are the pathophysiological and/or behavioral pathways to disease? Why is a particular body organ system the target of stress? What psychological, social, and economic factors influence cognitive, affective/physiological, and behavioral responses to disease?
Note: Open to Freshmen only. Most class meetings will be at the Medical School.

***Freshman Seminar 26f. Dreams: Our Mind by Night**
Catalog Number: 91442 Enrollment: Limited to 15.
Deirdre Leigh Barrett
Half course (fall term). Th., 3–5:30.
This course examines dreams with an emphasis on their relation to the creative process and problem solving. It draws on psychology predominantly--neurophysiology, clinical, and personality research. The course also includes perspectives from history, religion, art, literature, and anthropology. We'll visit a sleep laboratory and attend a dream-related arts event. Students will keep a dream journal, participate in experiential exercises with their dreams, and write a term on a dream-related topic of their choice.
Note: Open to Freshmen only.

***Freshman Seminar 26j. The Universe's Hidden Dimensions**
Catalog Number: 7529 Enrollment: Limited to 15.
Lisa Randall (Department of Physics)
Half course (spring term). W., 2–4.
Based loosely on book, Warped Passages, considers revolutionary developments in Physics in early 20th century: quantum mechanics and general relativity; investigates key concepts which separated these developments from the physical theories which previously existed. Topics: particle physics, supersymmetry, string theory, and theories of extra dimensions of space. We will consider the motivations underlying these theories, their current status, and how we might hope to test some of the underlying ideas in the near future.
Note: Open to Freshmen only.

***Freshman Seminar 26u. What is Mental Illness?**
Catalog Number: 9123 Enrollment: Limited to 12.
Michael William Kahn (Medical School)
Half course (fall term). M., 2:30–4:30.
Introduces students to the nature of mental illness based on recorded interviews of people suffering from a variety of psychiatric conditions. Investigates what illness and treatment are like from patient's perspective. Interviews supplemented by readings which include a variety of

patient narratives. Provides background on categories of mental illness, the varieties of treatment available, and the nature of the illness experience itself.
Note: Open to Freshmen only.

***Freshman Seminar 26v. Blood: From Gory to Glory**
Catalog Number: 9017 Enrollment: Limited to 12.
David T. Scadden
Half course (fall term). W., 1–3.
Humans have long understood that the blood flowing in their veins was imperative to their health and well-being. This course will examine the history, attitudes and beliefs surrounding blood. We will study human beliefs about blood and its uses in cultural beliefs and ceremonies. We will examine the science associated with blood: the production and the function of blood in the body, ideas of blood regarding medicine, healing, blood-related illnesses, biotechnology, nanotechnology and stem cell research.
Note: Open to Freshmen only.

***Freshman Seminar 26w. The Biology and Science of Cancer and Its Treatments: From Empiric to Scientific to Humanistic**
Catalog Number: 63338 Enrollment: Limited to 15.
George Daniel Demetri
Half course (spring term). Th., 3–5.
"Cancer" represents hundreds of different diseases with a wide variety of causative mechanisms. We will study the biology of cancer and what makes a normal cell become a cancer one, delving into acquired and inherited genetic abnormalities and effects of environmental factors, such as nutrition, radiation, and tobacco. Current approaches to cancer will be discussed from prevention and early detection to treatment of survivorship.
Note: Open to Freshmen only.

***Freshman Seminar 27i. Global Health: Comparative Analysis of Healthcare Delivery Systems**
Catalog Number: 38826 Enrollment: Limited to 15.
Sanjay Saini
Half course (fall term). M., 1–3.
This discussion seminar will allow students to obtain greater understanding of global health issues through critical comparative analysis of national healthcare systems of selected countries from the developed, emerging and developing world. Weekly sessions will comprise of a case-based and discussion focused session. Each course will inspire discussion that revolves around a central question relevant to each healthcare topic. Student teams will explore in-depth and over the final two sessions present to the entire class an important issue facing a country's healthcare system.
Note: Open to Freshmen only

***Freshman Seminar 30g. Digging Up the Past: Harvard and Egyptian Archaeology**
Catalog Number: 56101 Enrollment: Limited to 12.
Peter Der Manuelian
Half course (fall term). Th., 3–5.

Explores the spectacular history and discoveries of the 40-year Harvard-MFA (Museum of Fine Arts, Boston) Expedition to 23 sites in Egypt and Nubia (1905-1947). Topics include the early development of responsible archaeological method, famous finds and explorers, Western colonialism/imperialism in Egypt, early Harvard and MFA history, archival research, and the current debate on repatriation of artifacts. Field trips to museum collections, and exciting new digital technologies (such as 3D Giza Pyramids in Harvard's Visualization Center) applied to early 20th century archaeology.
Note: Open to Freshmen only.
Prerequisite: There are no prerequisites.

Freshman Seminar 30i. Noam Chomsky and the Science of Linguistics - *(New Course)
Catalog Number: 52426 Enrollment: Limited to 15.
Bradley Theodore Larson
Half course (spring term). Th., 2–5.
Noam Chomsky changed the course of both the study of human language and the study of human behavior in general. Although the Chomskyan approach to language ties together ideas from the fields of mathematics, computer science and psychology, the revolution that he started fifty years ago stems from his posing a few simple questions: What does a person know when they know a language? How does a child come to learn his or her language? This seminar explores his approach to these questions as well as their repercussions for the study language.
Note: Open to Freshmen only.

***Freshman Seminar 30n. Uncle Tom's Cabin and Moby Dick**
Catalog Number: 3363 Enrollment: Limited to 11.
Elisa New
Half course (fall term). Tu., 1–3.
Reads Uncle Tom's Cabin rapidly-situating it within wide range of pertinent cultural and literary contexts-and then Moby Dick slowly, relying on inspection of artifacts (nineteenth-century bibles, scrimshaw, maritime portraits, rope, coins, oil lamps, whale calls), its own interpretive resources, and student-led discussion to penetrate its thickness. Investigates what can be learned from studying these works in each other's perspective and what these readings reveal about nineteenth-century American literature.
Note: Open to Freshmen only. The seminar includes a required overnight field trip to Nantucket. Transportation, lodging, entrance fees, and meals are provided free of charge.

***Freshman Seminar 30t. The Novel in the Twenty-First Century**
Catalog Number: 24541 Enrollment: Limited to 15.
Timothy M. Wientzen
Half course (spring term). W., 3–5.
This course seeks to understand the unique historical moment of our early century through close attention to some of its most significant literary artifacts. We will examine how the novel, as a literary form, has incorporated, challenged, and built upon new communication networks, transnational social affiliations, the rise of genetic engineering, and the looming collapse of our biosphere. How does the novel, once the repository of cultural memory, relate to history–and the danger of forgetting–in a world increasingly geared toward instantaneity? And, most importantly, how does the twenty-first century novel imagine alternatives to our most serious

social perils?
Note: Open to Freshmen only.

Freshman Seminar 30x. The Life Project - *(New Course)
Catalog Number: 51919 Enrollment: Limited to 15.
Carrie Lambert-Beatty
Half course (fall term). Th., 3–5.
What happens when contemporary artists treat their everyday lives as artistic material, "sculpting" their eating, sleeping, or living habits and reporting on the process? What kind of art is this? In the era of reality TV, personal informatics, and "challenge literature" have such projects gone mainstream? How do they relate to the "life projects" of ascetics, experimental subjects, or the mentally ill?
Note: Open to Freshmen only.

Freshman Seminar 30y. Move and Be Moved: 100 Years of American Dance History - *(New Course)
Catalog Number: 80488 Enrollment: Limited to 12.
Lauren Simpson
Half course (fall term). M., 2–5.
An embodied and theoretical approach to dance studies, this course examines American dance history from the neo-classical ballet era to the present day. Emphasis will be placed on understanding dance in cultural context, engaging in in-class dance workshops, and developing a vocabulary for describing the body in movement. This is a lecture- demonstration course taking place in the studio and the seminar classroom.
Note: Open to Freshmen only. This is a lecture-demonstration course taking place in both the studio and the seminar classroom. No prior dance experience required, just an openness to move (and groove).

Freshman Seminar 30z. George Orwell: Journalist, Essayist, and Conscience of an Age - *(New Course)
Catalog Number: 96119 Enrollment: Limited to 15.
Mark A. Kishlansky
Half course (fall term). Th., 3–5.
George Orwell is one of the great political writers of the twentieth century. The word "Orwellian" summarizes his dystopic vision of state control and concepts such as "Big Brother" and the "thought -police" have entered popular consciousness. But Orwell was also a social reformer in the tradition of the Progressives. Alongside the content of his work, Orwell professed a lifelong interest in the process of writing. His essays on the corruption of language, the politicization of literature, and the less admirable side of the art of persuasion hold enduring interest for anyone who lives by and loves the English language.
Note: Open to Freshmen only.

Freshman Seminar 31e. Money and Other Virtual Realities - *(New Course)
Catalog Number: 40822 Enrollment: Limited to 15.
Shigehisa Kuriyama
Half course (fall term). M., 2–4.

What is money? Its practical importance is plain, but its essence is a mystery. In different places, at different times, it has assumed such wildly varying forms as shells and paper notes, cigarettes and computer data-a fact that reminds us that money isn't any fixed, concrete thing, a tangible object in the world, but rather a sort of virtual reality, something whose presence and power depends entirely on human perception. What makes money seem so powerful and real? We will study this puzzle by exploring how various other domains-such as painting, digital media, and magic performance-make their illusions seem so compelling. The class will involve regular practical activities: we will not only read about and discuss the theory of how virtual realities like money work, but also experiment with various hands-on applications of theory. These experiments will range from exercises in verbal and non-verbal persuasion, to the creative use of digital media for convincing presentations, and the design of mystifying magic tricks. No prior knowledge of economics, or experience with media or magic is required; the only prerequisites are curiosity and a spirit of adventure.
Note: Open to Freshmen only.

***Freshman Seminar 31j. Skepticism and Knowledge**
Catalog Number: 9760 Enrollment: Limited to 12.
Catherine Z. Elgin (Faculty of Education)
Half course (fall term). Tu., 3–5.
What can we know; how can we know it? Can I know that I am not a brain in a vat being manipulated into thinking that I have a body? Can I know that Lincoln was assassinated, that electrons have negative charge, that Hamlet is a masterpiece, that the sun will rise tomorrow? This seminar will study skeptical arguments and responses to them to explore the nature and scope of knowledge.
Note: Open to Freshmen only.

Freshman Seminar 31k. Dreams and Literature from Antiquity to Modernity - *(New Course)
Catalog Number: 61319 Enrollment: Limited to 15.
Panagiotis Roilos
Half course (fall term). M., 4–6.
Against the dual background of ancient and medieval commentaries and modern psychoanalytical and ethnographic studies, diverse literary texts and methods of dream hermeneutics will be explored. The major focus will be on European literatures and traditions, but anthropological data from around the world will also be considered. Films by influential directors (Fellini, Kubrick, Scorsese) based on important literary dream narratives will also be watched and discussed. Major topics: dreaming and writing; dreams as narratives; typology of dreams; religious dimensions; dreams' effect on individual and collective subjectivity; dreams and healing. Theoretical readings to include: Aelius Aristides, Artemidorus, Synesius of Cyrene; Freud, Jung, Levi-Strauss, Foucault.
Note: Open to Freshmen only. Additional time for occasional film screenings will be arranged with the class.

***Freshman Seminar 31n. Beauty and Christianity**
Catalog Number: 4682 Enrollment: Limited to 12.
Robert J. Kiely

Half course (fall term). W., 2–4.
Jesus has inspired great works of art, literature, and music, but Christians have not always agreed on the function of beauty. This seminar will consider Christian aesthetics, art (Italian Renaissance), and music (Bach, Messiaen, and spirituals), but the focus will be on literary works of St. Francis, Dante, Herbert, Donne, Hopkins, Hawthorne, Melville, C.S. Lewis, and O'Connor. The abiding question will be: In what ways does aesthetic form-- beauty-- enhance, qualify, complicate, or obscure the gospel?
Note: Open to Freshmen only.

***Freshman Seminar 31o. Negotiating Identity in Postcolonial Francophone Africa and the Caribbean**
Catalog Number: 6293 Enrollment: Limited to 15.
Mylène Priam
Half course (fall term). Th., 2–4.
Explores the question of postcolonial identity through the trans-regional study of literature, poetry, cultural works, and critical theory from Africa and the Caribbean. Provides an overview of the major theoretical definitions of the postcolonial in an attempt to find formulations of postcolonial identity not only in terms of aesthetic, but also historical, geographical, linguistic, and institutional discourses. Reading will include "Diaspora Texts" in French and English.
Note: Open to Freshmen only. Please note that the seminar will be taught in French. Discussions may be lead in English and assignments may be written in English.

Freshman Seminar 31p. Trials from Ancient Athens - *(New Course)
Catalog Number: 59648 Enrollment: Limited to 15.
Adriaan M. Lanni (Law School)
Half course (fall term). Th., 3–5.
In classical Athens, litigants represented themselves before hundreds of jurors who rendered verdicts without instruction from a judge. We will read surviving Athenian court speeches involving homicide, assault, adultery, prostitution, slander, treason, citizenship, and commerce, as well as Plato's account of Socrates' defense speech. Taught by a law professor, the focus will be on comparing ancient and modern approaches to problems faced by all legal systems and on evaluating Athens' distinctively amateur legal system. Students will be expected to write three short response papers, to contribute to discussion, and to participate in a "mock trial" of an Athenian homicide case.
Note: Open to Freshmen only. Prior knowledge of ancient history or ancient languages is not required; all readings are in translation and the seminar is designed to be of interest to those without a background in the ancient world.

Freshman Seminar 31q. Literal Looking: What We See in Art - *(New Course)
Catalog Number: 87001 Enrollment: Limited to 12.
Peter J. Burgard
Half course (spring term). W., 3–5.
What do we really see when we look at a work of art? This seminar is an exercise in evaluating artistic composition as it presents itself to the viewer. Primarily devoted to looking and talking about what we think we see, what we actually see, and how it informs interpretation, but with consideration as well of what experts say we should see - in order to explore the degree to which

literal looking aids or is aided by contextually informed looking. Works by Raphael, Caravaggio, Bernini, Velázquez, Turner, Renoir, Sargent, Klimt, Schiele, Kandinsky, Bacon, Richter.
Note: Open to Freshmen only. The seminar includes a required fieldtrip to New York City to visit three museums, leaving Harvard early on Saturday, May 3, and returning late on Sunday, May 4. Transportation, lodging, entrance fees, and meals are provided free of charge.

Freshman Seminar 32m. Food for Thought: Culinary Culture in Spain and Latin America - *(New Course)
Catalog Number: 37898 Enrollment: Limited to 15.
Johanna Damgaard Liander
Half course (fall term). M., 3–5:30.
The French have said that the history of a nation depends on what they eat. Yet in the case of Spain, it's clearly the reverse. What Spain has eaten has been a consequence of the country's vast -and often turbulent- history. Invasions, expansions, exile and immigration have created and continue to create the cuisine and culture, which will be our focus in this seminar. Likewise, we will consider the culinary exchange with Latin America, with specific reference to Argentina, Peru and the Caribbean. From don Quijote's rudimentary repas, to Almodóvar's gazpacho, we'll conclude at the tables of the globalized metropolis.
Note: Open to Freshmen only. The class will engage in hands-on sessions in the kitchen.
Prerequisite: No previous knowledge of Spanish language, or travel to any of the countries mentioned, is required.

Freshman Seminar 32q. Introduction to Traditional Asian Drama Texts - *(New Course)
Catalog Number: 64877 Enrollment: Limited to 15.
Xiaofei Tian and Kevin C. Schoenberger
Half course (fall term). F., 1–3.
This course will introduce students to major works of pre-modern and early modern literary drama of India, China, and Japan, as well as to the conventions and artistry of some of the living performance arts still used to enact them. The primary focus will be close reading and discussion of classic South Asian and East Asian drama texts; we will also consider works of performance criticism and theory, both pre-modern and modern, in order to enhance our appreciation of these literary works as theatrical performance, as well as their places within the broader scope of world literature and performance traditions.
Note: Open to Freshmen only. All readings will be in English translation. Knowledge of Sanskrit, Chinese, or Japanese is helpful but not required.

***Freshman Seminar 32t. Poetic Translation**
Catalog Number: 43513 Enrollment: Limited to 12.
Richard F. Thomas
Half course (fall term). W., 4–6.
Considers poetic translation from any and all languages. The seminar will a) examine the theory of translation: literal translation, free adaptation or imitation, and metaphrastic translation, involving comprehension of all aspects of the source text but moving it into a contemporary setting; domestication, source text moved into contemporary culture vs. foreignization, reader moved back into the culture of the original text; etc. b) have students report on their chosen poets and translations (the major part of the seminar); c) have students present their own translations to

the seminar.
Note: For Freshmen only.
Prerequisite: Participants should have reasonable fluency in any language other than English.

***Freshman Seminar 32v. The Art of Storytelling**
Catalog Number: 7011 Enrollment: Limited to 12.
Deborah D. Foster
Half course (fall term). Tu., 2–4.
People everywhere tell stories to express both the verities and contradictions found in experiences of everyday life. Based on storytelling traditions, a narrator shapes the story to reflect his or her own intentions, making it personally expressive as well as publicly meaningful to a particular audience. This seminar examines the nature of storytelling, its enduring appeal, and its ability to adapt to multiple technologies (print, film, internet). Participants engage in the storytelling process itself.
Note: Open to Freshmen only.

***Freshman Seminar 32w. African Musical Traditions**
Catalog Number: 2465 Enrollment: Limited to 12.
Kay Kaufman Shelemay
Half course (fall term). W., 1–3.
The seminar will explore selected African musical traditions and the manner in which musical expression is linked to other aspects of African life through a comparative reading of recent musical ethnographies (with accompanying audio and visual materials). Topics will include African music histories, performance styles, and systems of meaning. Participants should be interested in music and conversant with one musical tradition and will attend two African music concerts and have several 'hand's on' sessions exploring African musical instruments.
Note: Open to Freshmen only. Participants in the seminar should be interested in music and conversant with at least one musical tradition as a listener and/or performer. Students will be required to attend theater performances during the course of the term. There will be no charge to the student.

Freshman Seminar 33k. Reasoning About God: Exploring Religious Belief in Light of Philosophy and Cognitive Science - *(New Course)
Catalog Number: 35953 Enrollment: Limited to 15.
Güven Güzeldere
Half course (fall term). Tu., 2–4.
This seminar explores the nature of religious belief and various ways of reasoning about God, in light of philosophical arguments and recent research in the cognitive sciences. Questions that will be subjected to a systematic analytical examination include the rational and psychological bases for belief in God, the metaphysical possibility of an afterlife, and the relation between faith and reason (including the relation between religious belief and scientific knowledge). We will also discuss various philosophical arguments for the existence of God, different conceptions of the soul, the problem of evil, and the relation of religion to morality.
Note: Open to Freshmen only.

***Freshman Seminar 33o. Animation--Getting Your Hands On Time**
Catalog Number: 37616 Enrollment: Limited to 12.
Ruth S. Lingford
Half course (spring term). W., 1–4, and F., 1–3.
Experimentation with a variety of animation techniques leads to new perspectives on time in this practice-based seminar. Practical assignments using drawing, pixillation, strata-cut and time-lapse will build into students making a short animated film, individually or in groups.
Note: Open to Freshmen only.

***Freshman Seminar 33p. The Self: Who am I, What am I, and When am I No Longer?**
Catalog Number: 36493 Enrollment: Limited to 15.
Cheryl K. Chen
Half course (fall term). W., 1–3.
A philosophical investigation into the nature of the self. Topics include the mind-body problem, personal identity and moral issues related to death and survival.
Note: Open to Freshmen only.

***Freshman Seminar 33x. Complexity in Works of Art: Ulysses and Hamlet**
Catalog Number: 6673 Enrollment: Limited to 12.
Philip J. Fisher
Half course (fall term). M., 2–4.
Do inherited forms found in literature permit only certain variations within experience to reach lucidity? Investigates literature's limits in giving account of mind, everyday experience, thought, memory, full character, and situation in time. Studies Shakespeare's *Hamlet* and Joyce's *Ulysses*, a modern work of unusual complexity and resistance to both interpretation and to simple comfortable reading. Reading these two works suggests potential meanings for terms like complexity, resistance, openness of meaning, and experimentation within form.
Note: Open to Freshmen only.

***Freshman Seminar 34m. Leonard Bernstein and His World**
Catalog Number: 0175 Enrollment: Limited to 15.
Carol J. Oja
Half course (spring term). M., 2–4.
Conductor, composer, teacher, television personality, Bernstein embraced new technologies with gusto, bringing classical music to a wider audience than ever before. As composer of a series of innovative Broadway musicals, including West Side Story (1957), Bernstein consistently advocated for Civil Rights and social justice. This seminar explores Bernstein's multi-faceted career as a way of exploring the richly complex world of performance in the mid-20th century. Special attention will be paid to early television. Students will have an opportunity to dance to the choreography of Jerome Robbins (no prior experience in dance is needed), and guests will include Jamie Bernstein (Leonard's oldest child).
Note: Open to Freshmen only. This course includes student participation in dance workshops. No previous dancing experience is required.
Prerequisite: Music literacy is desirable but not required.

***Freshman Seminar 34o. You and Your Camera**
Catalog Number: 40867 Enrollment: Limited to 12.
Peter S. Pershan
Half course (spring term). W., 4–6.
The goal of representing the 3-dimensional world on a 2-dimensional surface dates back at least as far as the approximately 30,000 year old cave drawings. For all of these past centuries there were relatively few people who could create realistic 2 dimensional images of the people and things that wanted preservation. Although photography has changed this there are still significant differences between the images that most people create and the photographs of our leading photographers. In this seminar we will discuss the artistic history, the nature of vision and the fundamental physics on which modern digital photography is based.
Note: Open to Freshmen only. Arrangements for loaned cameras will be made for those that do not own one.
Prerequisite: Participants in this seminar should either have had a good high school physics course or be highly motivated to understand the physics of the camera. Students should also feel comfortable with high school algebra and trigonometry.

***Freshman Seminar 34s. The Art of Noticing**
Catalog Number: 55974 Enrollment: Limited to 12.
Gordon Teskey
Half course (fall term). M., 3–5.
A seminar on *aesthetics,* or techniques for active noticing when writing about poetry, music and art. Derived from a Greek word for ‘perception,’ aesthetics in the eighteenth century changed from the philosophical investigation of perception to meditation on art, according to such general concepts as ‘the beautiful’ and ‘the sublime.’ This course returns aesthetics to the field of perception by attending to details one does not normally see and deciding which are important. In addition to classroom work, there will be visits to Harvard and Boston museums. Students will write essays and keep a journal.
Note: Open to Freshmen only.

***Freshman Seminar 34x. Language and Prehistory**
Catalog Number: 9905 Enrollment: Limited to 12.
Jay Jasanoff
Half course (fall term). M., 2–5.
Explores use and misuse of linguistic evidence. The 19th-century identification of the Indo-European language family misled some intellectuals to posit the now rejected idea of a genetically and culturally superior Aryan "race". Linguistic evidence still plays an important role in prehistoric studies. What does the fact that languages are related tell us about their speakers? How can genuine cases of linguistic borrowing or "influence" be distinguished from resemblances that come about through pure chance?
Note: Open to Freshmen only.

Freshman Seminar 35k. Before Modern Love: Desire, Duty, and Marriage from the Roman Empire to the Renaissance - *(New Course)
Catalog Number: 85328 Enrollment: Limited to 12.
Christine S. Lee



Half course (fall term). Tu., 3–5.
Romantic love has long had a dubious and shifting reputation in the Western world. This course will explore love in literature from Roman Antiquity to the Middle Ages to the Renaissance. Our readings will include epic poems, chivalric romances, love letters, sonnets, tragedies, and comedies. What does it mean to be in love? Do love and marriage go hand in hand? We will discover how the answers to these questions have changed over time, and investigate if male and female writers offer different approaches to these issues. Authors include Virgil, Abelard and Heloise, Marie de France, Petrarch, Shakespeare, and Milton.
Note: Open to Freshmen only.

***Freshman Seminar 35n. The Art and Craft of Acting**
Catalog Number: 21542 Enrollment: Limited to 12.
Remo Francisco Airaldi
Half course (fall term). M., 4–6.
Provides an introduction to acting by combining elements of a discussion seminar with exercises, improvisations and performance activities. Uses improvisation to develop characters, improve group/ensemble dynamics and to minimize habitual behaviors. Explores a range of historical and contemporary acting techniques designed to give students greater access to their creativity and emotional life. In the later part of the term we will work on monologues. Students also attend and critique performances at the Loeb Drama Center and other venues in the Boston area.
Note: Open to Freshmen only. Students will be required to attend theater performances (Sept 12 evening & other dates, TBD) during the course of the term. There will be no charge to the student.

***Freshman Seminar 35v. Poems and Photographs**
Catalog Number: 1868 Enrollment: Limited to 15.
Melissa Sara Feuerstein
Half course (spring term). W., 1–3.
Brings together lyric poetry and photography as art forms that provide respite from plot's pull toward closure. Explores how poems and photographs engage the mind in different rhythms of contemplation by preserving tensions between movement and stillness, fragmentation and wholeness, familiarity and strangeness, presence and absence, life and death. Focuses on genres of self-portrait, still life, landscape, and elegy, suggesting how particular poems and photographs satisfy mind's desire for non-narrative expression and experience.
Note: Open to Freshmen only.

***Freshman Seminar 35z. The Modern Political History of the Arab World: From Kings and Presidents for Life to the Arab Spring**
Catalog Number: 43904 Enrollment: Limited to 12.
E. Roger Owen
Half course (spring term). Th., 2–4.
Examines the establishment of Arab authoritarian regimes after WW2 as a result of pressures to protect their new-found sovereignty. Then the nature of the political and economic forces that first encouraged the rulers of the Arab republics to try to establish family dynasties of a crony-capitalist variety, and then lead to their challenge and overthrown by popular movements aiming to create a wholly new constitutional order. Attention will also be paid to the impact of these

developments on relationships with the Arab monarchies as well as the three non-Arab Middle Eastern states, Iran, Israel and Turkey.
Note: Open to Freshmen only

Freshman Seminar 36i. Reading Theater Politically - *(New Course)
Catalog Number: 99916 Enrollment: Limited to 15.
Andreea Marculescu
Half course (fall term). M., 2–4.
This course intends to explore the relationships between theater and politics. While "entertainment" and "edification" are two functions of theater, we will also investigate how theatrical form can also be a mode of "intervention" that asks us to question empirical realities. Readings include: Sophocles' *Antigone*, Molière's *The Bourgeois Gentleman*, Shakespeare's *The Tempest*, Alfred Jarry's *Ubu Roi*, Eugene Ionesco's *The Rhinoceros*, Aimé Césaire's *A Tempest*, Arthur Miller's *The Crucible*, Caryl Churchill's *Top Girls*, Matei Visniec's *Horses at the Window*, Tony Kushner's *Angels in America*.
Note: Open to Freshmen only

***Freshman Seminar 36j (Formerly What If? Alice in Wonderland, Peter Pan, and the Literary Culture of Childhood). Folklore and the Culture of Childhood**
Catalog Number: 4622 Enrollment: Limited to 12.
Maria Tatar
Half course (spring term). W., 4–6.
This course begins by examining the stories of Charles Perrault, the Brothers Grimm, and Hans Christian Andersen and explores the migration of fairy tales into literary and cinematic cultures for adults and for children. From fairy tales we turn to fantasy literature and to the great counterfactuals in Other Worlds constructed for children. Lewis Carroll's *Alice in Wonderland*, J.M. Barrie's *Peter Pan*, J.K. Rowling's *Harry Potter and the Deathly Hallows*, and Neil Gaiman's *Ocean at the End of the Lane* will guide us through our investigation of what Graham Greene called the "excitement and revelation" of books read in childhood.
Note: Open to Freshmen only.

***Freshman Seminar 36p. To Far Places: Literature of Journey and Quest**
Catalog Number: 95495 Enrollment: Limited to 15.
William Albert Graham
Half course (spring term). W., 3–5.
Considers largely fictional, mythic, or epic literature involving travel, quest, pilgrimage, sojourning, and enduring themes and questions this literature raises: parting/return, separation/reintegration, homelessness/homecoming, loneliness/companionship, orientation/disorientation, internal/external, place/space, apprenticeship, trial, growth, aesthetic vision, courage, and death. Includes works such as *Gilgamesh,* Tolkien's *Hobbit,* Homer's *Odyssey,* Basho's *Narrow Road to Oku,* Endo's *Deep River,* Hesse's *Siddhartha,* Calvino's *Invisible Cities,* Hersey's *A Single Pebble,* Frazier's *Cold Mountain,* Johnson's *Middle Passage,* 'Attar's *Conference of the Birds,* McCarthy's *The Road.*
Note: Open to Freshmen only.

Freshman Seminar 36q. Theater and Magic - *(New Course)
Catalog Number: 17765 Enrollment: Limited to 15.
Marjorie Garber and Diane Paulus
Half course (fall term). Tu., 1–3.
Both the pleasure of theatricality and its dangers have long been linked to ideas about the power of the magus, the witch, the wizard, and the arts of illusion. This seminar will focus on two key historical moments: the English Renaissance and the contemporary theater. We will read plays like Christopher Marlowe's Doctor Faustus, Ben Jonson's The Alchemist, and several works of Shakespeare, together with a consideration of magic on the modern stage. The seminar will culminate in a discussion of an upcoming version of The Tempest at the American Repertory Theater, directed by Aaron Posner and by Teller, the magician and illusionist.
Note: Open to Freshmen only. The seminar will require attendance outside of the regular class time on a day-trip to New York City for a live performance.

***Freshman Seminar 36s. Comparative Historical Mythology**
Catalog Number: 89987 Enrollment: Limited to 15.
Michael Witzel
Half course (fall term). Th., 3–5.
Deals with an innovative approach to comparative mythology by incorporating an *historical* approach, not by the commonly assumed archetypes or diffusion. Working backwards from our earliest written sources (Egypt, etc.), successively earlier stages are detected through repeated reconstructions. Recent developments in genetics, archaeology, linguistics support the proposed historical model that tentatively reaches back to the "African Eve." Testing the proposal offers a wide scope for students' participation and research in texts and in the sciences.
Note: Open to Freshmen only.

Freshman Seminar 36v. On Uncertainty - *(New Course)
Catalog Number: 76426 Enrollment: Limited to 15.
Edward J. Hall
Half course (spring term). Tu., 1–3.
The world we live in is awash in uncertainty - uncertainty that we try to regiment, tame, or otherwise get some kind of handle on by applying the concept of probability. But this concept - as widespread as its use is - conceals a host of fascinating philosophical perplexities. This seminar takes up some of the most important of them. What is probability? How do we find out about it? Does the management of risk lead to novel ethical problems? We'll use this seminar as a forum for exploring these metaphysical, epistemological, and moral dimensions of uncertainty.
Note: Open to Freshmen only.

***Freshman Seminar 37w. The Worlds of Alexander the Great**
Catalog Number: 33719 Enrollment: Limited to 15.
Paul Joseph Kosmin
Half course (fall term). M., 3–5.
This course will introduce students to the remarkable history of Alexander the Great, his campaign of conquest from Greece to India, its background in the organization and ideologies of the Macedonian and Persian kingdoms, and its afterlife in various classical and Near Eastern literary traditions. Students will become familiar with the complexity of the ancient world, the

variety of the extant evidence, and the various methodologies by which historians seek to make sense of it.
Note: Open to Freshmen only.

Freshman Seminar 38p. Model Minorities and Rebels: Asian American Youth in U.S. Literature and Culture - *(New Course)
Catalog Number: 81125 Enrollment: Limited to 15.
Wendy A. Lee
Half course (spring term). Th., 2:30–4:30.
From the 1950s to the present, mainstream U.S. culture has often represented Asian American young people as model minorities--as "success stories," "whiz kids," or "Tiger children." By contrast, Asian American narratives have regularly depicted youthful rebellion as shattering the model minority stereotype. This seminar examines the fraught ways that Asian American youth has been represented in mainstream U.S. and Asian American literature and culture. We will consider how gender, class, sexuality, and nation shape the terms of Asian American youth as models or rebels. Course readings will include novels, memoirs, film, news articles, blogs, and internet memes.
Note: Open to Freshmen only.

***Freshman Seminar 38t. Beethoven's String Quartets**
Catalog Number: 1651 Enrollment: Limited to 12.
Anne C. Shreffler
Half course (fall term). Th., 1–3.
Beethoven's sixteen quartets span almost his entire creative output, ranging from the classical Six Quartets, Op. 18 of 1800, to the transcendent, pioneering late quartets, the last completed in the year of his death in 1827. These works contain the full range of Beethoven's musical expression and some of his best-known music. The seminar will work from scores, selected recordings, and live performances connected to the Chiara Quartet's Harvard residency in the fall. Seminar members may play in class; individual projects and some readings.
Note: Open to Freshmen only. The seminar includes required attendance at one live performance outside of the regular class time.
Prerequisite: Participants should be able to read music (at least treble and bass clef).

***Freshman Seminar 38z. Romancing the Kitchen: Food Culture across the Romance Languages**
Catalog Number: 26825 Enrollment: Limited to 12.
Elvira G. DiFabio
Half course (spring term). Th., 2:30–4:30.
This course offers a taste (*sapore*) of the knowledge (*sapere*) that is found in the language and culture the Romance languages, in particular, French, Italian, Spanish, infused by unique flavors of Portuguese and Catalan as well. Consumption of food and the consumption of texts, eating language and culture, the Romance kitchen as a liminal space between language and culture, body and spirit, the living and the deceased.
Note: Open to Freshmen only. This course includes student art-making. The class will engage in at least five hands-on sessions in the kitchen to read, create, and taste.

Freshman Seminar 39m. Representations: Visual culture, power, and knowledge production - *(New Course)
Catalog Number: 55824 Enrollment: Limited to 15.
Emily W. Stokes-Rees
Half course (spring term). Th., 3–5.
It is frequently said that we now live in a world where knowledge is largely visually constructed; where what we see is more important than what we hear or read. Yet there remains a lot of confusion around what 'visual culture' entails - How do visual images work? And what do we do with and about them? This course offers a critical introduction to the study of visual culture within a variety of social and cultural contexts. We will cover a wide range of visual materials, from photographs and images to film, TV, and material culture, relating these to questions of representation and communication. Visual forms will be discussed in terms of knowledge production, power relations and identity. Issues of gender, nation, ethnicity, and indigeneity will also be problematized, as well as topics of particular interest to students in the class. Field trips, film viewings and guest speakers will be an important component of the class, as well as much lively debate.
Note: Open to Freshmen only.

Freshman Seminar 39n. The Call of Beauty - *(New Course)
Catalog Number: 18472 Enrollment: Limited to 12.
Elaine Scarry
Half course (fall term). M., 1–3.
Philosophers, poets, scientists, and mathematicians have meditated on the nature and power of beauty. Beauty calls on us to educate ourselves, but also calls on us to repair the injuries of the world. Readings include Plato and Sappho; Aquinas and Lady Murasaki ; Rilke and Maya Lin today. We will study aspects of beauty such as color (e.g. "The Lady and the Unicorn" tapestries depicting the five senses) and symmetry (a book on symmetry by astrophysicist Mario Livio). Topics include the beauty of earth (e.g. the writings of environmentalist Rachel Carson) and the beauty of faces (Homer on Helen, Seamus Heaney on an unnamed soldier).
Note: Open to Freshmen only.

Freshman Seminar 39o. Childhood and Children's Literature - *(New Course)
Catalog Number: 78056 Enrollment: Limited to 15.
Katherine Bennett Gustafson
Half course (spring term). W., 1–3.
Students will study the history of British and American childhood and children's literature from the seventeenth through the twenty-first century, paying particular attention to the impact of gender, class, and familial structures on the portrayal of and literature for children. We will examine juvenile literature as both a reflection of larger cultural anxieties about education, sexuality, subsistence, crime, and empire as well as a means by which culture imagines a more idealized and nostalgic reality.
Note: Open to Freshmen only.

Freshman Seminar 39q. The Literature of Multi Ethnic America - *(New Course)
Catalog Number: 43915 Enrollment: Limited to 15.
Rani Neutill

Half course (spring term). Th., 3–5.
This class is an introductory course in ethnic American literature. We will read Native American, Chicano, Latino, Asian American, and African American literatures. The class will pose questions such as: Why ethnic American literature? Why not simply American? What are the dissonances and similarities between these literary voices? We will examine texts from several genres (novels, short stories, plays). We will read these texts in order to look at how gender and race intersect with issues such as generational conflicts, questions of racial authenticity, the legacy of enslavement and genocide, assimilation versus the struggle to retain one's cultural heritage, and the complex intersections of race, ethnicity, gender, and class.
Note: Open to Freshmen only.

***Freshman Seminar 39s. The Visual Arts in Boston, 1670-1970: An Historical Introduction**
Catalog Number: 23719 Enrollment: Limited to 11.
Theodore E. Stebbins (Department of History)
Half course (spring term). Th., 3–5.
This course will introduce students to American art history through the close examination of a dozen key paintings, buildings, and events in the Boston area: these include masterpiece paintings by John Singleton Copley, John Singer Sargent, and Jackson Pollock at the Museum of Fine Arts, such structures as Bulfinch's Boston Statehouse, as well as Memorial Hall and Le Corbusier's Carpenter Center at Harvard. We will learn how to study, evaluate, and write about works of art, and how to understand them as products of their time and place.
Note: Open to freshmen only. There will be two required local field trips. Trips will typically happen in the hour following our regular meetings. No previous study of art history is required.

Freshman Seminar 39v. Fear and Wonder: Natural and Unnatural Experience of the Sublime - *(New Course)
Catalog Number: 21129 Enrollment: Limited to 15.
Christina Lynne Svendsen
Half course (fall term). W., 2–4.
This seminar explores extreme states of mind: the feeling of fear and wonder that philosophers call the sublime. Sublime experiences are so intense that they overwhelm our senses and our ability to express ourselves, jamming the system. The rediscovery of the sublime in the late eighteenth century coincided with a cultural shift from viewing the Alps as a site of fear to a place of awe and beauty, a shift reflected in Romantic art and literature. It reappears in modernism, in forms that range from Gothic fiction to the technological sublime of skyscrapers, the Wild West, and novels on the "posthuman" sublime of life after ecological catastrophe.
Note: Open to Freshmen only.

Freshman Seminar 39w. Rome, Constantinople and Ravenna in the Light of Imperial Rule - *(New Course)
Catalog Number: 16849 Enrollment: Limited to 15.
Ioli Kalavrezou
Half course (fall term). Th., 3–5.
The seminar will look closely at these three capitals during a period of great transition and change. These are the first centuries of Christianity as a recognized religion, which having the

support of the imperial court has brought about new architectural and urban changes.
Note: Open to Freshmen only.

***Freshman Seminar 39y. Poetry and the Ballad**
Catalog Number: 0046 Enrollment: Limited to 15.
Peter Sacks
Half course (fall term). Tu., 2–4.
This freshman seminar will focus on the form and history of the ballad as it evolves from the Early Middle Ages and Renaissance to the present. From anonymous songs to the poems of Wordsworth, Coleridge, Keats, Yeats, Auden and others, to the lyrics of Bob Dylan, the course moves between individual poems and literary history
Note: Open to Freshmen only.

Freshman Seminar 39z. Becoming a Hero: from Homer to Harry Potter - *(New Course)
Catalog Number: 72955 Enrollment: Limited to 15.
Luke Taylor
Half course (fall term). M., 2–4.
How does one become a hero? This course will explore the idea that literary heroes share a recognizable life path. A hero is born into a mysterious family, encounters a series of tests growing up, often descends into an underworld, and finally conquers a frightening enemy, either through force or self-sacrifice. Examining these motifs in relation to heroes from the Bible, classical epic, Renaissance plays, and modern fantasy fiction - from Homer to Harry Potter - will enable you to decide for yourself what defined a hero in literary history and what defines a hero today.
Note: Open to Freshmen only.

***Freshman Seminar 40i. The Supreme Court in U.S. History**
Catalog Number: 7142 Enrollment: Limited to 15.
Richard H. Fallon (Law School)
Half course (fall term). Tu., 4–6.
Often described as the world's most powerful court, the US Supreme Court has not always enjoyed high prestige or unquestioned authority. The Court's significance has waxed and occasionally waned, with the variations typically depending on surrounding currents in the nation's social and political history. Examines the history of the Court from the nation's founding to the present. Highlights relation between constitutional law and ordinary politics, and the ways in which they influence one another.
Note: Open to Freshmen only.

***Freshman Seminar 40k. Health Care on Less Than 8,000 Dollars a Year**
Catalog Number: 28545 Enrollment: Limited to 15.
Alan M. Garber
Half course (spring term). W., 3–5.
Health care in the United States is often criticized for its expense, ineffectiveness, and inequity. Every policy solution for increasing access to care faces the challenge of dealing with its costs. Because per capita annual health expenditures exceed 8,000 dollars, the subsidies needed to support health insurance expansions are large and controversial. The fundamental challenge to

improving health and health care is to rationalize expenditures by improving the efficiency or productivity of care. This seminar explores barriers to health care productivity in the U.S, along with potential approaches to enhance the value of care.
Note: For Freshmen only.
Prerequisite: Background in microeconomics at the level of first-semester Economics 10 is required. Knowledge of AP-level statistics is desirable. The course is relevant to anyone with an interest in public policy, health care, or public health.

Freshman Seminar 40p. Making the Grade? Middle and High School Math Education in the U.S. - *(New Course)
Catalog Number: 36111 Enrollment: Limited to 15.
Robin Gottlieb
Half course (fall term). W., 2–4.
What are the goals of mathematics education at the middle and high school level, and how do these goals impact our evaluation of the success or failure of math education in America? Why does math education at these levels matter? What societal structures (historic, economic, political, cultural) impact mathematics education? How does math education in turn impact societal structures? As the world changes, how do the goals of mathematics education change, and in what ways? We will explore these issues to become more educated participants in this ongoing discussion.
Note: Open to Freshmen only. A special invitation to students not planning to concentrate in math is extended.
Prerequisite: This is not a mathematics course and has no prerequisites.

Freshman Seminar 40x. The International Exchange Rate System in Historical Perspective - *(New Course)
Catalog Number: 16887 Enrollment: Limited to 12.
Kenneth Rogoff
Half course (fall term). M., 4–6.
This seminar explores contemporary debates on the future of the international monetary system, including the role of the dollar as a global reserve currency, tensions in the European Monetary System, China's peg to the dollar, and the aftermath of the financial crisis. The course will emphasize the intellectual and historical underpinnings of today's system, including the collapse of the gold standard in the 1930s, the breakdown of the Bretton Woods system in the 1970s, emerging market currency collapses, the antecedents of the euro, and the evolution of modern central banks.
Note: Open to Freshmen only.

Freshman Seminar 41e. The American Death Penalty: Morality, Law, and Politics - *(New Course)
Catalog Number: 79188 Enrollment: Limited to 15.
Carol S. Steiker
Half course (fall term). Tu., 4–6.
This seminar will address the American death penalty, now an anomalous practice among Western democracies. We will explore the controversies that swirl around the institution of capital punishment in the distinct but related contexts of morality, law, and politics. How have

the abstract arguments of moral philosophers informed American constitutional interpretations of commitments to "due process," "equal protection," and protection against "cruel and unusual punishments"? How have the arguments of moral philosophers and the interpretations of the Supreme Court affected the political sphere? What is the future of the anomalous American death penalty?
Note: Open to Freshmen only.

***Freshman Seminar 41p. American Presidential Campaigns and Elections 1960-2016**
Catalog Number: 2004 Enrollment: Limited to 15.
Maxine Isaacs
Half course (fall term). Tu., 1–3.
What can we learn from earlier presidential elections about the presidential election of 2012 and our own political era? In this seminar, we examine changes and continuities in campaigns and elections since 1960; demographic and opinion shifts over the last fifty years; the nature and structure of American public opinion; and ways American news media transmit information and people learn about matters in the public sphere. Through this lens, we will come to better understand the politics, issues and society of our own time.
Note: Open to Freshmen only.

Freshman Seminar 41t. Modernity, Society, and the Novel - *(New Course)
Catalog Number: 77764 Enrollment: Limited to 15.
Eric A. Malczewski
Half course (fall term). W., 2–4.
This seminar focuses on the experience of the social actor in modernity, using novels and sociological literature as guides; the nature of modernity will examined, with the existential experience of the modern individual as the object of focus. The novel will be studied so as to gain leverage on such questions as "What is identity, and how is it shaped?" and "What are the implications of modernity on one's creation of the self?" The novels to be considered juxtapose the experience of women to that of men and focus on 19th and early 20th century England, France, and America.
Note: Open to Freshmen only

Freshman Seminar 41x. Can Government be "good"? Ethics, Public Policy, and Tough Choices - *(New Course)
Catalog Number: 22133 Enrollment: Limited to 15.
Olivia K. Newman
Half course (fall term). W., 3–5.
Everyday, leaders and policymakers are inundated with tough choices. Sometimes they make "good" decisions, sometimes not. Sometimes it isn't clear which decision is best. We will examine several ethical challenges confronting those in charge. May leaders authorize torture under some circumstances? Can citizens really be free if they are homeless and hungry? Is welfare and wealth redistribution a violation of wealthier citizens' liberty? And how should society distribute scarce resources like health care? There are no easy answers to these dilemmas. "Good" government, then, may be the government that best recognizes these murky waters and proceeds carefully.
Note: Open to Freshmen only.

***Freshman Seminar 42k. Comparative Law and Religion**
Catalog Number: 9992 Enrollment: Limited to 12.
Ofrit Liviatan
Half course (spring term). M., 2–4.
Investigates the use of legal processes in addressing religion-based conflicts, a leading source of tension in modern societies. The seminar will explore theoretical approaches to accommodating religious diversity and examine existing models of religion-state relationships. Drawing on legal cases from the US, Turkey, India, Israel, Spain, Canada, and England, the seminar will also familiarize participants with contemporary debates involving religion: the wearing of Islamic headscarf, religion and education, the funding of religious institutions, etc.
Note: Open to Freshmen only.

***Freshman Seminar 42n. Comparative National Security of Middle Eastern Countries**
Catalog Number: 5714 Enrollment: Limited to 15.
Charles David Freilich
Half course (spring term). Tu., 3–5.
The course surveys the national security threats and opportunities facing the primary countries of the Middle East, from their perspective. Issues discussed include the domestic sources of national security considerations, including regime change and the impact of the Arab Spring, relations with regional and international players, military doctrine, foreign policy principles. The seminar is an interactive, "real world" exercise, in which students play the role of leaders in the countries of their choosing and write practical policy recommendations on current affairs.
Note: Open to Freshmen only.

***Freshman Seminar 42u. The Laws of War and the War on Terrorism**
Catalog Number: 9694 Enrollment: Limited to 12.
Gregg Andrew Peeples
Half course (fall term). W., 3–5.
How do the "laws of war" regulate the conduct of the United States in the "Global War on Terrorism?" This seminar examines the historical development of two legal concepts: jus ad bellum, which determines the legitimacy of the use of armed force; and jus in bello, which defines the duties of soldiers and belligerent states. Drawing on this background, the seminar explores how these laws have influenced U.S. military and anti-terrorism operations since 9/11.
Note: Open to Freshmen only.

***Freshman Seminar 42v. Human Rights Between Rhetoric and Reality**
Catalog Number: 1757 Enrollment: Limited to 15.
Stephen P. Marks (Public Health)
Half course (fall term). M., 4–6.
Examines radically different perspectives on the question of whether human rights discourse is merely rhetorical or captures a significant dimension of reality for peoples in diverse cultures. Topics include compatibility of human rights with contending philosophical systems and religions, feminism, and post-modern critical theory; challenges to human rights from various scientific perspectives, including evolutionary biology, genetic engineering, and brain research; and the relative significance of human rights in law and government, economics, and foreign policy.

Note: Open to Freshmen only. Note: There will be a field trip to the United Nations in New York for Human Rights Day, Tuesday, December 10, 2013.

***Freshman Seminar 43g. Human Nature and Evolution of Peace and Violence**
Catalog Number: 3776 Enrollment: Limited to 12.
Richard W. Wrangham
Half course (fall term). Th., 4–6.
Examines the relationship among human evolutionary biology, warrior behavior and peacefulness in the human species as a whole, from hunter-gatherers to modern industrial society. Each week we will review scholarly papers. We will start by examining functional explanations for primitive war, and discuss why in many ways humans show a great aversion to violence. We will consider evolutionary analyses of international relations, and ideas for the avoidance of war. Students will write short response papers and a final paper.
Note: Open to Freshmen only.

***Freshman Seminar 43m. Psychology of Religion**
Catalog Number: 83191 Enrollment: Limited to 15.
Jon Wesley Boyd
Half course (fall term). M., 3:30–5:30.
This course addresses some of the fundamental issues of the nature of the self, issues which appear at the intersection of religion and psychology: Where do we turn for ultimate meaning? What happens when individuals undergo some sort of crisis and radically change their belief system or how they engage with the world? How do we face death? The course will focus on the ways in which both individuals and cultures create frameworks of meaning. The readings explore philosophical, psychological, and literary perspectives on these issues and questions and include works by Freud, Dostoevsky, William James, Flannery O'Connor and others.
Note: Open to Freshmen only.

***Freshman Seminar 43w. History, Nationalism, and the World: the Case of Korea**
Catalog Number: 4281 Enrollment: Limited to 12.
Sun Joo Kim
Half course (fall term). M., 3–6.
The colonialism and postcolonial division of Korea into North and South thrust the memory of past events into current political discussions as well as scholarly debates. This seminar investigates selected events in Korean history to map the interaction between historical writing and politics and to address questions such as why historians have emphasized certain periods and aspects of Korean history while ignoring others.
Note: Open to Freshmen only. All reading will be in English.

***Freshman Seminar 43y. Where Does Your Morality Come From?**
Catalog Number: 9380 Enrollment: Limited to 15.
Alan Dershowitz (Law School)
Half course (fall term). Th., 12–2.
What are the sources of morality, law and rights? This seminar explores these sources through a variety of readings: The Brothers Karamazov, excerpts from the Old and New Testaments and the Koran as well as from my book, The Genesis of Justice), psychology (Steven Pinker, Marc

Hauser), philosophy (Robert Nozick, Socrates, Cicero), jurisprudence (my book, Rights From Wrongs, Ronald Dworkin) and positive law (the Declaration of Independence, the Constitution, and foundational documents from other countries).
Note: Open to Freshmen only.

***Freshman Seminar 44g. Public Policy Approaches to Global Climate Change**
Catalog Number: 1032 Enrollment: Limited to 14.
Richard N. Cooper
Half course (fall term). W., 2–4.
Reviews what is known about greenhouse gas emissions' possible impact on climate. Explores possible impact of climate change on social and economic conditions over the next century. Investigates possible public policy responses to these developments, including actions both to adapt to and to mitigate climate change. What would be the costs of adaptation? Would an investment in mitigating the changes be worthwhile? Are there possibilities for international cooperation in dealing with the problem?
Note: Open to Freshmen only.

Freshman Seminar 44i. Cocaine: Customs and War in the Americas - *(New Course)
Catalog Number: 76853 Enrollment: Limited to 15.
Ezer Vierba
Half course (spring term). Tu., 4:30–6:30.
Of all the commodities produced in Latin America, none has been as destructive as cocaine. How has the coca leaf, a key element of indigenous life and culture in the Andes, been transformed into an international villain? How have production lines and commercial routes been adapted to the growing appetites of U.S. consumers? And how has the "War on Drugs" changed the U.S. and Latin America? This freshman seminar will look at a variety of sources in order to give students a historical perspective on these questions.
Note: Open to Freshmen only

***Freshman Seminar 44t. The Atomic Bomb in History and Culture**
Catalog Number: 2897 Enrollment: Limited to 15.
Everett I. Mendelsohn
Half course (fall term). W., 2–4.
The explosion of the atomic bomb over the Japanese city of Hiroshima in 1945 ushered in a new era of warfare, of scientific prominence, of civic anxiety, and political challenge. Explores the interaction of science, politics, strategy, and culture in the studies of historians as well as in the literature, films, and theater from the early years of the twentieth century through the 1970s and 1980s dealing with the atom and the atom bomb.
Note: Open to Freshmen only.

Freshman Seminar 44w. The Masquerade of Common Scents: An Exploration of Ephemeral Knowledge - *(New Course)
Catalog Number: 84866 Enrollment: Limited to 15.
Sean Tath O'Donnell
Half course (fall term). M., 3–5.
Intimate, subjective and transitory, the sense of smell has the power to evoke memory and



emotions, to mark places and persons, and give rise to both desire and disgust. Lacking a well-defined vocabulary, smell can be elusive. Yet, as evidence of disease, crime, gender, race, sexuality, the sacred and profane, scent lingers on in judgment. How does this verdict coalesce - in medicine, public health and law? We will sample various scents and use them as the occasion for writing and reflection -- shared and yet privately known, these olfactory forays will serve as our experience of an impossibly common sense.
Note: Open to Freshmen only.

Freshman Seminar 46k. The Terrorist - *(New Course)
Catalog Number: 19962 Enrollment: Limited to 15.
Jessica E. Stern and Ronald Schouten (Medical School)
Half course (spring term). Tu., 7–9 p.m.
This course will introduce students to the study of terrorism. We will cover the history and evolution of the tactic, from the Zealots to al Qaeda to the Tsarnaev Brothers. We will assess terrorists' motivations and how they market their causes to various publics. Why do terrorists do what they do? We will explore risk factors at various levels, including global, national, group, and personal. After completing this course, we expect that students will have a much more nuanced and intellectually grounded understanding of terrorism.
Note: Open to Freshmen only.

***Freshman Seminar 46p. Human Rights in Peace and War**
Catalog Number: 8408 Enrollment: Limited to 15.
Jennifer Leaning (Public Health) and Jacqueline Bhabha (Public Health)
Half course (fall term). Tu., 3–5.
Studies how human rights perspective illuminates relations between state authority and individuals and defines standards of behavior that societies agree to aspire to reach. Topics include the 1948 Universal Declaration of Human Rights, rights in political and economic spheres, the rights of women, children, and refugees, international human rights law and international humanitarian law, and the state, regional, and international processes and structures that establish and monitor the regime of international human rights law.
Note: Open to Freshmen only. Meets at the Harvard Kennedy School in Harvard Square.

***Freshman Seminar 46t. Rebels With a Cause: Tiananmen in History and Memory**
Catalog Number: 54666 Enrollment: Limited to 15.
Rowena Xiaoqing He
Half course (fall term). Tu., 3–5.
In spring 1989, millions of Chinese took to the streets calling for political reforms. The nationwide demonstrations and the college students' hunger strike on Tiananmen Square ended with the People's Liberation Army firing on unarmed civilians. Student leaders and intellectuals were purged, imprisoned, or exiled. Discussion about "Tiananmen" remains a political taboo in China today despite the Tiananmen Mothers' struggle to keep the forbidden memory alive. This course will explore the Tiananmen Movement in history and memory. Exiled student leaders and political prisoners from the movement will be invited to share their experience and perspectives with the class.
Note: Open to Freshmen only.



***Freshman Seminar 46w. Leadership and Negotiation**
Catalog Number: 89323 Enrollment: Limited to 12.
Kimberlyn Rachael Leary (Medical School)
Half course (fall term). M., 4–6; M., 4–6.
The critical problems threatening community safety and wellbeing, terrorism, climate change or access to health care, frequently look different to the diverse stakeholders who are party to them. Legislators, business owners, and disenfranchised group members don't always see the same things even when brought together to address the common problem they share. This course will explore how leaders negotiate these challenges so that their communities can make real progress.
Note: Open to Freshmen only.

***Freshman Seminar 47g. Science Fiction or The Way We Live Now**
Catalog Number: 39256 Enrollment: Limited to 15.
Patrick John Pritchett
Half course (fall term). Tu., 2–4.
This course will examine some of the anxieties and hopes clustered around the emerging idea of the posthuman as its been played out in contemporary novels and films, in conjunction with a number of significant philosophical and scientific essays that attempt to frame the posthuman. Central to our investigation will be the idea of technological modernity as both utopian promise and apocalyptic threat.
Note: Open to Freshmen only.

***Freshman Seminar 47p. Just Friends: I Don't Love You Like That**
Catalog Number: 87048 Enrollment: Limited to 15.
Bonnie M. Talbert
Half course (fall term). W., 3–5.
Tell someone that you just want to be friends and it will be taken as an assertion that you are slotting them into a secondary role-they are not seen as suitable for the highest levels of affection, i.e., romantic love. But friendship has not always been seen as a lesser relation of romance. This raises some important questions about the nature of friendship, and this course will examine these and other related topics.
Note: Open to Freshmen only.

***Freshman Seminar 48e. Health and Mental Health in Everyday Life**
Catalog Number: 96979 Enrollment: Limited to 15.
Mary Ruggie (Kennedy School)
Half course (spring term). M., 2–4.
This course adopts interdisciplinary perspectives toward understanding how health and mental health are manifest among individuals and groups, if and how common patterns are changing, and how circumstances and contexts impact outcomes. We examine similarities and differences based on gender, race/ethnicity and other personal and social characteristics. Topics include everyday stress, body image, eating disorders, depression, substance abuse, sexual activity and gender-based violence. Throughout, we traverse the boundary between health and illness in order to explore the role of individuals, their social support networks, and health care professionals in developing and guiding strategies for coping and healing.
Note: Open to Freshmen only.

***Freshman Seminar 48g. Fascism From Mussolini to Today**
Catalog Number: 17157 Enrollment: Limited to 15.
Brendan Jeffrey Karch
Half course (fall term). W., 2–4.
What is fascism, what did look like in practice, and does it still exist today? This seminar explores fascism from its origins in the early twentieth century through its present-day deployment in politics and popular culture. The political, racial, and gender policies of fascism in Nazi Germany and Fascist Italy are compared to postwar movements and to the proliferating uses of fascist vocabulary today. Readings and assignments facilitate the interdisciplinary study of history.
Note: Open to Freshmen only

***Freshman Seminar 48j. Moral and Political issues in Contemporary Democracies**
Catalog Number: 95954 Enrollment: Limited to 15.
Carla Yumatle
Half course (spring term). M., 4–6.
The course addresses timely *problems* and core *values* of contemporary democracies. The *problems* that we will examine include: torture, terrorism, immigration, affirmative action, and hate speech. Each of these topics poses a challenge to key *values* characteristic of liberal-democracies such as the rule of law, toleration, political equality, and freedom. We will examine the philosophical justification of these values as a background to the discussion of the applied cases mentioned above.
Note: Open to Freshmen only.

***Freshman Seminar 48k. Political Legitimacy and Resistance: What Happened in Montaigne's Library on the Night of October 23, 1587, and Why Should Political Philosophers Care?**
Catalog Number: 4798 Enrollment: Limited to 12.
Arthur I. Applbaum (Kennedy School)
Half course (fall term). W., 2:30–4:30.
Explores the theories of political legitimacy and justified resistance to authority developed by the persecuted Protestants during the French Wars of Religion, and traces the influence of these ideas about political obligation and religious conscience on some of the major figures in modern political philosophy from Hobbes to Kant. Students should be prepared to engage in both historical detective work and philosophical reflection. All required reading will be in English.
Note: Open to Freshmen only.

***Freshman Seminar 48s. Schools, Selves, and Society**
Catalog Number: 27518 Enrollment: Limited to 12.
Chiwen Bao
Half course (spring term). Tu., 4–6.
How do we understand current educational problems and imagine supporting what is good for individuals and society? Engaging with current debates on education in the U.S and also going beyond those debates, we endeavor to understand how educational policies, practices and processes cultivate different experiences of individual selves and shape society, including educational outcomes, in particular ways. With a focus on secondary school and the experiences

of students and teachers, we examine the history of education in the U.S. and current academic, social and cultural practices to advance our understanding the challenges and possibilities facing our educational system.
Note: Open to Freshmen only.

***Freshman Seminar 49g. The Holocaust, History and Reaction**
Catalog Number: 1208 Enrollment: Limited to 12.
Kevin J. Madigan (Divinity School)
Half course (fall term). W., 1–3.
Approaches Nazi persecution of European Jewry from several disciplinary perspectives. Presents background and narrative of the Holocaust, introduces the use of primary historical sources, and studies some of the major historiographical debates. Evaluates religious and theological reactions to the Holocaust -- uses literary, cinematic, and theological sources. Considers the role played by the Protestant and Catholic churches and theologies in the Holocaust. Assesses role played by the Holocaust in today's world, specifically in the United States.
Note: Open to Freshmen only.

***Freshman Seminar 49n. Measurements of the Mind: The Creation and Critique of the Psychological Test**
Catalog Number: 9965 Enrollment: Limited to 12.
Marla D. Eby (Medical School)
Half course (fall term). W., 3–5.
Introduces the history of psychological tests, from the perspective of the psychologists using them, the people tested, and the general public. Examines the creativity within psychology in the making of such tests, as well as the drawbacks and dangers of the (mis)uses of these instruments. Explores tests in current use, as well as tests contained in various Harvard archives. Final project for this seminar involves the design of an original psychological test.
Note: Open to Freshmen only.

***Freshman Seminar 49y. Amateur Athletics**
Catalog Number: 4686 Enrollment: Limited to 12.
Harry R. Lewis
Half course (fall term). W., 1–3.
The study of sports as a lens through which to explore social and ethical paradoxes of American life. Where did the amateur ideal come from, and does it make sense today? The history of athletics in ancient Greece, Victorian England, and America. College, Olympic, and professional athletics. Athletic competition as a social, spiritual, educational, and commercial institution. The relation to the amateur ideal of recent trends in higher education, including democratization, internationalization, and rising cost.
Note: Open to Freshmen only. Requirements: Short papers based on weekly readings and targeted questions, and one 10-page research paper due at the end of the course, with a draft due earlier. The research project will be on a topic of the student's choosing related to the history and development of college sports. Students will learn to use the Harvard Archives, where in previous years students in this seminar have uncovered fascinating, untold stories about Harvard's place in sports history. Students should also expect to be active discussants and

engaged followers of current events, calling relevant news stories to the attention of their fellow students.

House Seminars

House Seminars are limited enrollment courses sponsored by the individual residential Houses. They are open to undergraduates only, whether freshmen or upperclassmen, across all house affiliations. They are letter-graded degree-credit courses that may be taken Pass/Fail. Enrollment requires the permission of the instructor.

Primarily for Undergraduates

Leverett

Lowell

Mather

Pforzheimer

Winthrop

Winthrop 75. The Laws of War
Catalog Number: 7271 Enrollment: Limited to 15.
Gregg Andrew Peeples
Half course (spring term). W., 3–5.
What are the "laws of war"? This seminar examines the historical development of two legal concepts: jus ad bellum, which judges the legitimacy of the use force in international relations; and jus in bello, which defines the duties of belligerents during an armed conflict. Drawing on this background in international and U.S. law, the seminar then explores how these laws have influenced the U.S. "War on Terror" and how they might shape future conflicts.
Note: Open to students from all Houses.

African and African American Studies

Faculty of the Department of African and African American Studies

Lawrence D. Bobo, W. E. B. Du Bois Professor of the Social Sciences *(Chair)*
Emmanuel K. Akyeampong, Professor of History and of African and African American Studies *(on leave fall term)*
Ali S. Asani, Professor of Indo-Muslim and Islamic Religion and Cultures *(on leave fall term)*
Robert H. Bates, Eaton Professor of the Science of Government and Professor of African and African American Studies
Robin M. Bernstein, Professor of African and African American Studies and of Women, Gender and Sexuality
Suzanne P. Blier, Allen Whitehill Clowes Professor of Fine Arts and Professor of African and African American Studies *(on leave 2013-14)*
Vincent Brown, Charles Warren Professor of American History and Professor of African and African American Studies
Glenda R. Carpio, Professor of English and of African and African American Studies
Jean Comaroff, Alfred North Whitehead Professor of African and African American Studies and of Anthropology
John Comaroff, Hugh K. Foster Professor of African and African American Studies and of Anthropology
Alejandro de la Fuente, Robert Woods Bliss Professor of Latin-American History and Economics and Professor of African and African American Studies and of History *(on leave 2013-14)*
Boubacar Diakite, Preceptor in African and African American Studies
Caroline M. Elkins, Professor of History
Marla F. Frederick, Professor of African and African American Studies and of Religion *(Director of Graduate Studies)*
Henry Louis Gates, Jr., Alphonse Fletcher, Jr. University Professor
Claudine Gay, Professor of Government and of African and African American Studies *(on leave 2013-14)*
Evelynn M. Hammonds, Barbara Gutmann Rosenkrantz Professor of the History of Science and of African and African American Studies *(on leave 2013-14)*
Evelyn Brooks Higginbotham, Victor S. Thomas Professor of History and of African and African American Studies *(on leave 2013-14)*
Jennifer L. Hochschild, Henry LaBarre Jayne Professor of Government and Professor of African and African American Studies *(on leave 2013-14)*
Kellie C. Jackson, College Fellow on African and African American Studies
Biodun Jeyifo, Professor of African and African American Studies and of Comparative Literature
Walter Johnson, Winthrop Professor of History and Professor of African and African American Studies
Jamaica Kincaid, Professor in African and African American Studies in Residence
Michael R. Kremer, Gates Professor of Developing Societies *(on leave 2013-14)*
Michèle Lamont, Robert I. Goldman Professor of European Studies and Professor of Sociology and of African and African American Studies
Joanna Lipper, Lecturer on African and African American Studies
Carla Denny Martin, Lecturer on Social Studies and College Fellow on African and African American Studies,

Joseph Achille Mbembe, Visiting Professor of African and African American Studies
Ingrid Monson, Quincy Jones Professor of African-American Music, Supported by the Time Warner Endowment *(Director of Undergraduate Studies)*
Marcyliena Morgan, Professor of African and African American Studies
John M. Mugane, Professor of the Practice of African Languages and Cultures and Director of the African Language Program
Jacob Olupona, Professor of African and African American Studies and Professor of African Religious Traditions
Laurence A. Ralph, Assistant Professor of African and African American Studies and Anthropology
Tommie Shelby, Caldwell Titcomb Professor of African and African American Studies and of Philosophy *(on leave 2013-14)*
Kay Kaufman Shelemay, G. Gordon Watts Professor of Music and Professor of African and African American Studies
James Sidanius, Professor of Psychology and of African and African American Studies
Werner Sollors, Henry B. and Anne M. Cabot Professor of English Literature and Professor of African and African American Studies *(on leave spring term)*
Doris Sommer, Ira Jewell Williams, Jr. Professor of Romance Languages and Literatures and of African and African American Studies *(on leave spring term)*
John Stauffer, Professor of English and of African and African American Studies
Patrick Vinck, Lecturer on African and African American Studies, and Lecturer on Medicine *(Medical School)*
David Williams, Florence Sprague Norman and Laura Smart Norman Professor of Public Health in the School of Public Health and Professor of African and African American Studies in the Faculty of Arts and Sciences
William Julius Wilson, Lewis P. and Linda L. Geyser University Professor

Other Faculty Offering Instruction in African and African American Studies

Aisha Mahina Beliso-De Jesus, Assistant Professor of African American Religions *(Divinity School)*
Homi K. Bhabha, Anne F. Rothenberg Professor of the Humanities
Orlando Patterson, John Cowles Professor of Sociology *(on leave fall term)*
Mark R. Warren, Associate Professor of Education *(Education School)*

Primarily for Undergraduates

African and African American Studies 10. Introduction to African American Studies
Catalog Number: 0802
Henry Louis Gates, Jr. and Lawrence D. Bobo
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
An exploration of some of the key texts and issues in African American Studies from a range of disciplinary perspectives. Members of the faculty deliver guest lectures in their own areas of specialization.
Note: Required of concentrators in the African American Studies track. Students who transfer into the concentration after their sophomore year may substitute another African and African American Studies course already taken if they satisfy the Director of Undergraduate Studies that it establishes a basic familiarity with the materials covered in African and African American

Studies 10. This course, when taken for a letter grade, meets the General Education requirement for United States in the World or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

African and African American Studies 11. Introduction to African Studies
Catalog Number: 9428
Jacob Olupona
Half course (fall term). W., 10–12.
This course introduces students to the general outlines of African archeology, history and geography, as well as key concepts in the study of African health, social life , economic situation, arts, and politics. Our aim is to give students a fundamental vocabulary and interdisciplinary methodology for the study of Africa. Throughout, we assume that Africa is not a unique isolate but a continent bubbling with internal diversity, historical change, and cultural connections beyond its shores. The course is open to all students who are interested in exploring various dimensions of African life and cultures in ancient and modern periods.
Note: Required of concentrators in African Studies track. This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Foreign Cultures.

African and African American Studies 16. Sociology of the Black Community
Catalog Number: 73035
Lawrence D. Bobo
Half course (fall term). M., 3–5. EXAM GROUP: 8, 9
This course examines issues of race, class, gender, and identity in the Afro-American community. Topics of special emphasis include the contemporary situation of the black family, class stratification and the conditions and prospects of the modern black middle class, black feminist thought, black educational performance, and the dynamics of race. Our objective is to arrive at a deeper sociological analysis and appreciation of the changing life experiences awaiting African Americans.

African and African American Studies 20. Introduction to African Languages and Cultures
Catalog Number: 2048
John M. Mugane
Half course (fall term). M., W., at 12. EXAM GROUP: 5
This introduction to African languages and cultures explores how sub-Saharan Africans use language to understand, organize, and transmit (culture, history, etc.) indigenous knowledge to successive generations. Language serves as a road map to comprehending how social, political, and economic institutions and processes develop: from kinship structures and the evolution of political offices to trade relations and the transfer of environmental knowledge. As a Social Engagement course, AAAS 20 will wed scholarly inquiry and academic study to practical experience and personal involvement in the community. Students will be given the opportunity to study Africans, their languages, and their cultures from the ground up, not only through textbooks and data sets but through personal relationships, cultural participation, and inquisitive explorations of local African heritage communities. Throughout the semester you will be asked to employ video production, ethnographic research, creative writing, "social-portraiture," GIS mapping, and linguistic study as you engage with Africans, their languages, and their cultures.

By examining linguistic debates and cultural traditions and interrogating their import in the daily lives of Boston-area Africans, we hope to bridge the divide between grand theories and everyday practices, between intellectual debates and the lived experiences of individuals, between the American academy and the African world. Ultimately, this course aims to place Africans themselves in the center of the academic study of Africa.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Foreign Cultures.

African Languages

Language classes are open to undergraduates, graduate students, and cross-registration applicants. For instruction in languages that are not listed, please consult the Director of the African Language Program. Not open to auditors.

Undergraduate Language Tutorials

African and African American Studies 90r. African Language Tutorials
Catalog Number: 7010
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of an African language at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy. Any language not listed as a course is taught under this number.
Note: For instruction in languages that are not listed, please consult the Director of the African Language Program. Not open to auditors.

Afrikaans

African and African American Studies 90r.a1. Afrikaans
Catalog Number: 97322
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Afrikaans at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Amharic

African and African American Studies 90r.a. Amharic
Catalog Number: 44149
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Amharic at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Bamanakan

African and African American Studies 90r.b. Bamanakan
Catalog Number: 59256
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Bamanakan at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Cape Verdean Creole
African and African American Studies 90r.c. Cape Verdean Creole
Catalog Number: 74363
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Cape Verdean Creole at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Chichewa
African and African American Studies 90r.d. Chichewa
Catalog Number: 22841
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Chichewa at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Dinka
African and African American Studies 90r.e. Dinka
Catalog Number: 37948
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Dinka at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Gikuyu
Gikuyu A. Elementary Gikuyu
Catalog Number: 0009

John M. Mugane
Full course (indivisible). Hours to be arranged.
Gikuyu is a Bantu language spoken by Kenya's most populous ethnic group. The Gikuyu are among Africa's most recognized peoples because of the Mau Mau freedom fighters who were mainly Gikuyu.
Note: The course is designed primarily for students who have no prior knowledge of Gikuyu; however, students with minimal knowledge of the language may also register for the course. Not open to auditors.

Gikuyu B. Intermediate Gikuyu
Catalog Number: 0010
John M. Mugane and assistant
Full course (indivisible). Hours to be arranged.
Continuation of Gikuyu A. Gikuyu is a Bantu language spoken by Kenya's most populous ethnic group. The Gikuyu are among Africa's most recognized peoples because of the Mau Mau freedom fighters who were mainly Gikuyu.
Note: Not open to auditors.
Prerequisite: Gikuyu A or the equivalent of one year's study in Gikuyu.
Gikuyu 101ar. Reading in Gikuyu
Catalog Number: 0017
John M. Mugane and assistant
Half course (fall term). Hours to be arranged.
Advanced reading in Gikuyu.
Note: Not open to auditors.
Prerequisite: Gikuyu B or equivalent.
Gikuyu 101br. Reading in Gikuyu II
Catalog Number: 0018
John M. Mugane and assistant
Half course (spring term). Hours to be arranged.
Advanced reading in Gikuyu II.
Note: Not open to auditors.
Prerequisite: Gikuyu 101ar or equivalent.

Haitian Creole

African and African American Studies 90r.g. Haitian Creole
Catalog Number: 68162
John M. Mugane
Half course (fall term; repeated spring term). Hours to be Arranged.
Individualized study of Haitian Creole at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Hassaniyah

African and African American Studies 90r.a2. Hassaniyah - ***(New Course)***
Catalog Number: 72814

John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Hassaniyah at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Hausa

African and African American Studies 90r.h. Hausa
Catalog Number: 83269
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Hausa at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Ibibio

African and African American Studies 90r.w. Ibibio
Catalog Number: 42039
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Ibibio at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Igbo

African and African American Studies 90r.i. Igbo
Catalog Number: 31747
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Igbo at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Kikongo

African and African American Studies 90r.y. Kikongo
Catalog Number: 52859
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.

Individualized study of Kikongo at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Kinyarwanda
African and African American Studies 90r.j. Kinyarwanda
Catalog Number: 98376
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Kinyarwanda at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Krio
African and African American Studies 90r.s. Krio
Catalog Number: 74597
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Krio at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Lingala
African and African American Studies 90r.z. Lingala
Catalog Number: 85266
John M. Mugane
Half course (fall term; repeated spring term). Fall: Tu., 5–7 p.m.; Tu., 3–5.
Individualized study of Lingala at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of the Language Programs for more information. Not open to auditors.

Luganda
African and African American Studies 90r.k. Luganda
Catalog Number: 46854
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Luganda at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.

Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Malagasy

African and African American Studies 90r.a4. Malagasy - *(New Course)*

Catalog Number: 98208
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Malagasy at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.

Oromo

African and African American Studies 90r.l. Oromo

Catalog Number: 61961
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Oromo at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Pulaar

African and African American Studies 90r.v. Pulaar

Catalog Number: 40174
John M. Mugane
Half course (fall term; repeated spring term). Fall: Tu., 3–5; Th., 6–8 p.m.; Tu., 3–4:30; Th., 4–5:30.
Individualized study of Pulaar at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of the Language Programs for more information. Not open to auditors.

Setswana

African and African American Studies 90r.x. Setswana

Catalog Number: 81159
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Setswana at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Shona

African and African American Studies 90r.t. Shona
Catalog Number: 27694
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Shona at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Somali

African and African American Studies 90r.m. Somali
Catalog Number: 10439
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Somali at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Sudanese Arabic

African and African American Studies 90r.u. Sudanese Arabic
Catalog Number: 46375
John M. Mugane
Half course (fall term; repeated spring term). Fall: Tu., 4–6; Tu., 6–8 p.m.; Th., 4–6; Th., 6–8 p.m.
Individualized study of Sudanese Arabic at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Swahili

Swahili A. Elementary Swahili
Catalog Number: 1878
John M. Mugane
Full course (indivisible). Fall: M., W., F., at 10; Spring: M., W., F., at 10.
A study of the *lingua franca* of East Africa at the elementary level. Contact hours supplemented by language lab sessions. Emphasis on written expression, reading comprehension, and oral fluency.
Note: Not open to auditors.

Swahili B. Intermediate Swahili
Catalog Number: 3442

John M. Mugane and assistant
Full course (indivisible). Hours to be arranged.
Continuation of Swahili A. A study of the *lingua franca* of East Africa at the elementary level. Contact hours supplemented by language lab sessions. Emphasis on written expression, reading comprehension, and oral fluency.
Note: Not open to auditors.
Prerequisite: Swahili A or the equivalent of one year's study of Swahili.

Swahili 101ar. Reading in Swahili
Catalog Number: 8503
John M. Mugane and assistant
Half course (fall term). M., W., at 5; M., W., at 6.
Advanced reading in Swahili.
Prerequisite: Swahili B or equivalent.

Swahili 101br. Reading in Swahili II
Catalog Number: 7746
John M. Mugane and assistant
Half course (spring term). Hours to be arranged.
Advanced reading in Swahili II.
Prerequisite: Swahili 101ar or equivalent.

Tigrinya

African and African American Studies 90r.n. Tigrinya
Catalog Number: 77068
John M. Mugane
Half course (fall term; repeated spring term). Fall: Tu., Th., 4–5:30.
Individualized study of Tigrinya at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Tshiluba

African and African American Studies 90r.a3. Tshiluba ***- (New Course)***
Catalog Number: 89955
John M. Mugane
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Tshiluba at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Twi

Twi A. Elementary Twi
Catalog Number: 0023
John M. Mugane
Full course (indivisible). Hours to be arranged.

Twi is one of the regional languages of the Akan speaking peoples of Ghana, constituting the largest ethnic group in Ghana. Twi is fast becoming the *lingua franca* of the country. This course aims to help students acquire the Twi language at the basic or elementary level.
Note: The course is designed primarily for students who have no prior knowledge of Twi; however, students with minimal knowledge of the language may also register for the course. Not open to auditors.

Twi B. Intermediate Twi
Catalog Number: 0025
John M. Mugane and assistant
Full course (indivisible). Hours to be arranged.
Continuation of Twi A. Twi is one of the regional languages of the Akan speaking peoples of Ghana constituting the largest ethnic group in Ghana. Twi is fast becoming the *lingua franca* of the country. The Akan people are well known for their art and culture, especially the traditional colorful Kente cloth.
Note: Not open to auditors.
Prerequisite: Twi A or the equivalent of one year's study of Twi.

Twi 101ar. Reading in Twi
Catalog Number: 0026
John M. Mugane and assistant
Half course (fall term). Hours to be arranged.
Advanced reading in Twi.
Note: Not open to auditors.
Prerequisite: Twi B or equivalent.

Twi 101br. Reading in Twi II
Catalog Number: 0028
John M. Mugane
Half course (spring term). Tu., 4–7 p.m.
Advanced reading in Twi II.
Note: Not open to auditors.
Prerequisite: Twi 101ar or equivalent.

Wolof

African and African American Studies 90r.o. Wolof
Catalog Number: 25546
John M. Mugane
Half course (fall term; repeated spring term). Fall: Tu., Th., 4–5:30; Th., 4–6.
Individualized study of Wolof at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Xhosa

African and African American Studies 90r.p. Xhosa
Catalog Number: 92175
John M. Mugane

Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of Xhosa at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Yoruba

Yoruba A. Elementary Yoruba
Catalog Number: 0029
John M. Mugane
Full course (indivisible). Hours to be arranged.
Yoruba is spoken in the West African countries of Nigeria, Benin Republic, and parts of Togo and Sierra Leone, therefore constituting one of the largest single languages in sub-Saharan Africa. Yoruba is also spoken in Cuba and Brazil. Students will acquire the Yoruba language at the basic or elementary level.
Note: Primarily designed for students who have no prior knowledge of Yoruba. However, students with minimal knowledge of the language may also register for the course. Not open to auditors.

Yoruba B. Intermediate Yoruba
Catalog Number: 0031
John M. Mugane
Full course (indivisible). Hours to be arranged.
Continuation of Yoruba A. Yoruba is spoken in the West African countries of Nigeria, Benin Republic, and parts of Togo and Sierra Leone, therefore constituting one of the largest single languages in sub-Saharan Africa. Yoruba is also spoken in Cuba and Brazil. Students will acquire the Yoruba language at the basic or elementary level.
Note: Not open to auditors.
Prerequisite: Yoruba A or the equivalent of one year's study of Yoruba.

Yoruba 101ar. Reading in Yoruba
Catalog Number: 0033
John M. Mugane and assistant
Half course (fall term). Hours to be arranged.
Advanced reading in Yoruba.
Note: Not open to auditors.
Prerequisite: Yoruba B or equivalent.

Yoruba 101br. Reading in Yoruba II
Catalog Number: 0035
John M. Mugane and assistant
Half course (fall term; repeated spring term). Spring: M., 4–6; W., 4–6.
Advanced reading in Yoruba II.
Note: Not open to auditors.
Prerequisite: Yoruba 101a or equivalent.

Zulu

African and African American Studies 90r.q. Zulu
Catalog Number: 40653
John M. Mugane
Half course (fall term; repeated spring term). Fall: M., W., F., at 9.
Individualized study of Zulu at the elementary, intermediate, and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Language Programs for more information. Not open to auditors.

Undergraduate Tutorials

***African and African American Studies 91r. Supervised Reading and Research**
Catalog Number: 1269
Ingrid Monson and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Students wishing to enroll must petition the Director of Undergraduate Studies for approval, stating the proposed project, and must have permission of the proposed instructor. Ordinarily, students are required to have taken some coursework as background for their project.

African and African American Studies 97. Sophomore Tutorial
Catalog Number: 3022 Enrollment: Limited to 30.
Carla Denny Martin
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
This course will examine the complexity of contemporary racial and ethnic experience in the United States, focusing on self-identified "mixed-race" groups and voluntary immigrant groups from Africa, Latin America, and the Caribbean (e.g. from Brazil, Cape Verde, Ethiopia, Haiti, Puerto Rico, and Nigeria). Interdisciplinary course readings will introduce key theoretical issues in the social sciences and humanities, such as cultural relativism, the social construction of race, class, gender, sexuality, and ethnicity, and the negotiation of identity in diaspora and minority settings. Assignments will include both written work and social engagement with local communities resulting in multimedia projects.
Note: Required for concentrators in African and African American Studies. Open to all undergraduates. This course will count towards the Ethnic Studies concentration, 2012-13, only.

***African and African American Studies 98. Junior Tutorial - African American Studies**
Catalog Number: 6272
Ingrid Monson and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Students wishing to enroll must petition the Director of Undergraduate Studies for approval, stating the proposed project, and must have the permission of the proposed instructor. Ordinarily, students are required to have taken some coursework as background for their project.
Prerequisite: Completion of African and African American Studies 10, or a substitute course approved by the Director of Undergraduate Studies.

***African and African American Studies 98a. Junior Tutorial - African Studies**
Catalog Number: 3070
Ingrid Monson and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.

Students wishing to enroll must petition the Director of Undergraduate Studies for approval, stating the proposed project, and must have the permission of the proposed instructor. Ordinarily, students are required to have taken some coursework as background for their project.
Prerequisite: Completion of African and African American Studies 11, or a substitute course approved by the Director of Undergraduate Studies.

***African and African American Studies 99. Senior Thesis Workshop**
Catalog Number: 8654
Ingrid Monson and members of the Department
Full course. Hours to be arranged.
Thesis supervision under the direction of a member of the Department.
Note: Enrollment limited to honors candidates.

For Undergraduates and Graduates

[African and African American Studies 102x. Urban Problems and the Role of the Expert] - *(New Course)*
Catalog Number: 89772
Laurence A. Ralph
Half course (spring term). Hours to be arranged.
This course will equip students with qualitative research experience that focuses on the ways in which urban residents deal with the consequences of violence, crime, and injury. The class will meet once a week for a three-hour period. Each week students will either be on Harvard's campus or at their chosen field site. Field sites will be chosen early in the semester. Possible sites include: 1) a violence prevention program in Dorchester; 2) a homeless shelter in Boston; 3) a housing and tenants rights advocacy group in Roxbury; and 4) a physical rehabilitation center for war veterans in Jamaica Plain. While learning how to engineer a research project (that may eventually blossom into a senior thesis), students will be encouraged to examine how injury is both embodied and perpetuated through "structural violence," or the social forces that predetermine a population's susceptibility for injury and illness.
Note: Expected to be given in 2014–15.

African and African American Studies 104. Witchcraft, Rituals and Colonialism
Catalog Number: 91872 Enrollment: Limited to 20.
Aisha Mahina Beliso-De Jesus (Divinity School)
Half course (spring term). Th., 12–2. EXAM GROUP: 14, 15
This course will explore the coming together of ideas on witchcraft and rituality as discourses and practices of power, gender, race, and sexuality in colonial and imperial moments. We will examine history, literature, films, and social theory dealing with different forms of self-identified and interpellated forms of "witchcraft" such as questions of sorcery, brujeria, shamanism, voodoo/hoodoo, and santeria/palo - all as complex and multivalent sites of productive power. We will look at how discourses and experiences marked and claimed "witchcraft" intersect with ideas and practices of rituals in the everyday lives and perceptions of colonial, postcolonial, national, and transnational subjects in different locations. Students will take into consideration these questions in relation to broader topics such as colonialism/postcolonialism, imperialisms, and transnationalisms, as well as within critiques of modernisms versus traditionalisms. This course will specifically focus on Latin America, the Caribbean, Africa, and African diasporic contexts.
Note: Offered jointly with Divinity School as 2736.

[African and African American Studies 104y. Transnational Feminisms]
Catalog Number: 49412
Aisha Mahina Beliso-De Jesus (Divinity School)
Half course (spring term). Tu., 4–6. EXAM GROUP: 18
Typically understood as an unbound field, transnational feminisms comes together as a paradigm that calls attention to the intersections of globalizations, race, sexuality, diasporas and nationalisms from a transnational perspective. Mostly from third world and women of color feminists, we will examine this unwieldy designation in relation to methodologies, analytics, contentions and silences. Where and when does the emergence of this term come to be? How does it differ from other feminist and internationalist/globalization perspectives? What role (if any) does religion or spirituality play in the differing theoretical frameworks?
Note: Offered jointly with Divinity School as HDS 2749.

[African and African American Studies 106x. Topics in African Music and the Diaspora: Music and Conflict in Contemporary Africa] - *(New Course)*
Catalog Number: 92015
Ingrid Monson
Half course (fall term). Hours to be arranged.
Through case studies of Mali, Kenya, South Africa, and Zimbabwe this course examines the relationships among war, state collapse, and cultural production in contemporary Africa.
Note: Expected to be given in 2014–15.

African and African American Studies 108x. Exploring Race and Community in the Digital World- *(New Course)*
Catalog Number: 23117 Enrollment: Limited to 30.
Carla Denny Martin
Half course (fall term). Tu., 2–3:30, Th., 4–5:30. EXAM GROUP: 16, 17
This class will consider the study of race, ethnicity, and diaspora in relation to the digital world. Complex societal issues of power, domination, and bias follow us into digital spaces. Simultaneously, the much discussed digital divide has shifted from differential access to inequity in ownership, control, and content. The imagined democratizing promise of the digital exists in stark contrast to "the other". Individuals and collectives use digital techologies to reproduce and address notions of social diference. Hate groups actively recruit members and propagandize online via chat rooms, websites, social media, and virtual world games. Anti-racism organizations and individuals expose hate groups, educate on race and gender, transform the digital humanities to be more inclusive, and critique and advocate against faulty policies and stereotypical representations of minority groups. Digital environments are crucial spaces for research, critique, and social engagement on intolerance and inequality and simultaneously, positive ways of commemorating, representing, and engaging with shared experiences of race, gender, and ethnicity. Weekly workshops will feature expert guest visitors from a variety of interdisciplinary and cross-cultural backgrounds, and will be organized around a series of themes that are key to studies of race and technology. These workshops, open to faculty and students, will meet Thursdays from 4-5:30pm. 30 students will be permitted to take this as a course; they will also meet on Tuesdays, 2-3:30 pm. Innovative assignments will develop student skills in digital research, content creation, and design.

African and African American Studies 109. Using Film for Social Change
Catalog Number: 41141
Joanna Lipper

Half course (fall term). M., 3-5; and a weekly section W., 6-7. EXAM GROUP: 8, 9
New technology and democratized access to digital media powerfully impact strategies aiming to heighten global awareness of local issues and are integral to efforts seeking to inspire empathy, political engagement, social activism, and charitable giving. With a focus on race, gender, and identity, this course will explore the portrayal of the human condition across cultures in feature films, documentaries, and photography. Students will have the opportunity to create their own multimedia projects.

[African and African American Studies 111. Spectral Fictions, Savage Phantasms: Race and Gender in Anti-Racist South African and African American Drama, Fiction and Film]
Catalog Number: 22792
Biodun Jeyifo
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
Why have social orders like Apartheid South Africa and White Supremacy in segregated America that are based on extreme racial, gender and national oppression always generated often violent, hallucinatory fictions of the racial and gender identities of the oppressed? And why have the oppressed in turn often internalized these sorts of fictions and also produced counter-fictions that more or less conform to the same violent, phantasmic logic? In this course, we will explore how these fictions and counter-fictions are reproduced and challenged in some of the most powerful, canonical works of drama, fiction and cinema by South African and African American authors and filmmakers. As the Nigerian author, Chinua Achebe once famously remarked: "where one thing stands, another thing will stand beside it." To this end, we will pay special attention in the course to how, both in form and in content, race and gender always seem, constitutively, to intersect in these fictions and counter-fictions. The course is thus a study in the dark, violent but generative cultural unconscious of modern racialized and gendered identities.
Note: Expected to be given in 2015–16.

African and African American Studies 112. Black Humor: Performance, Art, and Literature
Catalog Number: 1962
Glenda R. Carpio
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
This course explores the cultural richness of African American humor through analyses of stand-up, drama, the visual arts and literature from the 19th century onward. Artists include but are not limited to Richard Pryor (and many other important figures in black comedy), the painter Robert Colescott, the artists Kara Walker, writer William Wells Brown, Charles W. Chesnutt, George Schuyler, and Ishmael Reed.

[African and African American Studies 115. HBO's The Wire and its Contribution to Understanding Urban Inequality]
Catalog Number: 37899 Enrollment: Limited to 30.
William Julius Wilson
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Although journalists and media critics around the world have heaped deserved acclaim on The Wire, many people do not recognize its contribution to social science. Students in this seminar will watch, critique, and discuss selected episodes of The Wire along with assigned readings on urban inequality that relate to these episodes. The assigned readings will feature academic books and research articles that describe and analyze life and experiences in inner city neighborhoods, as well as the social, economic, political, and cultural factors that shape or influence these

experiences.
Note: Expected to be given in 2014–15.

[African and African American Studies 117x. Of Mean Streets and Jungle Fevers: Race, Gender and Ethnicity in Martin Scorsese and Spike Lee]

Catalog Number: 10829
Biodun Jeyifo
Half course (fall term). Th., 1–3:30. EXAM GROUP: 15, 16
Against the background of radical theories of racial formation and identity politics in America, this course will comparatively explore controversial images of African Americans and Italian Americans in selected films of two of the most important contemporary American filmmakers, Martin Scorsese and Spike Lee. On their road to becoming iconic figures in America's contemporary cinematic and artistic avant-garde, Scorsese and Lee radically transformed received or conventional perceptions of Italian Americans and African Americans in mainstream American film. In this course, we will explore both similar and contrastive styles and approaches by the two filmmakers. Special attention will be paid to popular and scholarly discourses that the selected films of Scorsese and Lee have generated.
Note: Expected to be given in 2015–16. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

African and African American Studies 118. The History of African Americans From the Slave Trade to the Great Migration

Catalog Number: 7429
Kellie C. Jackson
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course is a survey of the first half of African American History and Culture and traces the historical, political, social, and cultural contexts of black Americans from the slave trade to the great migration. Thematically, we explore the meaning of freedom, the dynamic between black struggle and white resistance, and the ways in which factors such as gender and geography complicate any notions of a single black experience. Each week we will focus on different events, writings, narratives, debates, and political ideologies. The class is intended to present a "tree, tree, tree-forest" approach. In other words, we will focus on particular men and women, moments, and messages in order to provide a "moral of the story" perspective. Reappraisal is the core of history. Particular emphasis will be placed on how historians analyze primary source material, interpret the past, and debate the past. This course combines discussion, lecture, and multimedia. It presents a narrative, interpretation, and analysis of African American history.

African and African American Studies 119x. Chocolate, Culture, and the Politics of Food

Catalog Number: 10526
Carla Denny Martin
Half course (spring term). M., W., at 2, and a weekly section to be arranged. EXAM GROUP: 7
This course will examine the sociohistorical legacy of chocolate, with a delicious emphasis on the eating and appreciation of the so-called "food of the gods." Interdisciplinary course readings will introduce the history of cacao cultivation, the present day state of the global chocolate industry, the diverse cultural constructions surrounding chocolate, and the implications for chocolate's future of scientific study, international politics, alternative trade models, and the food movement. Assignments will address pressing real world questions related to chocolate consumption, social justice, responsible development, honesty and the politics of representation in production and marketing, hierarchies of quality, and myths of purity.

African and African American Studies 120x. African American Theatre, Drama, and Performance
Catalog Number: 73581
Robin M. Bernstein
Half course (fall term). M., W., at 11. EXAM GROUP: 4
A study of African American practices of performance from the 19th century through the present. This seminar will meet twice each week: first, in a classroom to discuss scholarship on black performance, and second, in a Harvard archive to work directly with primary materials. Topics include abolitionism, the Harlem Renaissance, the Black Arts Movement, and hiphop.

African and African American Studies 121. Please, Wake Up! - Race, Gender, Class and Ethnicity in the Early Films of Spike Lee
Catalog Number: 6238
Biodun Jeyifo
Half course (fall term). Th., 1-3:30. EXAM GROUP: 15, 16, 17
This course will explore how the intersection of race, gender, class, and ethnicity in the early cinema of Spike Lee works to give his social vision and artistic temper the qualities now commonly associated with his cinematic style. Race seems to be the central pivot of social identity in Lee's films, but in this course we will explore his remarkable attentiveness to other indices of identity and subjectivity. We will pay special attention to the tension between Lee's passionate oppositional politics and his intensely personal, experimental, and playful approach to film and its expressive idioms, techniques, and styles. Films to be studied include "She's Gotta Have It," "School Daze," "Do the Right Thing," "Mo Better Blues," and "Jungle Fever".
Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

[African and African American Studies 124. Tobacco and Sugar]
Catalog Number: 86852
Doris Sommer
Half course (fall term). W., 12–1:30; . EXAM GROUP: 5, 6
Cuban Counterpoint Between Tobacco and Sugar (Fernando Ortiz 1940) will guide explorations of aesthetic and historical tensions throughout the Spanish Caribbean. Particular crops cultivated divergent political - cultural responses. Along with musical forms, plastic arts, and politics, we concentrate on literary works including abolitionist Cecilia Valdes, El reino de este mundo, the Dominican Over, Puerto Rico's La charca, Jamaica's Wide Sargasso Sea, writings by Hostos, Bono, Mintz, Klein, among others.
Note: Expected to be given in 2014–15.

[African and African American Studies 128. Black Nationalism]
Catalog Number: 3426
Tommie Shelby
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Critically examines the family of African American social philosophies generally classified under the broad rubric "black nationalism." Topics to be explored include the meaning of black collective self-determination; the relationship between black identity and black solidarity; and the significance of Africa for black nationalist ideals. Authors to be discussed include Martin Delany, Alexander Crummell, Edward Blyden, W.E.B. Du Bois, Marcus Garvey, Elijah Muhammad, Malcolm X, Stokely Carmichael, Huey Newton, and some contemporary

representatives of the tradition.
Note: Expected to be given in 2014–15.

African and African American Studies 131. African American Literature from the Beginnings to the Harlem Renaissance
Catalog Number: 2589
Glenda R. Carpio
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Close readings of major writers in the context of cultural history. I) Literature and folk culture in the slavery period: Phillis Wheatley, Olaudah Equiano, Omar Ibn Said, Victor Séjour, Lydia Maria Child, Fredrick Douglass, Harriet Beecher Stowe, William Wells Brown, Frank Webb, Martin Robison Delany, and Harriet Jacobs. II) "Post-bellum, pre-Harlem": Charles W. Chesnutt, Paul Laurence Dunbar, Pauline Hopkins, Du Bois, Booker T. Washington, and James Weldon Johnson. We examine diverse genres—from slave narratives, novels, and poems to plays, speeches, and song lyrics and end with Jean Toomer's Cane.
Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

African and African American Studies 134x. "How Sweet is it to be Loved By You": Black Love and the Emotional Politics of Respect - *(New Course)*
Catalog Number: 73386 Enrollment: Limited to 25.
Marcyliena Morgan and Jamaica Kincaid
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
The word 'Love' is almost never used in any portrayal or description of the African American community's daily life in contemporary media and in the social sciences. But in fact, Love, in all its many forms, familial, erotic, romantic, fraternal, is abundant, sometimes dominant, in Black culture: song, film, literature. This course will review and analyze the social science literature on intersubjectivity, family, language and ritual and closely read, watch and listen to some of the many Black artists who have looked deeply at this thing called Love.

[African and African American Studies 135x. Reading Du Bois]
Catalog Number: 50691
Tommie Shelby and Walter Johnson
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
This course will treat the historical and political writings of W. E. B. Du Bois-historian, activist, philosopher, and social theorist, one of the foremost intellectuals of the twentieth century, and arguably the founder of the field of African and African American Studies. From The Suppression of the African Slave Trade to the United States of America (1896) to The World and Africa (1947), Du Bois traced a course across many of the most important currents of global, black, and intellectual history: Pan-Africanism, Marxism, and Anti-imperialism, in particular.
Note: Expected to be given in 2014–15.

[African and African American Studies 136. Black Religion and Economic Thought]
Catalog Number: 16591
Marla F. Frederick
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Since Emancipation African American religious leaders and their congregants have employed religion not only as a means of achieving social and political mobility, but also as a means of securing economic growth and independence in light of the conditions created under American capitalism. These approaches have varied from the pragmatic strategies of Booker T.

Washington, the socialist leanings of Rev. George Washington Woodbey, the "poor people's campaign" of Rev. Martin Luther King, Jr., and the increasingly popular prosperity ministries of today's neo-Pentecostal and Word of Faith communities. Such changes in strategies often coincide with changes in America's political economy over the past century. This course attempts to interrogate the development of these various strands of economic thought using texts by scholars like Max Weber (The Protestant Ethic and the Spirit of Capitalism), E. Franklin Frazier (The Black Bourgeoisie), and David Harvey (An Introduction to Neoliberalism) as anchoring texts to frame the social, economic and political contexts in which these strategies emerge. Other texts, including autobiographies, ethnographies, and histories offer details of how these religious understandings are framed and practiced.
Note: Expected to be given in 2014–15.

African and African American Studies 137. Literature and Its Cultural 'Others' - America, Africa and the Caribbean, 1950s-80s

Catalog Number: 3258
Biodun Jeyifo
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
In the historic contexts of the civil rights struggles in the United States and the decolonizing liberation struggles in Africa and the Caribbean, this course explores how utopian or emancipatory aspirations in diverse media like literature, popular music, oratory, non-scripted street or community theatre, and popular visual media like poster art, murals, and graffiti impact people of different social classes and backgrounds.

African and African American Studies 139y. Hollywood and History: Understanding American Slavery Through Film - *(New Course)*

Catalog Number: 88554
Kellie C. Jackson
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
The institution of slavery has had a profound impact on the United States and Atlantic World. Yet, it has not always been the easiest topic for public discussion. Outside of the classroom much of what we know, or think about slavery derives often from popular media - particularly through film and television. Classics like Gone with the Wind, the television miniseries Roots, and even lesser known films such as Langston Hughes' (screenwriter) Way Down South have done much to shape our perspective regarding how we remember and understand the slave system, the enslaved, its participants and politics. This course poses the following questions: Can Hollywood do the work of the historian? Does historical interpretation through film serve as useful, beneficial, or detrimental? How so? Can we make an argument for the historical efficacy of films? Movie and television dramas depicting aspects of history have been studied not only for their accuracy, but the way in which they reflect popular societal sentiment and acts of - remembering. What is remembered, what is forgotten, and how does film reveal more about our contemporary society's understanding of American slavery. The films presented in class range from historical dramas to documentaries. In examining these films we will take into account the time period, location, and the political and social context in which they were created. We will pay close attention to the production of film in the era of the Nadir, "Jim Crow", the Civil Rights movement, Black Power, and the Age of Obama. We will see how much they tell us about slavery and, most importantly, what they might tell us about ourselves. Through a critical reading of a range of historical works, cultural critiques, and primary sources, students will have

a better comprehension of how historians and filmmakers both differ or find mutual agreement in their approaches to the past.

African and African American Studies 140x. Film, Fiction and Diaspora - *(New Course)*
Catalog Number: 67506
Biodun Jeyifo
Half course (spring term). Th., 1–3:30. EXAM GROUP: 15, 16, 17
An exploration of recent fiction and films on the African and Caribbean immigrant communities of Europe and North America.

African and African American Studies 141x. Prejudice and Racism in Modern Society - *(New Course)*
Catalog Number: 26136
James Sidanius
Half course (fall term). Th., 4–6. EXAM GROUP: 18
This course provides a survey of the psychology of prejudice and racism, the scientific study of human feeling, thinking, and behavior in situations involving conflict between groups. More broadly, we will consider the psychological factors that contribute to the perpetuation of inequality and discrimination. Throughout the course, we will consider both proximate (immediate) influences on behavior, such as the immediate social situation as well as distal (more remote) influences on behavior, such as human evolution. We will also consider both conscious and unconscious attitudes and behavior.

[African and African American Studies 142. Hiphop and Don't Stop: The Word]
Catalog Number: 92126
Marcyliena Morgan
Half course (spring term). M., W., at 10. EXAM GROUP: 3
Hiphop is a global phenomenon that influences social life far beyond the music and entertainment industries. Yet beyond descriptions and critiques of its mass appeal, few have considered hip-hop's development of standards and evaluations across all artistic areas and culture. Moreover, the consequences of an audience trained in the changing standards of hip-hop and charged with upholding them, has not been thoroughly explored. This course provides a critical examination of hip-hop in the US and its role as a cultural, political and artistic resource for youth. It will explore the artistic, social, cultural, linguistic and political implications of hip-hop. It is taught from the perspective of cultural and linguistic anthropology and media studies. Each year the course will include a special topic with guest lecturers. Topics include: gender and sexuality, spirituality, health, psychology, philosophy, education, politics, art, nationalism, etc.
Note: Expected to be given in 2014–15.

[African and African American Studies 143. Representing Blackness: Media, Technology and Power in Hiphop Culture]
Catalog Number: 0444
Marcyliena Morgan
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
This course explores the concept of race and ethnicity through the analysis of media systems and institutions, communication frames and symbolic representations and social constructions.
Note: Expected to be given in 2015–16.

African and African American Studies 153. Hiphop America: From Local to Global and Black to Post Racial?
Catalog Number: 23973

Marcyliena Morgan
Half course (fall term). W., 10–12.
Hiphop is a global phenomenon that influences social life far beyond the music and entertainment industries. It has been in existence for over 40 years. It has made a lasting impression on our understanding of African American and American character, identity and culture. Yet beyond descriptions and critiques of its mass appeal, few have considered Hiphop's development of standards and evaluations across all artistic areas and culture. Moreover, the consequences of an audience trained in the changing standards of Hiphop and charged with upholding them, has not been thoroughly explored. This course provides a critical examination of Hiphop in the US and its role as a cultural, political and artistic resource for youth. The main artist that we will focus on to inform the discussion and research is Nas. In particular this course will examine the social and cultural changes and challenges Hiphop has introduced regarding racial identity, gender and sexuality and social class. It also explores global influences of Hiphop and how globalization affects Hiphop in return. Each lecture topic will include study questions and notebook directions. There will be special speakers and activities throughout the semester.

African and African American Studies 159x. African Future Cities - *(New Course)*
Catalog Number: 67951
Joseph Achille Mbembe
Half course (fall term). M., W., at 10. EXAM GROUP: 3
Urbanization is happening faster in Africa than anywhere else in the world. From Eko Atlantic on Victoria Island in Lagos to Sandton (Johannesburg), Tatu City (outside Nairobi) and Appolonia and King City (near Accra), cities are driving the Continent's economic growth. Fuelled at least partly by newfound resources such as minerals, platinum, natural gas and crude oil, independent urban projects are being designed on the outskirts of existing mega-cities. This research-oriented seminar will critically examine the nature of the contemporary transformations of African urban forms and spaces and what they tell us about the future African city, its architecture, the material and virtual flows that connect it to the broader world, and the individual, social and aesthetic experiences of its inhabitants.

[African and African American Studies 160. Christianity, Identity, and Civil Society in Africa]
Catalog Number: 88142
Jacob Olupona
Half course (spring term). Tu., 3–5. EXAM GROUP: 17, 18
This course is a historical survey of the centuries-old Christian traditions in Africa. It begins with an outline of the trajectory of Christianity's origins and presence in Africa from its beginning in ancient Mediterranean lands through the early period of European missionaries to the contemporary period. The course provides the ethnography of the old mission churches, indigenous independent African churches, and contemporary evangelical and Pentecostal Charismatic movements. The course explores the role of Christianity in relation to historical, cultural, social, and material realities of the African continent. It examines a broad range of topical issues related to conversion, missionization, and the development and growth of Christian agencies in Africa in relation to the construction of social, theological, and religious identities, as well as Christianity's response to cultural pluralism, nationhood, citizenship, and civil society.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2337.

African and African American Studies 161. Religion, Diaspora, and Migration: Seminar
Catalog Number: 51727

Jacob Olupona
Half course (spring term). Th., 4–6. EXAM GROUP: 18
This seminar explores critical and interdisciplinary approaches to the place of religion and the emergence of the new immigrant and diaspora communities in the modern world, and the discourses emerging from the practice of diaspora and migration scholarship. Using historical, ethnographic, and textual sources, the course will illuminate the lived religious experiences of immigrant and diaspora communities in the United States and elsewhere. It introduces critical perspectives on forms of interaction between religion and other aspects of social identity - ethnicity, gender, nationality, race, age, and sexuality, as well as transnational and global influences on social and cultural identity. The course also examines the complex networks of economic, cultural, and technological innovations that the "new" diaspora and immigrant communities have developed to make sense of their spiritual and cultural lives in new situations.
Note: Offered jointly with the Divinity School as 3702.

[African and African American Studies 162. Indigenous Religious Traditions and Modernity: Seminar]
Catalog Number: 66834
Jacob Olupona
Half course (fall term). Tu., 3-5.
This seminar explores historical, theoretical, methodological, and conceptual issues central to the study of indigenous religions of the world. It examines the critique of indigeneity and explores emerging topics about the role that religion plays in indigenous peoples' lives, communities, and societies. Special topics will explore issues related to land, environment, conversion, health, the state, gender, aggression, violence, justice, and human rights. The seminar examines the interface of indigenous religions and modernity, colonial and postcolonial conditions, and local and global forces that shape the practices of indigenous traditions in various regions of the world.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3703.

[African and African American Studies 164. Mother Tongue: African American English and Social Change]
Catalog Number: 96803
Marcyliena Morgan
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
This course focuses on African American English and discourse and provides a critical exploration into the notions of language life, death and power. It is concerned with the language, discourse and symbolic systems that construct and represent race, class and gender in the US. We use methods from linguistic anthropology and philosophy to explore language ideologies and the relationship between power and powerful speech. In this course we will review and critique theories of language, communication, culture, and identity as they relate to ethnicity, race, gender, and power. In particular, we are interested in how language mediates and constructs identity, how we associate language with race, class and gender, and how we resist and manipulate these associations. To answer these questions we examine both public and popular culture, as well as education, literature, film and other media. Topics include: Discourse of Politics, Race, Class, Radical Language Theory and Ideology, Breaking and Making Linguistic Rules. Marking Blackness, Normalizing Blackness, Grammaticalization and Ideology.
Note: Expected to be given in 2014–15.

[African and African American Studies 165. Anthropology of the Black Community]
Catalog Number: 70818

Marcyliena Morgan
Half course (fall term). Hours to be arranged.
This course examines anthropological theory, research and practice that relates to constructions of blackness as well as African-diasporic identities. African-diasporic contributions to anthropology as well as anthropological research and theory concerning Africana identities will be explored. This course introduces students to basic concepts and qualitative methods in the social sciences including ethnographic fieldwork and the analysis of face-to-face communication. It focuses on the details of everyday activities across a number of communities and interactive environments. It is meant to provide a bridge between communications, the social sciences, linguistics and socio-cultural anthropology through the introduction of concepts and analytical techniques that privilege observation, participation, video recording and transcription of spontaneous interaction (as opposed to experimental tasks or introspection).
Note: Expected to be given in 2014–15.

[African and African American Studies 166. Women's Language and Discourse in the African Diaspora]
Catalog Number: 54187
Marcyliena Morgan
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
The course focuses on language as a social construct and its importance and constitutive function in culture, appropriation, and performance of gender within and across traditional and national lines. The purpose of this course is to study, analyze and critique theories concerning the discursive construction of gender identity(s) and forms of representation of cultures. It will explore the relationship between power and powerful speech through reviews and critiques of theories of language, culture, and identity as they relate to gender, and nationalism. In particular, we will focus on how language and identity are constructed and mediated in literature, film and other media. Finally we will explore language and discourse surrounding women's language as well as language discourse styles used in the construction of regional, national, and global communities.
Note: Expected to be given in 2014–15.

[African and African American Studies 170x. African Landscape and Environment] - *(New Course)*
Catalog Number: 39183
Suzanne P. Blier
Half course (fall term). Hours to be arranged.
Note: Expected to be given in 2014–15.

[African and African American Studies 171x. African Art: An Introduction] - *(New Course)*
Catalog Number: 63151
Suzanne P. Blier
Half course (fall term). Hours to be arranged.
Note: Expected to be given in 2014–15.

[African and African American Studies 173x. Primitivism] - *(New Course)*
Catalog Number: 24506
Suzanne P. Blier
Half course (fall term). Hours to be arranged.
Note: Expected to be given in 2015–16.

[African and African American Studies 174. The African City]
Catalog Number: 6977
Suzanne P. Blier
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
This seminar investigates critical issues in Africa's rich urban centers. Architecture, city planning, spatial framing, popular culture, and new art markets will be examined.
Note: Expected to be given in 2014–15.

African and African American Studies 178. Health, Society, and Subjectivity in the American Context
Catalog Number: 39051
Laurence A. Ralph
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
While diseases are often imagined to be scientific, medical conditions, they are also social constructs. In the nineteenth century, for example, the condition of Dysaesthesia Aethiopis (an ailment that made its sufferers "mischievous") was considered nearly universal among free blacks. Today, diseases like AIDS and tuberculosis are often associated with personal attributes, while the social forces at work to structure risk for acquiring these illnesses are glossed over. This course examines the ways people reproduce and challenge contemporary visions of society through the lens of social injury, and in the process cultivate subjectivities that are marked by race, gender, class.

[African and African American Studies 179 (formerly Literature and Arts B-82). Jazz, Freedom, and Culture]
Catalog Number: 9532
Ingrid Monson
Half course (fall term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
This course explores the history of the musical tradition known as jazz from its roots in African American popular musical styles at the turn of the 20th century to its contemporary life as a global improvisational art music. We devote considerable attention to the history of jazz improvisation as a musical process and also explore the cultural, aesthetic, racial, and social debates that shaped the development of the music. On the one hand, jazz fashioned itself as the ultimate modern music with freedom and justice for all, and, on the other, provided an arena in which complex debates about race, cultural ownership, and social disparity repeatedly took place.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts B.

African and African American Studies 180x. Race, Class and the Making of American Religion
Catalog Number: 68933
Marla F. Frederick
Half course (spring term). W., 10–12. EXAM GROUP: 3, 4
This class explores the ways in which both race and class are implicated in the development and practice of religion in the U.S. Through historical, anthropological and sociological works we explore the theoretical underpinnings of race and class and ponder their influence upon varying

expressions of Islam, Judaism and Christianity.
Note: Offered jointly with the Divinity School as 2599.

African and African American Studies 182. From R & B to Neo Soul: Black Popular Music and Cultural Transformation
Catalog Number: 7973
Ingrid Monson
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
The course focuses on the history of African American popular music from Ray Charles to P-Funk to Erykah Badu with particular emphasis on its long-term impact on American culture. The rise of classic R & B, Soul, Motown, Funk, the Philly Sound and Neo-Soul are featured. Key artists include Ray Charles, Aretha Franklin, the Supremes, Curtis Mayfield, James Brown, Stevie Wonder, George Clinton, Michael Jackson, Prince, Jill Scott, Erykah Badu, Usher, Alicia Keys, and D'Angelo. The course is especially concerned with tracing the interrelationships among music, politics, spirituality, and race relations during the Civil Rights and Black Power years and their legacy for today. During these years the sound of African America indelibly shaped mainstream American popular culture in far reaching and transformative ways.
Note: This course, when taken for a letter grade, meets the General Education requirement for either Culture and Belief or Aesthetic and Interpretive Understanding, but not both. This course, when take for a letter grade, meets the Core area requirement for Literature and Arts B.

[African and African American Studies 183x. Queer of Color Theory]
Catalog Number: 58474
Robin M. Bernstein
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
An advanced seminar in theories and processes of theory-making by queer people of color in the US from the Harlem Renaissance through the present. Topics include feminism, AIDS, spirituality, community, migration, affect, and performance. Texts include works by Audre Lorde, Cherríe Moraga, Gloria Anzladúa, Marlon Riggs, Cathy Cohen, E. Patrick Johnson, José Esteban Muñoz, Cheryl Dunye, David Eng, Sharon Bridgforth, Omi Osun Joni Jones, Roderick Ferguson, and Jewelle Gomez.
Note: Expected to be given in 2015–16.

African and African American Studies 186x. Childhood in African America
Catalog Number: 22059
Robin M. Bernstein
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
A seminar on children and childhood in African American history and cultures from 1773 through the present. Authors may include Phillis Wheatley, Frederick Douglass, W. E. B. Du Bois, Langston Hughes, Toni Morrison, and Suzan-Lori Parks; topics may include slavery, abolition, literacy, popular performance, film and television, Civil Rights, celebrity, the Moynihan Report, systemic violence (including poverty), education, and the American Girl Dolls.

African and African American Studies 187. African Religions
Catalog Number: 0094
Jacob Olupona
Half course (fall term). Th., 4–6. EXAM GROUP: 18
This course is a basic introduction to the history and phenomenology of traditional religions of the African peoples. Using diverse methodological and theoretical approaches, the course will

explore various forms of experiences and practices that provide a deep understanding and appreciation of the sacred meaning of African existence: myth, ritual arts, and symbols selected from West, East, Central, and Southern Africa.
Note: Offered jointly with the Divinity School as 3690.

African and African American Studies 189x. Medicine, Culture, and Society
Catalog Number: 26092 Enrollment: Limited to 50.
Jean Comaroff
Half course (spring term). W., 12–2. EXAM GROUP: 5, 6
This course examines the changing place of medicine in the long history of modernity. Focusing on key moments - the birth of the clinic, the colonial frontier (where biomedicine met its therapeutic "others"), the consolidation of medicine as self-governing profession, the age of genomics and biocapital - it explores the distinctive role of medical knowledge in the making of modernist persons, identities, and social worlds. Readings are drawn from across the social sciences, with material from Africa, Europe, and North America. Part lecture, part discussion, the class will be open to upper-level undergraduates and graduates.

African and African American Studies 190x. The Anthropology of Law: Perspectives from Africa and Elsewhere
Catalog Number: 92721 Enrollment: Limited to 25.
John Comaroff
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
The course will cover (i) classical readings in the field, (ii) conceptual questions focusing on the often counter-intuitive theoretical insights to be gained from the non-Western legal systems, (iii) law and colonialism, (iv) liberalism, difference, and the law in the postcolonial world, and (v) the judicialization of politics around the globe. Throughout, attention will be given to the lessons to be learned from legal anthropology for interrogating the present moment in the global north. Grades will be based on class participation, course presentations, and a term paper.
Note: Offered jointly with the Law School as 2535.

[African and African American Studies 191x. African American Lives in the Law]
Catalog Number: 32391
Evelyn Brooks Higginbotham
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
This seminar focuses on biographical and autobiographical writings in a historical examination of the role of the individual in the American legal process. We will seek to understand how specific African Americans (as lawyers, judges, and litigants) made a difference-how their lives serve as a "mirror to America"-and also to understand the ways personal experience informs individual perspectives on the law and justice.
Note: Expected to be given in 2014–15.

African and African American Studies 192x. Religion and Society in Nigeria
Catalog Number: 8241
Jacob Olupona
Half course (spring term). Th., 10–12. EXAM GROUP: 12, 13
The seminar examines the historical development of religion in Nigeria and explores its intersection with ethnic identity, culture, and society in pre-colonial, colonial, and contemporary periods. The course provides an understanding of various cultural tradition, historical events, and social forces that have shaped Nigeria’s religious express. Many topical issues will be explored such as indigenous religious culture, Christian and Muslim identities, civil religion, and civil

society and democratization, as well as religion and politics in present-day Nigeria.
Note: Offered jointly with the Divinity School as 3704.

African and African American Studies 196x. Contemporary Africa and Sustainable Development- *(New Course)*

Catalog Number: 71091 Enrollment: Limited to 20.
Patrick Vinck (Medical School)
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
How do we understand development in Africa? This introductory course explores the question of sustainable development through a number of methods and perspectives, such as education, health, governance, (post-)conflict, and human rights. The course will examine the challenges of development, understood as the interaction between economic, environmental, political, and social processes. Students will gain the tools needed to examine African contexts today, including policy choices and the use of indicators and comparative analysis.

African and African American Studies 197. Poverty, Race, and Health

Catalog Number: 5172
David Williams
Half course (spring term). Th., 4–6. EXAM GROUP: 18
This course critically examines the health status of the poor, and of African Americans and other socially disadvantaged racial and ethnic groups in the US. Attention will be focused on the patterned ways in which the health of these groups is embedded in the social, cultural, political, and economic contexts, and arrangements of US society. Topics covered include the meaning and measurement of race, the ways in which racism affects health, the historic uses of minorities in medical research, how acculturation and migration affects health, and an examination of the specific health problems that disproportionately affect nondominant racial groups.

Primarily for Graduates

African and African American Studies 209a. Africa Rising? New African Economies/Cultures and Their Global Implications

Catalog Number: 56306 Enrollment: Limited to 15.
Jean Comaroff and John Comaroff
Half course (fall term). M., 12–1:30 and 6–7:30 p.m. EXAM GROUP: 5, 6, 9
In a story titled Africa Rising (2011), The Economist argued that the continent epitomizes both the "transformative promise of [capitalist] growth and its bleakest dimensions. This workshop will explore Africa's changing place in the world - and the new economies, legalities, socialities, and cultural forms that have arisen there. It will also interrogate the claim that the African present is a foreshadowing of processes beginning to occur elsewhere; that, therefore, it is a productive source of theory about current conditions world-wide. The workshop, open to faculty and students, will meet Mondays from 6:00-7:30. 15 students will be permitted to take it as a course; they will also meet on Mondays, 12:00-1:30. Grades will be based on participation and a term essay.

African and African American Studies 209b. Africa Rising? New African Economies/Cultures and Their Global Implications

Catalog Number: 65212 Enrollment: Limited to 15.
Jean Comaroff and John Comaroff
Half course (spring term). M., 12–1:30, M., 6–7:30 p.m. EXAM GROUP: 5, 6
In a story titled Africa Rising (2011), The Economist argued that the continent epitomizes both

the "transformative promise of [capitalist] growth" and its bleakest dimensions. This workshop will explore Africa's changing place in the world - and the new economies, legalities, socialities, and cultural forms that have arisen there. It will also interrogate the claim that the African present is a foreshadowing of processes beginning to occur elsewhere; that, therefore, it is a productive source of theory about current conditions world-wide. The workshop, open to faculty and students, will meet Mondays, 6:00-7:30. 15 students will be permitted to take it as a course; they will also meet on Mondays, 12:00-1:30. Grades will be based on participation and a term essay.

[African and African American Studies 212. Entrepreneurship in Africa] - ***(New Course)***
Catalog Number: 40417
Jacob Olupona
Half course (spring term). Tu., 4–7 p.m. EXAM GROUP: 18
This course is designed to help students develop an understanding of the socio-economic revolution in the emerging African market. The goal will be to inspire and equip budding social entrepreneurs with knowledge and skills specific to context, challenges and innovation in enterprises that advance the continent with strong social impact. Designed as a seminar course, and team taught by faculty from across the Harvard schools, each session will focus on a theme - Agriculture & Food, Energy, Healthcare and Education - that affect development across the African Continent. The course will explore the unique challenges and opportunities of launching and growing an enterprise in the African context. Students will examine conditions in North, West, East, Central and Southern Africa and study how the current environments - political, social, technological and economic - can impact entrepreneurs' approach to growth, scalability and partnerships as they launch new businesses or social ventures. The course will explore questions such as how social entrepreneurship theory manifests in practice, how Africa's challenges are identified and solutions developed, the evolving role of leadership, ethics, governments, and social sector development in Africa and how entrepreneurs can leverage their ideas to create systems and policy level social change in Africa. The course will meet weekly including a 1-hour weekly group section focused on a final project. Students will work in teams to produce a final project business plan for a social enterprise or a strategy paper that addresses a business and development need specific to a region in Africa. The course will be open for cross-registration to all Harvard graduate students, limited by capacity to undergraduate students.
Note: Expected to be given in 2014–15.

African and African American Studies 214. Ethnography of the African Diaspora: Race, Gender and Power
Catalog Number: 76765 Enrollment: Limited to 15.
Aisha Mahina Beliso-De Jesus (Divinity School)
Half course (fall term). W., 4–6. EXAM GROUP: 9
This graduate seminar explores ethnographic moments of African Diasporic religions within anthropology. By taking a non-regional approach to the conceptualization of African diasporareligions we will explore how religion has been a key lens into the historical racializing, gendering and sexualizing of Black subjects, as well as a crucial aspect of revisionist and critical anthropology. We will read contemporary ethnographic works on the African diaspora exploring the gendered and erotic production of Blackness. Through revisionist approaches, we will explore methodological and theoretical concerns to conducting ethnography of Afro-Atlantic religions. Students will be expected to interrogate issues of modernity, tradition, ritual and

secularism and examine post-colonial, transnational feminist and cultural theories of the subject.
Note: Offered jointly with the Divinity School as 2726.

African and African American Studies 216. Mau Mau on Trial: History, Law and the High Court of Justice - *(New Course)*

Catalog Number: 18125
Caroline M. Elkins
Half course (spring term). F., 10–12. EXAM GROUP: 3, 4
This course will offer an in-depth examination of the historic Mau Mau reparations case in London's High Court of Justice, and the ways in which historical and legal expertise combined to produce a landmark settlement more than fifty years after British colonial rule in Kenya. Drawing upon the instructors' direct involvement in the case, this course will look at the revisionist history that provided the basis for the claims, the particulars of the case, and the historic nature of the two strike out hearings, as well as the British government's settlement of the claims in 2013. The course will also place this case in comparative perspective, both with regard to other historical reparations cases, as well as potential future cases from the former British Empire and elsewhere.
Note: Undergraduates are permitted to enroll in this course with permission from the instructor.

African and African American Studies 217. Graduate Seminar: Themes in Modern African History- *(New Course)*

Catalog Number: 42627
Caroline M. Elkins
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
This proseminar introduces students to some of the main themes and core literature in the history of modern Africa. The focus of this proseminar will be on the major questions that have dominated the historiography, as well as current and future trends in the field. Sources and methods will be an implicit part of this course, as will theory, ranging from classical theorists, such as Marx and Weber, to more recent theorists such as the Comaroffs, Chakrabarty, and others. This course is designed to let students sample ways of interpreting the histories of modern Africa, and to provide a framework that will enable them to think critically when reading the field on their own.
Note: Undergraduates are permitted to enroll in this course with permission from the instructor.

[African and African American Studies 218. Topics in African American History]

Catalog Number: 9951
Instructor to be determined.
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
This graduate readings seminar surveys African American history from the slave trade through the early twentieth century. We will examine the experiences of African Americans alongside the history of race relations in a larger American context. Topics include slavery, abolition, and the transition to freedom; regional and cultural differences among African Americans; black politics; and issues of gender and class in black communities. We will also discuss the nature of historical inquiry and differing modes of historical interpretation.
Note: Expected to be given in 2014–15.

Graduate Courses

***African and African American Studies 301. Graduate Proseminar**

Catalog Number: 3120
Marcyliena Morgan 2212, and members of the Department

Half course (fall term). Tu., 12–2.
Students are introduced to major themes, classic texts, and representative current work in the broad interdisciplinary field of African and African American Studies, with a focus on the Humanities (Literature, Art, Music, and Religion).
Note: Required for all graduates in African and African American Studies in their first year.

***African and African American Studies 302. Graduate Seminar**
Catalog Number: 7559
James Sidanius 5371 and members of the Department
Half course (spring term). Th., 4–6. EXAM GROUP: 18
Students are introduced to major themes, debates and texts in the broad interdisciplinary field of African and African American Studies. African and African American Studies 302, in the spring term, focuses on the social sciences.
Note: Required for all graduates in African and African American Studies in their first year. Ordinarily, only graduate students affiliated with the program will be permitted to attend.

***African and African American Studies 310. Individual Reading Tutorial**
Catalog Number: 1374
Emmanuel K. Akyeampong 3421 (on leave fall term), Ali S. Asani 7739 (on leave fall term), Robert H. Bates 1251, Robin M. Bernstein 5411, Homi K. Bhabha 4100, Suzanne P. Blier 3472 (on leave 2013-14), Lawrence D. Bobo 2919, Vincent Brown 4638, Glenda R. Carpio 4408, Jean Comaroff 6484, John Comaroff 6485, Caroline M. Elkins 3961, Marla F. Frederick 4728, Henry Louis Gates, Jr. 2899, Claudine Gay 5485 (on leave 2013-14), Evelynn M. Hammonds 4545 (on leave 2013-14), Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Jennifer L. Hochschild 3785 (on leave 2013-14), Biodun Jeyifo 1001, Walter Johnson 5616, Michael R. Kremer 2112 (on leave 2013-14), Michèle Lamont 4634, Ingrid Monson 1591, Marcyliena Morgan 2212, John M. Mugane 4776, Jacob Olupona 5608, Orlando Patterson 1091 (on leave fall term), Laurence A. Ralph 1676, Tommie Shelby 3863 (on leave 2013-14), Kay Kaufman Shelemay 3483, James Sidanius 5371, Werner Sollors 7424 (on leave spring term), Doris Sommer 2744 (on leave spring term), John Stauffer 1006, Mark R. Warren (Education School) 2010, David Williams 5778, and William Julius Wilson 2401
Allows students to work with an individual member of the faculty in a weekly tutorial.
Note: Students may not register for this course until their adviser and the faculty member with whom they plan to work have approved a program of study.

***African and African American Studies 390. Individual Research**
Catalog Number: 4046
Emmanuel K. Akyeampong 3421 (on leave fall term), Ali S. Asani 7739 (on leave fall term), Robert H. Bates 1251, Robin M. Bernstein 5411, Homi K. Bhabha 4100, Suzanne P. Blier 3472 (on leave 2013-14), Lawrence D. Bobo 2919, Vincent Brown 4638, Glenda R. Carpio 4408, Jean Comaroff 6484, John Comaroff 6485, Caroline M. Elkins 3961, Marla F. Frederick 4728, Henry Louis Gates, Jr. 2899, Claudine Gay 5485 (on leave 2013-14), Evelynn M. Hammonds 4545 (on leave 2013-14), Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Jennifer L. Hochschild 3785 (on leave 2013-14), Biodun Jeyifo 1001, Walter Johnson 5616, Michael R. Kremer 2112 (on leave 2013-14), Michèle Lamont 4634, Ingrid Monson 1591, Marcyliena Morgan 2212, John M. Mugane 4776, Jacob Olupona 5608, Orlando Patterson 1091 (on leave fall term), Laurence A. Ralph 1676, Tommie Shelby 3863 (on leave 2013-14), Kay Kaufman Shelemay 3483, Werner Sollors 7424 (on leave spring term), Doris Sommer 2744 (on leave spring term), John Stauffer

1006, Mark R. Warren (Education School) 2010, David Williams 5778, and William Julius Wilson 2401
Requires students to identify and carry out a research project under the guidance of a member of the faculty. Graduate students may use this course to begin work on the research paper required for admission to candidacy.

***African and African American Studies 391. Directed Writing**
Catalog Number: 4587
Emmanuel K. Akyeampong 3421 (on leave fall term), Ali S. Asani 7739 (on leave fall term), Robert H. Bates 1251, Robin M. Bernstein 5411, Homi K. Bhabha 4100, Suzanne P. Blier 3472 (on leave 2013-14), Lawrence D. Bobo 2919, Vincent Brown 4638, Glenda R. Carpio 4408, Jean Comaroff 6484, John Comaroff 6485, Caroline M. Elkins 3961, Marla F. Frederick 4728, Henry Louis Gates, Jr. 2899, Claudine Gay 5485 (on leave 2013-14), Evelynn M. Hammonds 4545 (on leave 2013-14), Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Jennifer L. Hochschild 3785 (on leave 2013-14), Biodun Jeyifo 1001, Walter Johnson 5616, Michael R. Kremer 2112 (on leave 2013-14), Michèle Lamont 4634, Ingrid Monson 1591, Marcyliena Morgan 2212, John M. Mugane 4776, Jacob Olupona 5608, Orlando Patterson 1091 (on leave fall term), Laurence A. Ralph 1676, Tommie Shelby 3863 (on leave 2013-14), Kay Kaufman Shelemay 3483, James Sidanius 5371, Werner Sollors 7424 (on leave spring term), Doris Sommer 2744 (on leave spring term), John Stauffer 1006, Mark R. Warren (Education School) 2010, David Williams 5778, and William Julius Wilson 2401
Requires students to identify a major essay and carry it out under the guidance of a member of the faculty. Graduate students may use this course to begin to work on the research paper that is a requirement of admission to candidacy.

***African and African American Studies 398. Reading and Research**
Catalog Number: 0427
Emmanuel K. Akyeampong 3421 (on leave fall term), Ali S. Asani 7739 (on leave fall term), Robert H. Bates 1251, Robin M. Bernstein 5411, Homi K. Bhabha 4100, Suzanne P. Blier 3472 (on leave 2013-14), Lawrence D. Bobo 2919, Vincent Brown 4638, Glenda R. Carpio 4408, Jean Comaroff 6484, John Comaroff 6485, Caroline M. Elkins 3961, Marla F. Frederick 4728, Henry Louis Gates, Jr. 2899, Claudine Gay 5485 (on leave 2013-14), Evelynn M. Hammonds 4545 (on leave 2013-14), Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Jennifer L. Hochschild 3785 (on leave 2013-14), Biodun Jeyifo 1001, Walter Johnson 5616, Michael R. Kremer 2112 (on leave 2013-14), Michèle Lamont 4634, Ingrid Monson 1591, Marcyliena Morgan 2212, John M. Mugane 4776, Jacob Olupona 5608, Orlando Patterson 1091 (on leave fall term), Laurence A. Ralph 1676, Tommie Shelby 3863 (on leave 2013-14), Kay Kaufman Shelemay 3483, James Sidanius 5371, Werner Sollors 7424 (on leave spring term), Doris Sommer 2744 (on leave spring term), John Stauffer 1006, Mark R. Warren (Education School) 2010, David Williams 5778, and William Julius Wilson 2401
Note: Permission of the instructor and the Director of Graduate Studies is required for enrollment.

***African and African American Studies 399. Direction of Doctoral Dissertations**
Catalog Number: 8411
Emmanuel K. Akyeampong 3421 (on leave fall term), Robert H. Bates 1251, Robin M. Bernstein 5411, Homi K. Bhabha 4100, Suzanne P. Blier 3472 (on leave 2013-14), Lawrence D. Bobo 2919, Vincent Brown 4638, Glenda R. Carpio 4408, Jean Comaroff 6484, John Comaroff 6485, Caroline M. Elkins 3961, Marla F. Frederick 4728, Henry Louis Gates, Jr. 2899, Claudine Gay

5485 (on leave 2013-14), Evelynn M. Hammonds 4545 (on leave 2013-14), Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Jennifer L. Hochschild 3785 (on leave 2013-14), Biodun Jeyifo 1001, Walter Johnson 5616, Michael R. Kremer 2112 (on leave 2013-14), Michèle Lamont 4634, Ingrid Monson 1591, Marcyliena Morgan 2212, John M. Mugane 4776, Jacob Olupona 5608, Orlando Patterson 1091 (on leave fall term), Laurence A. Ralph 1676, Tommie Shelby 3863 (on leave 2013-14), Kay Kaufman Shelemay 3483, James Sidanius 5371, Werner Sollors 7424 (on leave spring term), Doris Sommer 2744 (on leave spring term), David Williams 5778, and William Julius Wilson 2401

Cross-listed Courses of Interest to Students Pursuing the African Track

Aesthetic and Interpretive Understanding 54 (formerly Culture and Belief 12). For the Love of God and His Prophet: Religion, Literature, and the Arts in Muslim Cultures

[Anthropology 1667. Africa, Modernity and Ethnography: Seminar]

[Anthropology 1994. Readings and Research in Contemporary Africa: Seminar]

***BPH 322. Study of Epidemiologic and Biological Characteristics of HIV Viruses in Africa**

[Comparative Literature 269. Broken English: English Language Literature in a Postmodern, Postcolonial Frame]

[Culture and Belief 19 (formerly Foreign Cultures 70). Understanding Islam and Contemporary Muslim Societies]

[Egyptian Aa. The Language of the Pharaohs: Introduction to Egyptian hieroglyphs I]

[Egyptian Ab. The Language of the Pharaohs: Introduction to Egyptian hieroglyphs II]

[*Egyptian 150. Voices from the Nile: Ancient Egyptian Literature in Translation]

***Freshman Seminar 25t. AIDS in Africa**

***Freshman Seminar 31o. Negotiating Identity in Postcolonial Francophone Africa and the Caribbean**

***Freshman Seminar 32w. African Musical Traditions**

Government 1197. The Political Economy of Africa

Government 2227. The Politics and Economics of Africa

[*History 77a. Alcohol in Sub-Saharan Africa, 1850 to the Present]

[*History 87a. Health, Disease, and Ecology in African History]

History 1412 (formerly *History 74a). African Diaspora in the Americas

[History 1700. The History of Sub-Saharan Africa to 1860]

[History 1701. West Africa from 1800 to the Present]

History 1704 (formerly Societies of the World 39). Slavery and Slave Trade in Africa and the Americas

[*History 2708. Sources, Methodology, and Themes in African History: Seminar]

[*History 2709. Themes in Modern Sub-Saharan African History: Proseminar]

[History of Art and Architecture 193g. Global Africa: Introduction to Art and Visual Culture]

Islamic Civilizations 175. Islam in African History

Islamic Civilizations 176. Islam in Modern West Africa *- (New Course)*

Islamic Civilizations 177. Readings in the Islamic Archive of Africa *- (New Course)

Italian 136. Cultural Migrations Between Africa and Italy *- (New Course)*

[Literature 125. The Desire for Narrative: Across Cultures, Forms and Media]

Literature 141. Comparative Modern Anglophone Drama

Music 194r. Special Topics

Social Studies 98oa. Human Rights in Africa *- (New Course)

[Societies of the World 26 (formerly Historical Study A-21). Africa and Africans: The Making of a Continent in the Modern World]
[Societies of the World 34 (formerly Foreign Cultures 46). The Caribbean: Globalization, Socio-Economic Development & Cultural Adaptation]
Studies of Women, Gender, and Sexuality 1249. Gender in African History - *(New Course)

Cross-listed Courses of Interest to Students Pursuing the African American Track
Aesthetic and Interpretive Understanding 13. Cultural Agents
Aesthetic and Interpretive Understanding 23. Interracial Literature
[Aesthetic and Interpretive Understanding 26. Race, Gender, and Performance]
[Anthropology 1682. Gangsters and Troublesome Populations]
Anthropology 2706. Disease, Disability, and the Body
[Comparative Literature 248. American Multilingual Literature in a Transnational Context]
Culture and Belief 49 (formerly Literature and Arts A-86). American Protest Literature from Tom Paine to Tupac
[Economics 1816. Race in America]
English 171b. American Literature - *(New Course)*
English 191a. Black Like Who? - *(New Course)*
***English 276x. African-American Literary Tradition: Graduate Seminar**
English 291a. Black "Epics" of the Americas: Graduate Seminar - *(New Course)
***Government 94nm. Race and Representation**
[*History 84h. The Northern Side of the Civil Rights Movement]
History 1412 (formerly *History 74a). African Diaspora in the Americas
History 1704 (formerly Societies of the World 39). Slavery and Slave Trade in Africa and the Americas
History 2442. Readings in the History of the U.S. in the 19th Century: Proseminar
[*History 2463. Graduate Readings in 20th-Century African-American History: Seminar]
[History of Science 245. The Changing Concept of Race in Science and Medicine in the United States: From Jefferson to Genomics]
[Literature 125. The Desire for Narrative: Across Cultures, Forms and Media]
Literature 141. Comparative Modern Anglophone Drama
Music 159r. Analysis: Repertory
Music 209r. Ethnomusicology: Seminar
[*Psychology 2451. Psychology of Racism, Prejudice, and Discrimination]
***Psychology 2570r. Intergroup Relations: Research Seminar**
Religion 1018. African American Religions: An Introduction - *(New Course)*
Religion 1910. Beyond Peasants and Proletarians: Black Religions and the Social Sciences in the 20th Century - *(New Course)*
[Societies of the World 34 (formerly Foreign Cultures 46). The Caribbean: Globalization, Socio-Economic Development & Cultural Adaptation]
[*Sociology 98L. Racism and Anti-Racism in Comparative Perspective]
***Sociology 98Wb. Race, Poverty, and Justice**
Sociology 183. Race and Ethnic Relations
Sociology 236. Cultural Processes in the Production of Inequality



[Sociology 248. Race, Politics, and Social Inequality: Seminar]
Sociology 254. Social Structure and Culture in the Study of Race and Urban Poverty
[*Sociology 300hf. Workshop on Race: Black Youth Culture]
[United States in the World 15 (formerly Social Analysis 66). Is the American Racial Order Being Transformed?]
United States in the World 28 (formerly Historical Study B-43). Slavery/Capitalism/Imperialism: The US in the Nineteenth Century
[United States in the World 33 (formerly African and African American Studies 193). Religion and Social Change]
[United States in the World 34. The Civil War from Nat Turner to *Birth of a Nation*]

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African Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on African Studies
Caroline M. Elkins, Professor of History *(Chair) (on leave 2014-15)*
Leila N. Ahmed, Victor S. Thomas Professor of Divinity *(Divinity School)*
Emmanuel K. Akyeampong, Professor of History and of African and African American Studies
Ali S. Asani, Professor of Indo-Muslim and Islamic Religion and Cultures
Robert H. Bates, Eaton Professor of the Science of Government and Professor of African and African American Studies *(on leave fall term)*
Theresa Stichick Betancourt, Associate Professor of Child Health and Human Rights *(Public Health)*
Jacqueline Bhabha, Professor of the Practice of Health and Human Rights, Director of Research FXB Center*(Public Health)*
Suzanne P. Blier, Allen Whitehill Clowes Professor of Fine Arts and Professor of African and African American Studies
David E. Bloom, Clarence James Gamble Professor of Economics and Demography *(Public Health)*
Lawrence D. Bobo, W. E. B. Du Bois Professor of the Social Sciences
Thomas F. Burke, Assistant Professor of Surgery *(Medical School)*
Jessica L. Cohen, Assistant Professor of Global Health *(Public Health)*
Jean Comaroff, Alfred North Whitehead Professor of African and African American Studies and of Anthropology *(on leave spring term)*
John Comaroff, Hugh K. Foster Professor of African and African American Studies and of Anthropology *(on leave spring term)*
Alejandro de la Fuente, Robert Woods Bliss Professor of Latin-American History and Economics and Professor of African and African American Studies and of History
Sarah Elizabeth Dryden-Peterson, Assistant Professor of Education *(Faculty of Education)*
Christopher Paul Duggan, Associate Professor of Pediatrics *(Medical School)*, Associate Professor in the Department of Nutrition *(Public Health)*
Myron Essex, Mary Woodard Lasker Professor of Health Sciences *(Public Health)*
Susan Farbstein, Assistant Clinical Professor of Law *(Law School)*
Wafaie W. Fawzi, Richard Saltonstall Professor of Population Sciences, and Professor of Nutrition *(Public Health)*
Günther Fink, Associate Professor of International Health Economics *(Public Health)*
Deborah D. Foster, Senior Lecturer on Folklore and Mythology
Henry Louis Gates, Jr., Alphonse Fletcher, Jr. University Professor
Susanne J. Goldie, Roger Irving Lee Professor of Public Health; Director, Center for Health

Decision Science; Director, Harvard Global Health Institute; Professor of Global Health and Social Medicine *(Public Health, Medical School)*
Evelynn M. Hammonds, Barbara Gutmann Rosenkrantz Professor of the History of Science and of African and African American Studies
Michael J. Hiscox, Clarence Dillon Professor of International Affairs *(on leave fall term)*
Michael Hooper, Associate Professor of Urban Planning and Design *(Design School)*
Bassey E. Irele, Librarian for Sub-Saharan Africa *(ex officio)*
Biodun Jeyifo, Professor of African and African American Studies and of Comparative Literature
Calestous Juma, Professor of the Practice of International Development at the John F. Kennedy School of Government *(Kennedy School)*
Ousmane Kane, Professor of Near Eastern Languages and Civilizations, and Prince Alwaleed Bin Talal Professor of Contemporary Islamic Religion and Society *(Divinity School)*
Michael R. Kremer, Gates Professor of Developing Societies
Jennifer Leaning, Francois-Xavier Bagnoud Professor of the Practice of Health and Human Rights, Director of the Francois-Xavier Bagnoud Center for Health and Human Rights *(Public Health)*
Ann Marie Lipinski, Curator, Nieman Foundation for Journalism
Gwyneth McClendon, Assistant Professor of Government and of Social Studies
George Paul Meiu, Assistant Professor of Anthropology and African and African American Studies
Ingrid Monson, Quincy Jones Professor of African-American Music, Supported by the Time Warner Endowment
Marcyliena Morgan, Professor of African and African American Studies
John M. Mugane, Professor of the Practice of African Languages and Cultures and Director of the African Language Program
Nawal Mohamed Nour, Associate Professor of Obstetrics, Gynecology and Reproductive Biology *(Medical School)*
Nathan J. Nunn, Professor of Economics
Jacob Olupona, Professor of African and African American Studies and Professor of African Religious Traditions
Phuong Pham, Research Scientist, Harvard Humanitarian Initiative *(Public Health)*
Mindy Roseman, Lecturer on Law, and Academic Director of Human Rights Program *(Law School)*
Kay Kaufman Shelemay, G. Gordon Watts Professor of Music and Professor of African and African American Studies
Christian Alexander Tryon, Assistant Professor of Anthropology
Michael J. VanRooyen, Professor of Medicine, and Professor in the Department of Global Health and Population *(Medical School, Public Health)*
Patrick Vinck, Lecturer on Medicine, and Visiting Scientist *(Medical School, Public Health)*
Lucie E. White, Louis A. Horvitz Professor of Law *(Law School)*

The Committee on African Studies is a multidisciplinary group of scholars whom the Dean of the Faculty of Arts and Sciences appoints to coordinate teaching and research on sub-Saharan Africa across the Faculty of Arts and Science's departments and all of the graduate and professional schools. The Committee serves as an intellectual hub, connecting faculty and

students with a shared interest in Africa; it is also concerned with the planned development of African Studies across the University.

The Committee's goal is to advance knowledge and understanding of African peoples and cultures throughout the University. So in addition to supporting classes about Africa, the Committee organizes and sponsors lectures, seminars, conferences, films, and exhibitions about Africa. Its non-credit Africa Seminar Series is open to all faculty members and students.

The Committee also offers semester grants to student groups with an Africa focus and summer grants for students traveling to Africa. To stay current with all of the latest African activities at Harvard, students, faculty, and members of the broader Harvard community can subscribe to a weekly e-newsletter by visiting the Committee's Website, www.africa.harvard.edu. For additional information about African Studies at Harvard, please consult the Committee's Website at *www.africa.harvard.edu* or e-mail*cafrica@fas.harvard.edu.*

Students interested in pursuing an undergraduate or doctoral degree in African Studies should consult the African and African American Studies (AAAS) chapter in this catalog. The Department of African and African American Studies offers a number of courses on African topics and is home to the African Language Program, which teaches 31 African languages.

The following FAS departments offer courses on Africa. A more detailed description of these courses may be found in this catalog under the appropriate department or committee heading.

Departments with Courses of Interest:

General Education

Freshman Seminars

African and African American Studies

Anthropology

Economics

English and American Literature and Language

Environmental Science and Public Policy

Folklore and Mythology

Government

History

History and Literature

History of Art and Architecture

History of Science

Literature and Comparative Literature

Music

Near Eastern Languages and Civilizations

Romance Languages and Literatures

Study of Religion

Social Studies

Sociology

Visual and Environmental Studies

Women, Gender, and Sexuality

In addition to the departmental offerings in the Faculty of Arts and Sciences, courses on Africa can also be found in the catalogs of the Schools of Business, Design, Divinity, Education, Government, Law, Medicine, Public Health, and the Extension School. A listing can be found in the Academics section of the Committee's Website: www.africa.harvard.edu/academics.html.

American Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Committee on Higher Degrees in American Studies
Jennifer L. Roberts, Elizabeth Cary Agassiz Professor of the Humanities *(Chair)*
David J. Alworth, Assistant Professor of English and of History and Literature *(on leave 2014-15)*
Sven Beckert, Laird Bell Professor of History
Aisha Mahina Beliso-De Jesus, Associate Professor of African American Religions *(Divinity*

School)
Robin M. Bernstein, Professor of African and African American Studies and of Women, Gender and Sexuality *(on leave 2014-15)*
Steven Biel, Senior Lecturer on History and Literature
Ann D. Braude, Lecturer, Director of the Women's Studies in Religion Program *(Divinity School)*
Catherine A. Brekus, Charles Warren Professor of the History of Religion in America *(Divinity)*
Vincent Brown, Charles Warren Professor of American History and Professor of African and African American Studies
Daniel P. Carpenter, Allie S. Freed Professor of Government
Glenda R. Carpio, Professor of English and of African and African American Studies
Joyce E. Chaplin, James Duncan Phillips Professor of Early American History *(on leave 2014-15)*
Amanda Claybaugh, Professor of English
Nancy F. Cott, Jonathan Trumbull Professor of American History
Christine Desan, Leo Gottlieb Professor of Law *(Law School)*
Lorgia H. García Peña, Assistant Professor of Romance Languages and Literatures and of History and Literature
Henry Louis Gates, Jr., Alphonse Fletcher, Jr. University Professor
Claudia Goldin, Henry Lee Professor of Economics
David Neil Hempton, Dean of the Faculty of Divinity, and John Lord O'Brian Professor of Divinity, Alonzo L. McDonald Family Professor of Evangelical Theological Studies *(Divinity School)*
Evelyn Brooks Higginbotham, Victor S. Thomas Professor of History and of African and African American Studies
Jennifer L. Hochschild, Henry LaBarre Jayne Professor of Government and Professor of African and African American Studies
David Frank Holland, Associate Professor of North American Religious History *(Divinity School)*
Andrew Jewett, Associate Professor of History and of Social Studies
Walter Johnson, Winthrop Professor of History and Professor of African and African American Studies *(on leave fall term)*
Alexander Keyssar, Matthew W. Stirling, Jr. Professor of History and Social Policy at the Kennedy School of Gov't *(Kennedy School)*
Ju Yon Kim, Assistant Professor of English
James T. Kloppenberg, Charles Warren Professor of American History
Carrie Lambert-Beatty, Professor of History of Art and Architecture and of Visual and Environmental Studies *(on leave 2014-15)*
Jill M. Lepore, David Woods Kemper '41 Professor of American History, Harvard College Professor
Lisa M. McGirr, Professor of History
Daniel P. McKanan, Ralph Waldo Emerson Unitarian Universalist Association Senior Lecturer in Divinity*(Divinity School)*
Louis Menand, Anne T. and Robert M. Bass Professor of English
Ingrid Monson, Quincy Jones Professor of African-American Music, Supported by the Time Warner Endowment

Elisa New, Powell M. Cabot Professor of American Literature *(on leave 2014-15)*
Carol J. Oja, William Powell Mason Professor of Music
Orlando Patterson, John Cowles Professor of Sociology
Julie A. Reuben, Charles Warren Professor of the History of American Education *(Faculty of Education)*
Mayra Rivera Rivera, Associate Professor of Theology and Latina/o Studies, Affiliate of the Department of Romance Languages and Literatures *(Divinity School) (spring term)*
Marc Shell, Irving Babbitt Professor of Comparative Literature and Professor of English
Doris Sommer, Ira Jewell Williams, Jr. Professor of Romance Languages and Literatures and of African and African American Studies
John Stauffer, Professor of English and of African and African American Studies *(on leave fall term)*
Laurel Thatcher Ulrich, 300th Anniversary University Professor
Kirsten A. Weld, Assistant Professor of History

Other Faculty Offering Instruction in American Studies

Ann M. Blair, Henry Charles Lea Professor of History, Harvard College Professor *(on leave 2014-15)*
Allan M. Brandt, Amalie Moses Kass Professor of the History of Medicine in the Faculty of Medicine, and Professor of the History of Science in the Faculty of Arts and Sciences
Lawrence Buell, Powell M. Cabot Professor of American Literature, Emeritus
Davíd L. Carrasco, Neil L. Rudenstine Professor for the Study of Latin America *(Divinity School and Faculty of Arts and Sciences)*
Lizabeth Cohen, Howard Mumford Jones Professor of American Studies, and Dean of the Radcliffe Institute for Advanced Study *(on leave 2014-15)*
Philip J. Fisher, Felice Crowl Reid Professor of English
Peter L. Galison, Joseph Pellegrino University Professor *(on leave fall term)*
Mark D. Jordan, Andrew W. Mellon Professor of Christian Thought in the Faculty of Divinity, and Professor of Studies of Women, Gender, and Sexuality in the Faculty of Arts and Sciences *(Divinity School)*
Robin E. Kelsey, Shirley Carter Burden Professor of Photography *(on leave 2014-15)*
Erez Manela, Professor of History *(on leave 2014-15)*
Charles E. Rosenberg, Ernest E. Monrad Professor of the Social Sciences, Emeritus
Werner Sollors, Henry B. and Anne M. Cabot Professor of English Literature and Professor of African and African American Studies *(on leave 2014-15)*
John R. Stilgoe, Robert and Lois Orchard Professor in the History of Landscape Development
Maria Tatar, John L. Loeb Professor of Germanic Languages and Literatures and of Folklore and Mythology*(on leave 2014-15)*
Helen Vendler, Arthur Kingsley Porter University Professor
Ruth R. Wisse, Martin Peretz Professor of Yiddish Literature and Professor of Comparative Literature, Emeritus

This program is interdisciplinary. Students are also referred to course offerings at the Divinity, Graduate School of Education, Kennedy School, and Law School. For further information about the variety of course offerings in specific departments, consult the office of the Committee, Barker Center 225, 12 Quincy Street; 617-495-3325; americanstudies@fas.harvard.edu.

Primarily for Graduates

***American Studies 200 (formerly *American Civilization 200). Major Works in American Studies**
Catalog Number: 3662
Jill M. Lepore
Half course (fall term). Tu., 1–3. EXAM GROUP: 8
A survey of the field, with an emphasis on the range of interdisciplinary methods in the humanities, history, and social sciences.
Note: Required of first and second-year graduate students in American Studies and open to others by permission of the instructor.

***American Studies 201 (formerly *American Civilization 201). Themes in American Studies**
Catalog Number: 6797
Jennifer L. Roberts
Half course (fall term). W., 10–12. EXAM GROUP: 3, 4
Interdisciplinary study of one or several topics.
Note: Required of first and second-year graduate students in American Civilization and open to others by permission of the instructor.

Graduate Courses

***American Studies 398 (formerly *American Civilization 398). Reading and Research**
Catalog Number: 1710
Sven Beckert 2415, Robin M. Bernstein 5411, Ann M. Blair 2467, Allan M. Brandt 3031 (on leave spring term), Vincent Brown 4638, Lawrence Buell 2655, Glenda R. Carpio 4408, Joyce E. Chaplin 1058, Amanda Claybaugh 5800 (on leave 2013-14), Lizabeth Cohen 3627 (on leave 2013-14), Nancy F. Cott 4261, Gary J. Dorrien (Divinity School) 7519, Philip J. Fisher 1470, William W. Fisher (Law School) 4257, Peter L. Galison 3239 (on leave spring term), Henry Louis Gates, Jr. 2899, Claudia Goldin 2667 (on leave 2013-14), David D. Hall (Divinity School) 2510, Janet E. Halley (Law School) 4431, Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Morton J. Horwitz (Law School) 6272, Walter Johnson 5616, Geoffrey Jones (Business School) 5105, Mark D. Jordan (Divinity School) 6279, Robin E. Kelsey 4132, Alexander Keyssar (Kennedy School) 4323, James T. Kloppenberg 3157, Jill M. Lepore 4830, Erez Manela 4762, Thomas K. McCraw (Business School) 7371, Lisa M. McGirr 2543, Louis Menand 4752, Ingrid Monson 1591, Elisa New 2428, Carol J. Oja 4599, Julie A. Reuben (Faculty of Education) 4428, Mayra Rivera Rivera (Divinity School) 6897, Jennifer L. Roberts 4407, Werner Sollors 7424 (on leave spring term), John Stauffer 1006, Maria Tatar 3645, Laurel Thatcher Ulrich 1886, and Helen Vendler 7226 (on leave fall term)

***American Studies 399 (formerly *American Civilization 399). Direction of Doctoral Dissertation**
Catalog Number: 8803

Sven Beckert 2415, Robin M. Bernstein 5411, Allan M. Brandt 3031 (on leave spring term), Lawrence Buell 2655, Davíd L. Carrasco 4213, Joyce E. Chaplin 1058, Amanda Claybaugh 5800 (on leave 2013-14) (spring term only), Lizabeth Cohen 3627 (on leave 2013-14), Nancy F. Cott 4261, Philip J. Fisher 1470, William W. Fisher (Law School) 4257, Peter L. Galison 3239 (on leave spring term), Henry Louis Gates, Jr. 2899, David D. Hall (Divinity School) 2510, Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Morton J. Horwitz (Law School) 6272, Andrew Jewett 5878 (on leave 2013-14), Walter Johnson 5616, Geoffrey Jones (Business School) 5105, Alexander Keyssar (Kennedy School) 4323, James T. Kloppenberg 3157, Jill M. Lepore 4830, Erez Manela 4762, Thomas K. McCraw (Business School) 7371, Louis Menand 4752, Carol J. Oja 4599, Julie A. Reuben (Faculty of Education) 4428, Jennifer L. Roberts 4407, Charles E. Rosenberg 3784, Marc Shell 3176, Werner Sollors 7424 (on leave spring term), John Stauffer 1006, John R. Stilgoe 8032, Laurel Thatcher Ulrich 1886, and Ruth R. Wisse 3177

Cross-listed courses are no longer listed here. For a list of courses offered by members of the Committee on Higher Degrees in American Studies, and other courses of interest in American Studies, contact the program office at americanstudies@fas.harvard.edu.

Anthropology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Anthropology

Gary Urton, Dumbarton Oaks Professor of Pre-Columbian Studies *(Chair)*
Asad A. Ahmed, Associate Professor of Anthropology
Anya Bernstein, Assistant Professor of Anthropology and of Social Studies
Theodore C. Bestor, Reischauer Institute Professor of Social Anthropology
Jennifer Lynn Carballo, College Fellow in the Department of Anthropology
Davíd L. Carrasco, Neil L. Rudenstine Professor for the Study of Latin America in the Faculty of Divinity and the Faculty of Arts and Sciences
Lucien G. Castaing-Taylor, Professor of Visual Arts and of Anthropology
Steven C. Caton, Khalid Bin Abdullah Bin Abdulrahman Al Saud Professor of Contemporary Arab Studies *(Director of Undergraduate Studies, fall term) (on leave spring term)*
Kerry R. Chance, College Fellow in the Department of Anthropology and ACLS New Faculty Fellow
Song Pae Cho, Lecturer on Anthropology
Jean Comaroff, Alfred North Whitehead Professor of African and African American Studies and of Anthropology

John Comaroff, Hugh K. Foster Professor of African and African American Studies and of Anthropology
William L. Fash, Bowditch Professor of Central American and Mexican Archaeology and Ethnology *(on leave spring term)*
Rowan K. Flad, Professor of Anthropology *(on leave 2013-14)*
Susan Greenhalgh, John King and Wilma Cannon Fairbank Professor of Chinese Society *(Director of Graduate Studies, spring term) (on leave fall term)*
Nicholas H. Harkness, Assistant Professor of Anthropology *(on leave 2013-14)*
Michael Herzfeld, Ernest E. Monrad Professor of the Social Sciences *(on leave fall term)*
Amrita Ibrahim, College Fellow in the Department of Anthropology
Sohini Kar, College Fellow in the Department of Anthropology
Ernst Karel, Lecturer on Anthropology
Arthur Kleinman, Esther and Sidney Rabb Professor of Anthropology in the Faculty of Arts and Sciences and Professor of Medical Anthropology in the Faculty of Medicine, Harvard College Professor
C. C. Lamberg-Karlovsky, Stephen Phillips Professor of Archaeology and Ethnology
Catalina Laserna, Lecturer on Anthropology
Matthew Joseph Liebmann, Associate Professor of Anthropology
Peter Der Manuelian, Philip J. King Professor of Egyptology *(on leave spring term)*
Richard H. Meadow, Senior Lecturer on Anthropology
Jeffrey Quilter, Senior Lecturer on Anthropology
Laurence A. Ralph, Assistant Professor of African and African American Studies and Anthropology
Shawn Rowlands, Lecturer on Anthropology
Mary M. Steedly, Professor of Anthropology *(Director of Graduate Studies, fall term) (on leave spring term)*
Emily W. Stokes-Rees, Lecturer on Anthropology
Ajantha Subramanian, Professor of Anthropology
Kimberly Theidon, John L. Loeb Associate Professor of the Social Sciences
Alexandre Andreevich Tokovinine, Lecturer on Anthropology
Christian Alexander Tryon, Assistant Professor of Anthropology
Jason A. Ur, John L. Loeb Associate Professor of the Social Sciences

Other Faculty Offering Instruction in Anthropology

Ofer Bar-Yosef, George Grant MacCurdy and Janet G. B. MacCurdy Professor of Prehistoric Archaeology, Emeritus
Vincent Brown, Charles Warren Professor of American History and Professor of African and African American Studies
Gareth Gerard Doherty, Lecturer in Urban Planning and Design *(Design School)*
Byron J. Good, Professor of Medical Anthropology in the Department of Social Medicine *(Medical School)*
Mary-Jo Del Vecchio Good, Professor of Global Health and Social Medicine *(Medical School)*
Andrew Gordon, Lee and Juliet Folger Fund Professor of History
Haden R. Guest, Lecturer on Visual and Environmental Studies, Director of the Harvard Film Archive

Sally F. Moore, Victor S. Thomas Professor of Anthropology, Emerita
Robb Moss, Professor of Visual and Environmental Studies
Maria Luisa Parra-Velasco, Senior Preceptor in Romance Languages and Literatures
James L. Watson, John King and Wilma Cannon Fairbank Professor of Chinese Society, Emeritus

Affiliates of the Department of Anthropology

Paul Farmer, Kolokotrones University Professor of Global Health and Social Medicine *(Medical School)*

Within the Anthropology concentration, there are two principal tracks: Archaeology and Social Anthropology. For the undergraduate requirements in these programs, consult the department website, www.anthropology.fas.harvard.edu and the Undergraduate Office of the Anthropology Department.

There is also a track in biological anthropology that is supervised, along with the concentration in Human Evolutionary Biology, within the newly formed Department of Human Evolutionary Biology, as part of the Life Sciences cluster of concentrations. See www.lifesciences.fas.harvard.edu.

Department of Anthropology course listings are numerically ordered as follows:

1000-1299 and 2000-2299: Archaeology

1300-1599 and 2300-2599: Integrated courses in Archaeology and Social Anthropology

1600-1999 and 2600-2999: Social Anthropology

Archaeology

Primarily for Undergraduates

***Anthropology 91xr. Supervised Reading and Research in Archaeology**
Catalog Number: 5660
Richard H. Meadow
Half course (fall term; repeated spring term). Hours to be arranged.
Special study of selected topics in archaeology, given on an individual basis and directly supervised by a member of the department. May be taken for a letter grade or pass/fail. To enroll, a student must submit a petition form (available from the Head Tutor for Archaeology or downloadable from the department's Anthropology[Archaeology] website), signed by the adviser with whom he or she wishes to study, and a proposed plan of study.

***Anthropology 92xr. Archaeological Research Methods in Museum Collections**
Catalog Number: 9029
Richard H. Meadow

Half course (fall term; repeated spring term). Hours to be arranged.
Special (individual) study of Peabody Museum (PM) collections approved by the PM Director and directly supervised by a member of the PM curatorial staff. Requires a project involving a museum collection developed in consultation with the supervisor.
Note: Must be taken for a letter grade. Priority given to students in Anthropology and related departments. To enroll, submit a petition form (available on the Anthropology [Archaeology] website), signed by the supervisor, the PM Director, and the Head Tutor for Archaeology and including a proposed research agenda, preferably during the term preceding the term of enrollment. See the Head Tutor for Archaeology or members of the Peabody Museum curatorial staff for more information.

***Anthropology 97x. Sophomore Tutorial in Archaeology**
Catalog Number: 0400
Jeffrey Quilter
Half course (spring term). M., 3–5.
This course will focus on archaeological thinking, the cognitive skeleton of the discipline of archaeology, the principles and the logic that are the foundation of all archaeological conclusions and research. Central to this is an understanding of research design, archaeological theory and interpretation, culture and material culture; as well as an understanding of how to examine and construct an archaeological argument.
Note: Required of all concentrators in Archaeology.

***Anthropology 98xa. Junior Tutorial in Archaeology**
Catalog Number: 2959
Richard H. Meadow
Half course (fall term). M., 3–5. EXAM GROUP: 8, 9
The junior tutorial provides a background in archaeological method and theory through critical analysis of selected issues and debates particularly focusing on more complex societies. Specific topics include the origins of agriculture and the domestication of animals, the development of complexity and “civilization," post-colonial and historical archaeology, and related ethical and theoretical issues. Weekly readings (drawn from current journal literature), discussions, and several short writing assignments.
Note: Required of all concentrators in Archaeology.

***Anthropology 98xb. Junior Tutorial in Archaeology**
Catalog Number: 3568
Richard H. Meadow
Half course (spring term). Hours to be arranged.
This individual tutorial for archaeology students intending to write a senior thesis is normally undertaken with a member of the faculty during the second term of junior year. To enroll, a student *must submit a petition form* (available from the Head Tutor for Archaeology, or downloadable from the department’s Anthropology [Archaeology] website) with a proposed course plan of study and the tutorial adviser’s signature.
Note: Required of candidates for honors in Archaeology.

***Anthropology 99x. Thesis Tutorial in Archaeology - Senior Year**
Catalog Number: 6656
Richard H. Meadow
Full course. Hours to be arranged.
Research and writing of the Senior Thesis. Limited to honors candidates. Signature of the faculty adviser on a departmental form is required. This form is available from the Head Tutor for Archaeology or downloadable from the department's Anthropology (Archaeology) website.

For Undergraduates and Graduates

Anthropology 1010. The Fundamentals of Archaeological Methods & Reasoning
Catalog Number: 8727 Enrollment: Limited to 150.
Jason A. Ur and Matthew Joseph Liebmann
Half course (fall term). M., W., at 10. EXAM GROUP: 3
A comprehensive introduction to the practice of archaeology and major themes from our human past: how do archaeologists know where to dig? How do we analyze and understand what we find? What do we know about the origins of the human species, agriculture, cities, and civilization? The course integrates methods and theory, and utilizes Peabody Museum collections, to show how we reconstruct ancient diet, trade, and political systems. We also explore the role of archaeology in colonialism, modern politics, and film.
Note: One 2 hour section per week. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Social Analysis. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[Anthropology 1025r (formerly Anthropology 1025). Museum Anthropology, Thinking with Objects: Kayaks: Seminar]
Catalog Number: 48543 Enrollment: Limited to 15.
Patricia Capone
Half course (spring term). Tu., 2:30–4:30. EXAM GROUP: 16, 17, 18
By considering early Peabody Museum kayak collections from Alaska, students will explore the history of anthropology and museum collecting, representation of indigenous people in museum display, and modern stewardship of museum collections. Students will take part in a conservation and exhibition consultation project between the Peabody Museum and Alaska Native consultants. Students will utilize knowledge gained from the consultations, readings, and demonstrations to contribute to synthesize and further the modern conservation and exhibition of kayaks and co-development of knowledge related to Peabody Museum collections.
Note: Expected to be given in 2014–15.

[Anthropology 1032. The Dawn of Mesoamerican Civilization]
Catalog Number: 29337
Jennifer Lynn Carballo
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
This course surveys the archaeology of Formative Mesoamerica, providing an overview of prehispanic civilizations in Mexico, Guatemala, and neighboring countries, from the earliest evidence for human occupation to the appearance of the first cities and states in the region (by

around AD 100). Topics include the origins of agriculture, early villages, sociopolitical organization, ritual practices, creation of inequality, and the development of chiefly societies, with a focus on the Southern Gulf Coast (Olmec), the Valley of Oaxaca, Central Mexico, Soconusco Coast, and the Maya area. Peabody Museum collections are incorporated into class discussions and assignments.
Note: Expected to be given in 2014–15.

Anthropology 1040. Origins of the Food We Eat
Catalog Number: 1837
Richard H. Meadow and Jennifer Lynn Carballo
Half course (fall term). M., W., (F.), at 11. EXAM GROUP: 4
Focuses on arguably the most significant lifestyle revolution in the human past, namely, the change from hunting and gathering to agriculture and pastoralism. Working from representative meal menus, covers the emergence of cultivation and domestication along with the adoption and spread of key plant foods and animals in the Eastern and Western Hemispheres and between the two. Discusses the contributions of archaeology, anthropology, climatology, botany, zoology, genetics, and linguistics to these topics.
Note: Given in alternate years.

[Anthropology 1045. Ancient Settlement Systems: Seminar]
Catalog Number: 8978
Jason A. Ur
Half course (spring term). Th., 1–4. EXAM GROUP: 15, 16, 17
Approaches to spatial patterning in human societies, including the structure of settlements and the regional distribution of populations. The seminar will consider how variation in settlement and settlement systems can be related to factors such as environment, economy, and social and political organization. Case studies will be drawn from a range of New and Old World societies of varying scales of sociopolitical complexity.
Note: Expected to be given in 2014–15.

Anthropology 1060. Archaeological Science
Catalog Number: 2013
Richard H. Meadow
Half course (spring term). M., 7-10 pm. EXAM GROUP: 9
Focus on physical science and engineering methods and techniques used by archaeologists in the reconstruction of time, space, and human paleoecology, and analysis of archaeological materials. Topics include 14C dating, ice core and palynological analysis, stable isotope chemistry of paleodietary foodwebs, soil micromorphology and site formation, Pb isotope sourcing of metal artifacts, and microstructural and mechanical analyses of cementitious materials used in ancient monumental buildings. The first meeting of this course will be Monday, February 10, 2014. Course will meet at MIT in Bldg. 4, Rm. 370.
Prerequisite: One year of college-level chemistry or physics.

[Anthropology 1065. The Ancient Near East]
Catalog Number: 28632
C. C. Lamberg-Karlovsky

Half course (fall term). Tu., Th., at 10. EXAM GROUP: 12
From the earliest urban and literate civilizations to the formation of empire we shall review the political, economic, and religious beliefs of the Sumerians, Babylonians, and Egyptians. These early civilizations will then be discussed in the context of the first internationalism that brought them into contact with their near and distant neighbors from eastern Europe to Central Asia, Africa, and South Asia. The political use of the past by modern nation states will be reviewed.
Note: Expected to be given in 2014–15.

Anthropology 1080. North American Archaeology: Lost Tribes and Ancient Capitals of Native America
Catalog Number: 5190
Matthew Joseph Liebmann
Half course (spring term). Tu., Th., at 12. EXAM GROUP: 14
Archaeology of Native North America, from the first appearance of humans on the continent to the arrival of Europeans in the 1500s. Topics to be covered include: history of the discipline; megafaunal extinctions; Archaic deep-sea fishers in the Northeast; buffalo hunters on the Northern Plains; origins of agriculture; moundbuilding cultures of the Midwest; Pueblo peoples of the Southwest; complex foragers of the Northwest coast; dynamic contact period interactions; and current political debates and ethical issues relating to the archaeology of North America.

[Anthropology 1085. Six Great Discoveries in New World Archaeology]
Catalog Number: 2318
Jeffrey Quilter
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
The class will use six important archaeological sites as case studies by which to understand prehistory in the Ancient Americas and to learn of changing approaches to studying the past. From three major culture regions, two sites important for specialists and a wider audience will be examined in depth. They are North America: Cahokia and Chaco Canyon; Mesoamerica: Teotihuacan and Copan; and Central Andes: Moche Huacas and Cuzco-Machu Picchu.
Note: Expected to be given in 2014–15. Class designed primarily for undergraduates with no previous experience in archaeology but it may also be taken by graduate students.

[Anthropology 1090. Ethnography and Archaeology]
Catalog Number: 8716
Gary Urton
Half course (fall term). M., 3–5. EXAM GROUP: 8, 9
Archaeologists often draw on ethnographic studies of Western and non-Western societies as sources of explanation for ancient cultural practices. But the questions remain: how valid is the use of ethnographic analogy in the study of the past? What assumptions do archaeologists make about past social processes in their uses of ethnographic studies? These are some of the questions addressed in this course.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[Anthropology 1095 (formerly Social Analysis 50). Urban Revolutions: Archaeology and the Investigation of Early States]

Catalog Number: 4409
C. C. Lamberg-Karlovsky
Half course (fall term). Tu., Th., at 10, and a 90-minute weekly section to be arranged. EXAM GROUP: 12
Examines the development and structure of the earliest state-level societies in the ancient world. Archaeological approaches are used to analyze the major factors behind the processes of urbanization and state formation in Mesopotamia, Egypt, Central Asia, the Indus Valley, and Mesoamerica. The environmental background as well as the social, political, and economic characteristics of each civilization are compared to understand the varied forces that were involved in the transitions from village to urbanized life. Discussion sections utilize archaeological materials from the Peabody Museum and Semitic Museum collections to study the archaeological methods used in the class.
Note: Expected to be given in 2014–15. No previous knowledge of archaeology is necessary. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[Anthropology 1125. The Moche of Ancient Peru: Politics, Economy, Religion and Art]
Catalog Number: 0593
Jeffrey Quilter
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
This course will be a focused examination of the ancient Moche (ca. C.E. 100-800) of the north coast of Peru with particular attention paid to the nature of Moche political economy and its religious-ceremonial-artistic manifestations.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Societies of the World. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for either Foreign Cultures or Literature and Arts B, but not both.

[Anthropology 1130. Archaeology of Harvard Yard]
Catalog Number: 1634
Patricia Capone, Christina Jayne Hodge, and Diana Loren
Half course (fall term). Th., 1–4. EXAM GROUP: 15, 16, 17
Archaeological data recovered from Harvard Yard provide a richer and more nuanced view of the 17th through 19th century lives of students and faculty in Harvard Yard, an area that includes the Old College and Harvard Indian College. Students will excavate in Harvard Yard, process and analyze artifacts, and report on the results. Additional topics to be covered include regional historical archaeology, research design, surveying, archival research, stratigraphy, and artifact analysis.
Note: Expected to be given in 2014–15.

[Anthropology 1131. Archaeology of Harvard Yard II: Laboratory Methods and Analysis]
Catalog Number: 0655
Diana Loren and Christina Jayne Hodge
Half course (spring term). Th., 1–4. EXAM GROUP: 15, 16, 17
Open to students who participated in the fall term investigations in Harvard Yard, this course focuses on the detailed analysis of the materials recovered in the excavations, within the context

of archival and comparative archaeological and historical research. The analysis will also include an evaluation of the results of the ground-penetrating radar surveys conducted prior to the excavations, as part of the research design for the next season of investigations of the Indian College site.
Note: Expected to be given in 2014–15.
Prerequisite: Anthropology 1130, Archaeology of Harvard Yard.

Anthropology 1150. Ancient Landscapes
Catalog Number: 4736
Jason A. Ur
Half course (spring term). W., 3–6. EXAM GROUP: 8, 9
Archaeological approaches to settlement and land use at the regional scale. Issues will include settlement systems, agricultural and pastoral systems, the role of humans environmental change, and also the methods used to investigate them.

[Anthropology 1155. Before Baghdad: Cities of Ancient Mesopotamia]
Catalog Number: 8450
Jason A. Ur
Half course (spring term). M., W., at 10. EXAM GROUP: 3
The world's first cities emerged in Mesopotamia and were the defining characteristic of ancient civilizations in what is today Iraq, Syria, and Turkey. They were inhabited by large populations, powerful kings, and the gods themselves. The course will consider the origins, ecology, spacial arrangement, socioeconomic religious organization, religious institutions, and collapse of cities from Gilgamesh to Saddam. Through archaeology and ancient texts, students will become familiar with cities such as Uruk, Babylon, Nineveh, and Baghdad.
Note: Expected to be given in 2014–15.

[Anthropology 1158. Maya Narratives: Gods, Lords, and Courts]
Catalog Number: 86159
Alexandre Andreevich Tokovinine
Half course (fall term). M., W., at 11. EXAM GROUP: 4
This course explores the continuing investigation of Classic Maya texts and images, and how new decipherments have changed our understanding of the ancient Maya world. The Classic Maya are the only Pre-Columbian civilization with a substantial corpus of inscriptions produced well before any contact with the Old World. Maya written and visual narratives reveal details of history and myth, life at the courts of lords and nobles, and religion and worldview. Their testimonies are often striking, unique, and hard to understand, but they are not mediated by non-indigenous interpreters and open a window into a world long gone.
Note: Expected to be given in 2014–15.

[Anthropology 1165. Digging the Glyphs: Adventures in Decipherment]
Catalog Number: 9906
Alexandre Andreevich Tokovinine
Half course (fall term). M., W., at 1. EXAM GROUP: 6
This course focuses on the method and theory of decipherment, but also considers epistemology and the significance and enduring relevance of ancient writing systems in the modern era. It



begins with the distinction between notational, iconographic and phonetic communication—only the latter can truly be considered 'writing' (a linear, graphic record of speech)—and then discusses the various different types of writing systems (including logographic, logosyllabic, syllabic and alphabetic scripts). This is followed by several case studies: the great decipherments (Egyptian, the Cuneiform scripts, Linear B and Mayan); scripts whose languages have become extinct (Etruscan and Meroïtic); scripts that remain entirely mysterious (the scripts of Phaistos, the Indus Valley and Easter Island); the major scripts of the Pre-Columbian New World (Zapotec, Isthmian and Aztec writing); and invented scripts from popular literature. Each provides its own unique insights into the enduring and engaging mystery of writing.
Note: Expected to be given in 2014–15.

[Anthropology 1166. Amerindian Languages and Literatures]
Catalog Number: 21112
Alexandre Andreevich Tokovinine
Half course (fall term). Tu., Th., at 1. EXAM GROUP: 15
This course surveys the indigenous literatures (both Pre-Columbian and Colonial) of several New World civilizations (the Aztecs, Inka and Maya) from a comparative anthropological perspective. Included are brief introductions to the languages of these early documents (Nahuatl, Quechua and Mayan), as well as a discussion of their literary conventions, contents, and significance for an understanding of the cultures that produced them. A particular focus will be on the diachronic changes in these literatures since Precolumbian times, indicative of the complex and contested landscape of Spanish Colonization.
Note: Expected to be given in 2014–15.

[Anthropology 1167. Colonial and Modern Ch'olan Literatures]
Catalog Number: 53933
Alexandre Andreevich Tokovinine
Half course (fall term). Th., 3–6. EXAM GROUP: 17, 18
This course centers on three Cho'lan languages and associated body of literary works that may be of interest to students in anthropology, linguistics, comparative literatures, and history. Even though Ch'olan languages, particularly Ch'olti' and Ch'orti', have been crucial for the continuing decipherment of ancient Maya writing, they remain understudied and underpublished. The course will be based on a series of recent publications on Ch'olti', an extinct Ch'olan language, and modern Ch'orti', its closest surviving relative. While some classes will be devoted to the grammar, vocabulary, and literary tradition of Ch'orti' as spoken today, other sections of the course will introduce the fundamentals of Colonial Ch'olti' and Chontal grammars (which are broadly similar to Ch'orti' but diverge on several important issues) and then proceed to explore Moran's manuscript, the only surviving Ch'olti' text, and the Maldonado-Paxbolon Papers, a highly important source on Chontal Maya history and literature and one of the few surviving Maya documents detailing events immediately before and after the Spanish conquest.
Note: Expected to be given in 2014–15.

[Anthropology 1168. Introduction to Classic Maya Writing and Art]
Catalog Number: 71052
Alexandre Andreevich Tokovinine
Half course (fall term). Tu., Th., at 10. EXAM GROUP: 12

This course offers an introduction to the written and visual tradition of the Late Classic Maya of Mexico and Central America (A.D. 600-900). The main goal is to master the basics of Classic Maya hieroglyphs and iconography, explore the connections between the written and visual languages, and to review several key topics in the study of Maya inscriptions and art. The course combines theoretical discussions with "hands on" training in epigraphy and iconography.
Note: Expected to be given in 2014–15.

Anthropology 1170. Mesoamerican Writing Systems
Catalog Number: 3706
Alexandre Andreevich Tokovinine
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
This course explores the role of writing broadly defined in the social, political, and religious fabric of ancient civilizations of Mexico, Guatemala, Belize, and Honduras. This region known as Mesoamerica is characterized by an amazing variety of indigenous writing systems, from phonetic ones like Maya hieroglyphs, to largely pictographic notations such as Mixtec records. The course offers a survey of Mesoamerican writing systems that centers on the basic properties of the scripts and their uses. It highlights how specific features of Mesoamerican writing systems reflect broader regional traditions with respect to the role of writing in social, political, and religious life.

Anthropology 1175. The Archaeology of Ethnicity
Catalog Number: 1022
Gary Urton
Half course (fall term). Tu., Th., 1:30–3. EXAM GROUP: 15, 16
Ethnic identity and conflict are among the most powerful processes and relations shaping the world we live in today. Questions addressed include: What can we understand about ethnic identity and relations in the prehistoric world on the basis of the archaeological record? For example, how might differences in material culture represent and reflect markers of ethnic identity? The Peabody Museum collections will provide materials for study and analysis.

Anthropology 1182. People of the Sun: The Archaeology of Ancient Mexico - *(New Course)*
Catalog Number: 64139
Jennifer Lynn Carballo
Half course (spring term). M., W., at 11. EXAM GROUP: 4
When Europeans first arrived in what is today Mexico and Central America, they encountered indigenous cities and empires rivaling those of Europe at the time. This course examines the builders of these civilizations, focusing on the cultures of highland Mexico such as the Aztec and Zapotec, as well as their predecessors and contemporary descendants. Topics include the origins of food production; development of regional exchange networks; rise of towns, temples, and urbanism; emergence of states and empires; and resilience of native lifeways through Conquest and Colonial periods. Peabody Museum collections are incorporated into class discussions and assignments.

[Anthropology 1190. Encountering the Conquistadors]
Catalog Number: 9956
Matthew Joseph Liebmann

Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This course examines the effects of the Spanish Conquest on indigenous peoples of the Americas between the fifteenth and eighteenth centuries, providing an introduction to the archaeology of first encounters in the Caribbean, Southeast and Southwest US, Central Mexico, highland and lowland Mesoamerica, the Amazon basin, and in the Andes. Topics addressed include the roles of disease, indigenous politics, native rebellions, and ecological change in the colonization of the 'New' World.
Note: Expected to be given in 2014–15.

[Anthropology 1210. The Archaeology of Ancient China]
Catalog Number: 1793
Rowan K. Flad
Half course (spring term). M., W., at 10. EXAM GROUP: 3
A survey of the archaeology of China from the origins of humans during the Palaeolithic into the Bronze Age (ca. 220 BCE), with an emphasis on the origins of agriculture and the emergence of complex society during the late Neolithic and Early Bronze Age. We survey important archaeological finds from these periods and examine relevant issues in anthropological archaeology. Sections will involve the discussion and use of materials from the Peabody and Sackler Museums.
Note: Expected to be given in 2014–15.

Anthropology 1212. The Archaeology of Modern Human Origins: Seminar - *(New Course)*
Catalog Number: 27876
Christian Alexander Tryon
Half course (spring term). Tu., 11–1. EXAM GROUP: 13, 14
One of the key areas of debate in paleoanthropology today is the emergence and dispersal of biologically and culturally modern humans. This seminar provides students with the scientific foundation to contribute to this debate and to understand its significance in a broader anthropological context. Using readings, discussion, hands on analysis of ancient artifacts and student-driven presentations, we will examine the history of investigation, relevant methodological, interpretive and epistemological issues, and a detailed survey of the empirical data from our African roots to the subsequent global dispersal and replacement of hominin populations that included the Neanderthals.
Prerequisite: Anthropology 1010

[Anthropology 1214. The Archaeology of Women and Children]
Catalog Number: 54265
Jennifer Lynn Carballo
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course explores approaches to gender and family life in anthropological and archaeological research, by comparing data from a variety of ancient societies. We consider relationships between men, women, and children in the past, as well as how contemporary gender relations have influenced the practice of archaeology and our interpretation of the past. How can we recognize gender archaeologically? In what ways did ancient women and children contribute to subsistence, technology, political life, ritual activities, and more? Peabody Museum collections

are incorporated into our methodological and theoretical study of gender in archaeology.
Note: Expected to be given in 2014–15.

Anthropology 1230. African Archaeology - *(New Course)*
Catalog Number: 54188
Christian Alexander Tryon
Half course (fall term). M., W., 1:30–3. EXAM GROUP: 6, 7
This course focuses on ancient human populations in Africa from the earliest Stone Age foragers more than 2.5 million years ago to more recent periods characterized by food production, urbanism, and inter-continental networks of trade and exchange, situating the African evidence into a broader understanding of the evolution of human diversity. The course use lectures, in-class discussions, museum collections, and student projects, and in addition to archaeology, draws on a number of allied disciplines including history, ethnography, linguistics, art history, geography, geology, paleontology, and biology.
Prerequisite: Anthropology 1010 or some archaeology background preferred.

[Anthropology 1250. The Pyramids of Giza: Technology, Archaeology, History: Seminar]
Catalog Number: 48924
Peter Der Manuelian
Half course (spring term). M., W., at 11, with occasional sections and field trips to be arranged. EXAM GROUP: 4
Focuses on the Pyramids, Sphinx, and tombs at Giza (ca. 2500 BC), in the context of ancient Egyptian history, art, and archaeology. The HU-MFA Expedition excavated Giza, resulting in today's Giza Project at Harvard. Seminar takes place in Harvard's Visualization Center with 3D viewing of the Giza Necropolis on a 23-foot screen, and consists of introductory lectures, student presentations, and field trips. Topics range from challenges of archaeological information processing to Old Kingdom mortuary art and architecture, to issues of ownership and repatriation. Students will also contribute to the (real world) Giza Project at Harvard.
Note: Expected to be given in 2014–15.

Primarily for Graduates

[*Anthropology 2000. Osteoarchaeology Lab]
Catalog Number: 0363 Enrollment: Limited to 12.
Richard H. Meadow
Half course (fall term). W., 2:30-5:30, and at least three hours of laboratory weekly. EXAM GROUP: 7, 8, 9
Introduction to the osteoarchaeological analysis. Identification of animal bones and teeth from archaeological sites using comparative materials and their characterization employing visual, metric, and microscopic methods.
Note: Expected to be given in 2014–15. Given in alternate years. Open to qualified undergraduates. Fulfills laboratory course requirement for archaeology graduate students and archaeological science requirement for undergraduate concentrators.

Anthropology 2010ar. Materials in Ancient Societies: Metals
Catalog Number: 7163 Enrollment: Online CMRAE Lab pre-registration required by August 17,

2012
C. C. Lamberg-Karlovsky
Half course (fall term). Hours to be arranged.
This seminar-laboratory subject provides in-depth study of the technologies of ancient societies.
Note: Open to senior undergraduates with permission of instructor.

[Anthropology 2010br. Materials in Ancient Societies: Metals]
Catalog Number: 1753
C. C. Lamberg-Karlovsky
Half course (spring term). Hours to be arranged.
This seminar-laboratory subject provides in-depth study of the technologies of ancient societies.
Note: Expected to be given in 2014–15. Anthropology 2010ar is commonly taken before Anthropology 2010br.

***Anthropology 2020. GIS and Spatial Analysis in Archaeology**
Catalog Number: 3729 Enrollment: Limited to 8.
Jason A. Ur
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
An introduction to the GIS and remote sensing methods used by archaeologists to document and analyze datasets at the regional scale. This class will involve the hands-on use of maps, aerial photography, satellite imagery, digital terrain models and GPS-based observations to frame and approach archaeological research questions. Labs will use sample datasets from a variety of regions but students will be responsible for assembling a GIS database for their own region of interest.

Anthropology 2022. Picturing the Past: An Introduction to Digital Epigraphy and Archaeological Illustration - *(New Course)
Catalog Number: 80064 Enrollment: Limited to 10. Open to advanced undergraduates
Peter Der Manuelian and Alexandre Andreevich Tokovinine
Half course (fall term). Tu., 1–3:30. EXAM GROUP: 15, 16, 17
Explores the history, development, and current methodology behind archaeological illustration based on two sample cultures, ancient Egyptian (Old World) and Mayan (New World). Students will focus on epigraphy -- the creation of facsimile line drawings of relief sculpture, inscriptions, and selected three-dimensional objects (via photography and 3D scanning) for publication. Labs will furnish access to today's computer and tablet devices, and students will gain practical experience working directly from objects in the various archaeological collections of Harvard University and beyond. No previous artistic training is assumed.
Prerequisite: General background: Interest in any of the following: Anthropology, archaeology, epigraphy, graphic design, Egyptology, Mayan archaeology

Anthropology 2056. Household Archaeology - *(New Course)*
Catalog Number: 52151
Jennifer Lynn Carballo
Half course (spring term). W., 4:30–7:30 p.m. EXAM GROUP: 9
The household is the fundamental unit for much of the social analysis undertaken by archaeologists. This course focuses on the material traces of daily activities to enhance our

understanding of the past, including what households do and how they organize themselves; variability in the health, diet, and status of families; domestic economic strategies, rituals, and gender relations; methodological advances in the reconstruction of household activities; and the interconnectivity of individuals, households, and their broader social universe.

[Anthropology 2062. Religions of Latin America]
Catalog Number: 60945
Davíd L. Carrasco
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Examines the history of religions in Latin America including pre-Hispanic, colonial and contemporary mythologies, ritual practices and symbols integrating archaeological, artistic, documentary, and ethnographic source materials. Topics to be investigated include cosmology and worldview, ritual violence and sacred landscapes, saints and shamanism, miracles and religious healing, indigenous ancestor worship and African diasporic devotions, goddesses and women's roles, liberation theology and Latino/a religious themes.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3705.

[Anthropology 2065. Complex Societies of Northern Mesopotamia]
Catalog Number: 6426
Jason A. Ur
Half course (spring term). M., 3–5. EXAM GROUP: 8, 9
This seminar will investigate themes in recent research on complex societies of northern Mesopotamia from the end of the fifth to the middle of the first millennium BC.
Note: Expected to be given in 2014–15.

***Anthropology 2070a. Archaeological Method and Theory: Seminar**
Catalog Number: 4634
Matthew Joseph Liebmann
Half course (fall term). Th., 10–1. EXAM GROUP: 12, 13, 14
The class covers archaeological method and theory emphasizing the 1950s onwards. Large-scale trends in social theory will be balanced with attention to the ideas and writings of significant anthropologists and archaeologists.
Note: Required of graduate students in the Archaeology Program of Anthropology; this class is designed for graduate students but enthusiastic and energetic undergraduates are most welcome.

Anthropology 2070b. Case Studies and Research Proposal Preparation
Catalog Number: 4238
Christian Alexander Tryon
Half course (spring term). Th., 10–12. EXAM GROUP: 12, 13
Seminar for graduate students that will focus on grant and paper writing, and will also include selected case studies.
Note: Anthropology 2070a is commonly taken before Anthropology 2070b, but is not a prerequisite. Required of students in the Archaeology Program of Anthropology; open to other graduate students and advanced undergraduates with permission of instructor.

[Anthropology 2085. Archaeology of Ritual and Religion]
Catalog Number: 72634
Rowan K. Flad and Matthew Joseph Liebmann
Half course (spring term). W., 2–5. EXAM GROUP: 7, 8, 9
Graduate seminar exploring ritual and religious practices in archaeological contexts. Topics to be covered include anthropological perspectives on religion; origins of religion; religion and political economy; burial practices; materiality in/of ritual practice; and revitalization movements.
Note: Expected to be given in 2014–15.

[Anthropology 2090. Economic Archaeology: Culture Contact]
Catalog Number: 4951
Rowan K. Flad
Half course (spring term). M., 1–4. EXAM GROUP: 6, 7, 8
A seminar on economic archaeology focused on culture contact. Topics include trade (particularly trade diasporas), world-systems, ethnicity, shared material culture, and regional religious traditions.
Note: Expected to be given in 2014–15.

[Anthropology 2092. Early China: Archaeology and Texts]
Catalog Number: 9379
Rowan K. Flad and Michael J. Puett
Half course (fall term). Tu., 1–4. EXAM GROUP: 15, 16, 17
A comprehensive introduction to Bronze Age China focusing on both archaeological discoveries from the second and first millennia and textual material including oracle bones, bronze inscriptions, excavated texts, and traditional accounts.
Note: Expected to be given in 2014–15. Advanced undergraduates welcome.

Anthropology 2110r (formerly Anthropology 211r). Issues in Mesoamerican Archaeology: Seminar
Catalog Number: 7276
William L. Fash
Half course (fall term). Th., 2–5. EXAM GROUP: 16, 17, 18
Considers current topics and debates in the archaeology of Mesoamerica, with special emphasis on ancient Maya civilizations. Readings and discussions focus on aspects of social process, political history, and their interplay with ritual and ideology.

[Anthropology 2177 (formerly Anthropology 1177). South American Archaeology]
Catalog Number: 60232
Gary Urton
Half course (fall term). Tu., 11–1. EXAM GROUP: 13, 14
Provides an overview of Pre-Columbian civilizations on the continent of South America from the earliest record of human habitation to the time of the European invasion, in the sixteenth century. Focuses on the archaeology of the Amazon and Orinoco rivers, the Andes, and the Pacific coast of Peru and Chile. Extensive use will be made of the South American collections in the Peabody

Museum.
Note: Expected to be given in 2014–15.

Anthropology 2210. Archaeology and the Ancient Economy
Catalog Number: 3586
C. C. Lamberg-Karlovsky
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Numerous theories are advanced for the structure of the ancient economy. Different perspectives on the nature of trade, the market, reciprocity-redistribution, etc. will be reviewed. An evolutionary and global perspective will be pursued from the Neolithic to the Iron Age.
Note: Open to undergraduates.

Anthropology 2212. The Archaeology of Enlightenment - *(New Course)*
Catalog Number: 21424 Enrollment: Open to undergraduates.
C. C. Lamberg-Karlovsky
Half course (spring term). Th., 2:30–5:30. EXAM GROUP: 16, 17, 18
This seminar will review the contributions made by the major social and natural philosophers of the Enlightenment that structured the debates of the late 17th and 18th centuries involving the nature of State governance, the changing role of religion within the State, colonialist undertakings, emergent imperialism, and racism. All of the above will be examined in the context of the evolving nature of the emergent disciplines of anthropology and archaeology.

[Anthropology 2240. Archaeology of Production: Seminar]
Catalog Number: 8589
Rowan K. Flad
Half course (spring term). W., 2–5. EXAM GROUP: 7, 8, 9
An exploration of production in archaeological contexts. Topics include specialization, craft production, production and power, the practice/performance of production, production and gender, ritualized production, and the production of memory.
Note: Expected to be given in 2014–15.

[Anthropology 2250a. Proseminar in Archaeology]
Catalog Number: 79363
Rowan K. Flad and Brian A. Stewart
Half course (fall term). Th., 12–3. EXAM GROUP: 14, 15, 16
This graduate seminar reviews critical issues in archaeological approaches to small-scale societies, including methods and interpretations relating to the study of mobility, sedentism, seasonality, plant and animal exploitation, and migration.
Note: Expected to be given in 2014–15.

Anthropology 2250b. Proseminar in Archaeology
Catalog Number: 64588
Gary Urton and C. C. Lamberg-Karlovsky
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
This graduate seminar reviews critical issues in archaeological approaches to the study of

complex societies, including writing, trade, craft specialization, technology, landscape, urbanism, and political organization.

Archaeology Cross-listed Courses

Ancient Near East 103. Ancient Lives - *(New Course)*
[Ancient Near East 155r. Ancient Mesopotamia: Archaeology and Texts]
Culture and Belief 21. Pathways through the Andes–Culture, History, and Beliefs in Andean South America
[Egyptian Aa. The Language of the Pharaohs: Introduction to Egyptian hieroglyphs I]
[Egyptian Ab. The Language of the Pharaohs: Introduction to Egyptian hieroglyphs II]
Egyptian 125. Sex, Gender, and Religion in Ancient Egypt, Mesopotamia, and Syria-Palestine - *(New Course)
[*Egyptian 150. Voices from the Nile: Ancient Egyptian Literature in Translation]
***Egyptian 300. Reading and Research in Egyptology**
***Freshman Seminar 30g. Digging Up the Past: Harvard and Egyptian Archaeology**
Societies of the World 30. Moctezuma's Mexico: Then and Now (2012)!
[Societies of the World 38. Pyramid Schemes: The Archaeological History of Ancient Egypt]
[Societies of the World 40 (formerly Anthropology 1174). The Incas: The Last Great Empire of Pre-Columbian South America]

Integrated courses in Archaeology and Social Anthropology

For Undergraduates and Graduates

Anthropology 1400. Quests for Wisdom: Religious, Moral and Aesthetic Experiences in the Art of Living
Catalog Number: 53142 Enrollment: Limited to 25. Limited to undergraduates.
Arthur Kleinman and Davíd L. Carrasco
Half course (fall term). Tu., at 2, Th., 2–4. EXAM GROUP: 16, 17
New interdisciplinary curriculum centered on 5 kinds of quests for wisdom that involve moral, religious and aesthetic pursuits and that focus on practices of mentoring and caregiving. Students will engage in short lectures, interactive discussions, student led seminars, and music and film. Students' required projects include a personal story that narrates an experience in the art of living and writing assignments that focus on assisting and accompanying experiences of others.
Note: Preference given to juniors and seniors.

Anthropology 1470. Darwin's Laboratory: Colonial Australia and Anthropological Control - *(New Course)*
Catalog Number: 96779
Shawn Rowlands
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
This course deals with the growth of anthropology and colonial control in the late nineteenth and early twentieth century world, with a detailed focus on Australia. This will be approached through an analysis of the ways in which Europeans perceived the indigenous 'other'. Material

culture from the region will be used to accompany the seminars, illustrating the development of anthropological thought and the creation of the Aboriginal 'other' in the time period. Australian Aboriginal people were perceived in mainstream European scientific thought as inhabiting the lowest tier of humanity. They were considered stagnant, incapable of change, and doomed to perish. Although these notions have long since been discredited, the ways in which they impacted the development of anthropology, colonial policy, and national identity will be explored in detail.

[Anthropology 1492. Anthropology in/of the Museum]
Catalog Number: 91392 Enrollment: Limited to 15.
Emily W. Stokes-Rees
Half course (spring term). Th., 3–5:30. EXAM GROUP: 17, 18
This research seminar addresses museums around the globe as a window through which to consider broad issues in anthropology and museology. Thinking critically about museum objects, exhibitions, and practices, students will explore the history of museums and collecting, changing exhibit styles, museum ethics, and contemporary challenges to traditional museum practices. The format of the course will primarily involve class discussions (informed by required readings) and many sessions will also involve visits to different galleries in Harvard's many museums, including hands-on experiences with collections, and visits to exhibition galleries, object storage, conservation, design, and other departments.
Note: Expected to be given in 2014–15. Open to graduate students and upperclassmen with appropriate background in anthropology theory and/or museums.
Prerequisite: Some general theoretical background in Anthropology and/or Museums.

Anthropology 1495. The Materiality of Culture: objects, meaning, the self
Catalog Number: 43639 Enrollment: Limited to 20.
Emily W. Stokes-Rees
Half course (fall term). Th., 3–5. EXAM GROUP: 17, 18
This seminar course explores the relationships between people and things, providing students with an overview of the developing theories and methods of material anthropology. From archaeology to material culture studies, and from art and architecture to museum interpretation, we will examine a wide variety of approaches to the world of objects, artifacts and mass-produced goods, developing critical methods for analyzing material culture and engaging objects as valuable research materials for scholarly work. Through selected readings, site visits, and group activities, we will identify methods for integrating artifacts, collectibles, and every day things with documentary research in narrating and exhibiting culture.

Primarily for Graduates

[Anthropology 2412. The Anthropology of Climate Change]
Catalog Number: 68249
Jeffrey Quilter
Half course (spring term). M., 2–5. EXAM GROUP: 7, 8, 9
This course covers how Anthropology has investigated the issue of climate change and the degree to which we can understand how climate changes have affected human behavior, or not, in past and recent times. An overview of the history of how climate has entered Anthropological

discourses and how they link to discussions in other disciplines will be followed by the development of individual student projects and presentations. The course is specifically designed to explore the tensions between scientific and humanistic approaches in the degree to which climate may influence long-term social, political, and culture change.
Note: Expected to be given in 2014–15.

Social Anthropology

Primarily for Undergraduates

Anthropology 91zr. Supervised Reading and Research and Research in Social Anthropology
Catalog Number: 3619
Steven C. Caton (fall term) and Richard H. Meadow (spring term)
Half course (fall term; repeated spring term). Hours to be arranged.
Special study of selected topics in Anthropology, given on an individual basis and directly supervised by a member of the Department. May be taken for a letter grade or Pass/Fail. To enroll, a student must submit to the Anthropology Undergraduate Office, William James 352, a course form signed by the adviser under whom s/he wishes to study and a proposed plan of study. Anthro 91zr form available from the Undergrad Office, or the department website.

Anthropology 92zr. Social Anthropology Research Methods in Museum Collections
Catalog Number: 4742
Steven C. Caton (fall term) and Richard H. Meadow (spring term)
Half course (fall term; repeated spring term). Hours to be arranged.
Special (individual) study of Peabody Museum collections directly supervised by a faculty member and a member of the curatorial staff. Requires a project involving a Harvard Museum collection, developed in consultation with the supervisors.
Note: Must be taken for a letter grade. Priority given to students in Anthropology and related departments. To enroll, *submit a petition form* (available from the Undergraduate Office, William James 352), signed by both supervisors, a proposed research agenda, during the term preceding the term of enrollment. Information sheets with Museum contacts available in William James 352.

Anthropology 97z. Sophomore Tutorial in Social Anthropology
Catalog Number: 5832
Asad A. Ahmed
Half course (spring term). W., 11:30–1. EXAM GROUP: 4, 5
The sophomore tutorial will serve as an introduction to social theorists who have influenced anthropological theory. In particular selected works by Marx, Durkheim, Weber, Foucault, Latour and others will be read and discussed. Seminar members will see how their ideas have shaped ethnographic description and analysis.
Note: Required of all concentrators. Weekly 2-hour sections to be arranged.

Anthropology 98za (formerly Anthropology 98z). Junior Tutorial in Social Anthropology
Catalog Number: 4503

Steven C. Caton
Half course (fall term). W., 2–4.
Junior tutorials in Social Anthropology explore critical theoretical issues related to a single ethnographic region (eg. South Asia, Africa, Latin America). The issues and areas change from year to year, but the purpose remains the same: to give students a chance to grapple with advanced readings and to experience the ways that ideas and theories can be applied and critically analyzed in ethnographic studies.

Anthropology 98zb. Junior Tutorial for thesis writers in Social Anthropology
Catalog Number: 35711
Richard H. Meadow
Half course (spring term). Hours to be arranged.
This individual tutorial is for social anthropology students intending to write a senior thesis, and is normally undertaken with an advanced graduate student during the second term of junior year. Students will have weekly meetings with the project advisor for the purposes of developing the appropriate background research on theoretical, thematic, regional, and methodological literature relevant to their thesis topic, and fully refining their summer research proposal. The tutorial's final paper will be comprised of a research proposal representing the research undertaken during the semester.
Note: Strongly recommended for any social anthropology junior intending to write a senior thesis. Taken in addition to the required fall term group junior tutorial, Anthropology 98za (formerly 98z).

Anthropology 99z. Thesis Tutorial in Social Anthropology - Senior Year
Catalog Number: 0787
Steven C. Caton (fall term) and Richard H. Meadow (spring term)
Full course. Hours to be arranged.
Research and writing of the Senior Thesis. Limited to honors candidates.

For Undergraduates and Graduates

Anthropology 1600. The Ethnographic Encounter: An Introduction to Social Anthropology
Catalog Number: 8296
Theodore C. Bestor
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
This course introduces ethnography as the central method of social and cultural anthropology. By observing, interviewing, and participating in ongoing events and social life, anthropologists describe and analyze patterns of cultural and social interaction that constitute the lived experiences of particular groups or communities. Ethnography is the lens through which anthropologists understand central themes such as kinship and families, community, social structure, worldview and religion, ethnicity, the individual, gender, and cultural change and globalization. Ethnographic readings include studies of Nepal, the American SW, Japan, Korea, Latin America, Africa, Oceania, and Europe. Readings and lectures will be supplemented with ethnographic films and hands-on visits to Harvards Peabody Museum of Archaeology and Ethnology.

Note: Freshmen welcome. This course is now specifically required of all Social Anthropology students, beginning with those entering the concentration in 2013-14.

***Anthropology 1610. Ethnographic Research Methods**
Catalog Number: 2622 Enrollment: Limited to 20.
Laurence A. Ralph
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
Introduction to methodology for contemporary ethnographic field research in anthropology. Students complete assigned and independent research projects relying on a variety of ethnographic methods, under supervision of department faculty.
Note: Open to undergraduates only. Preference given to anthropology concentrators.

Anthropology 1614. Visual Methods for Anthropology in a Digital Age - *(New Course)*
Catalog Number: 13702
Amrita Ibrahim
Half course (fall term). W., 10–12. EXAM GROUP: 3, 4
In today's increasingly electronic and digital world, anthropologists encounter the image both as material and sensory objects and as tools of evidence, record, and description. In this course, we shall discuss video, television, photography, and the internet as serious objects of anthropological study, as well as tools of evidence gathering in fieldwork and as archives of social and cultural life. We shall place these new studies of images within a longer trajectory of visual anthropology, not to see them as historical progression of 'old' to 'new' media, but how they create new conditions of possibility in anthropology for the study of socio-cultural phenomena. I

Anthropology 1619. Cinema and Desire: Studio course - *(New Course)
Catalog Number: 88079 Enrollment: Limited to 10. Admission through interview with instructors
Lucien G. Castaing-Taylor and Haden R. Guest
Half course (spring term). Tu., 12–4. EXAM GROUP: 14, 15, 16, 17
Students produce audio-visual works that explore the body, desire, and sexuality, and their significance in human existence.
Note: Offered in Visual and Environmental Studies as161n.

[Anthropology 1624. The Anthropology of Politics: Power, Domination and the State]
Catalog Number: 72117
Asad A. Ahmed
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
The modern state increasingly governs, regulates and intervenes in what was hitherto considered private domains of life. This course will explore how modern power is produced and exercised. However, from an anthropological perspective it will also examine other non-modern state forms. Themes that will be considered in class include power, domination, resistance, and the shifting relationship between public and private.
Note: Expected to be given in 2014–15.



Anthropology 1632. Contemporary South Asia - *(New Course)*
Catalog Number: 42237
Sohini Kar
Half course (spring term). M., W., at 10. EXAM GROUP: 3
This course will survey issues in the anthropology of contemporary South Asia. We will examine how political, economic and cultural changes have shaped social life in the Subcontinent. Topics will include religion, gender and sexuality, urbanization, inequality and development, and popular culture.
Note: No previous background in anthropology is required.

Anthropology 1640. Language and Culture
Catalog Number: 5844
Steven C. Caton
Half course (fall term). Tu., Th., at 11, with a section to be arranged. EXAM GROUP: 13
This is a course in linguistic anthropology. We explore key theoretical issues in the semiotic anthropology of language use, focusing on communication, social (inter)action, representation, cultural conceptualization, and language ideology. By presenting many of the most influential and innovative contributions to the study of language in culture and society—both recent and classic—the course aims to guide students in asking fundamental questions about language and communication more broadly as facts of everyday sociocultural experience.
Note: No previous knowledge of linguistics or of anthropology is required. This course may fulfill the 'Entry Course' requirement for Social Anthropology. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Anthropology 1648. Latin@s Remaking America: Immigration, Culture and Language - *(New Course)*
Catalog Number: 90682 Enrollment: Limited to 75.
Davíd L. Carrasco and Maria Luisa Parra-Velasco
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
An introduction to the multiple ways the Latino diaspora is challenging and contributing to the revitalization of the cultural, religious and democratic processes in the United States. Special focus on migration histories to and from Latin America, cultural exchange and social practices in families, citizenship, the arts and religious traditions. Attention to the robust debates about immigration reform, ethnic identity, Dreamers, education, bilingualism, and American cultures as cores and borderlands.
Note: Sections offered in English and Spanish, based on course enrollment. This course, when taken for a letter grade, may count as a related field in the Romance Languages and Literatures concentration (Spanish or Latin American Studies tracks) or Secondary Field in Spanish. Offered jointly in Harvard Divinity School as HDS 3164.

Anthropology 1656. History and Anthropology of Pakistan: seminar
Catalog Number: 16337
Asad A. Ahmed
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
Pakistan, it is argued, was created on the basis of religious nationalism and religion has been incorporated into governmental apparatuses and political life. This course will explore the

relationship between religion and politics from the initial demands for a Muslim polity, through the post-independence debates on the role of Islam, its subsequent judicial and political incorporation and finally how these unresolved struggles continue to inform the present moment.

[Anthropology 1667. Africa, Modernity and Ethnography: Seminar]
Catalog Number: 25018
Kerry R. Chance
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
This course examines colonialism and the dialectics of modernity on the African continent. Through classic and contemporary ethnography, we consider accounts of "traditional" African culture, especially the centrality accorded to religion, witchcraft and ritual. Rather than approaching these worlds as without history, we track their complex relations to transnational and trans-local forces to the production of new cultural schemes, forms of politics and identity. In doing so, we also attend to processes of decolonization, recent revolutions and the impact of global neoliberalism in the making of the current world order.
Note: Expected to be given in 2014–15.

Anthropology 1672. Legal Anthropology
Catalog Number: 58953
Kimberly Theidon
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This course introduces students to anthropological approaches to the study of law. This includes a survey of the historical development of the anthropology of law, and current research concerns in the field, including disputes and adjudication; legal institutions and practices; transitional justice; legal pluralism; and law and human rights. Using both classic and contemporary texts we explore the salience of the legal across a range of social and cultural contexts.

[Anthropology 1682. Gangsters and Troublesome Populations]
Catalog Number: 34637
Laurence A. Ralph
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
The term "gang" has been used to describe all kinds of collectives, from well-dressed mobsters to petty criminals to juvenile delinquents. About the only thing that has remained consistent about gangs is their characterization as the internal Other. This class will investigate how the category of "the gang" serves to provoke discourses of "dangerous" subjects in urban enclaves. More broadly, we will examine the methods and means by which liberal democratic governments maintain their sovereign integrity through the containment of threatening populations.
Note: Expected to be given in 2014–15.

Anthropology 1684. Anthropology of Debt: Seminar - *(New Course)*
Catalog Number: 19741
Sohini Kar
Half course (spring term). Tu., 10–12. EXAM GROUP: 12, 13
How does debt shape social life? This course will examine theories and ethnographies of debt as a form of relationality, as well as a financial obligation between people. We will read classic works in anthropology such as Marcel Mauss, as well as recent work, such as David Graeber's

Debt: The First 5,000 Years, to understand theories of debt. We will also explore the centrality of debt in contemporary political-economy, with topics including financial debt crisis and microfinance.

Anthropology 1698 (formerly Anthropology 2732). Anthropology of Death and the Afterlife: Seminar
Catalog Number: 54824 Enrollment: Limited to 15.
Anya Bernstein
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
This course explores how different cultures imagine death and the afterlife, drawing on insights from the anthropology of religion, politics, and medical anthropology. Based on readings that range from classical ethnographies of death and dying to contemporary debates on the politics of death, we will discuss cultural theories on what constitutes the moment of death and what happens after, as well as investigate the political lives of dead bodies. The topics covered include conceptualizations of the body and mind, ideas of the spirit world, witchcraft, mortuary rituals, relic veneration, royal and communist corpses, organ donation, end-of-life care, and concepts of biopolitics and bare life.

Anthropology 1710. Memory Politics
Catalog Number: 3793
Kimberly Theidon
Half course (fall term). Tu., Th., 11:30–1, and weekly section to be arranged. EXAM GROUP: 13, 14
An engagement with an interdisciplinary set of readings that analyze the relationship between memory and social reconciliation, and the role that theories of truth, justice, and redress play in this equation. We analyze truth commissions, forms of justice, and debates regarding reparations, and the points of conjuncture and disjuncture between national discourses and subaltern concepts of truth, justice, and reconciliation. Case studies include Rwanda, South Africa, Guatemala, Peru, and El Salvador.

[Anthropology 1720. Anthropology, Cultural Studies, and Film]
Catalog Number: 1522 Enrollment: Limited to 25.
Steven C. Caton
Half course (fall term). M., W., at 11; film screening: F., 5-9 pm. EXAM GROUP: 4
Focuses on feature-length commercial film (rather than ethnographic or documentary film) and some of the culture industries (Hollywood, Iran, and Egypt) that produce them, paying particular attention to the Middle East. What might an anthropology of film look like? Film theory and cultural studies will be examined for their contributions to the answer to that question. Topics include the culture industry, critical theory, the ethnographic gaze, orientalism, media studies, modernity, nationalism, and transnationalism.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

Anthropology 1723. Global Korea: Modernity, Nation, and Belonging - *(New Course)*
Catalog Number: 53821
Song Pae Cho

Half course (fall term). M., W., at 11, and a weekly discussion section to be arranged. EXAM GROUP: 4
This course explores important issues in contemporary Korean society, asking how these issues help us to better understand processes of globalization in East Asia and beyond. The first half of the course looks at Korea's global roots and sees how North and South Korea have diverged in their struggle to modernize. The second half focuses on South Korea's efforts to define its national identity, which have caused many exceptional cases to arise, such as plastic surgery, English-language educational migration, and the" Korean Wave" of film, TV and music hitting the shores of most countries in Asia (and worldwide).

[Anthropology 1726. Ethnography of South Korea]
Catalog Number: 36219 Enrollment: Primarily for undergraduates. Cross-listed with East Asian Studies
Nicholas H. Harkness
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
We read full-length ethnographies of contemporary South Korea, supplemented by older ethnographic accounts, to explore major socio-cultural themes in Korean society, such as urbanization, capitalism, kinship, gender, social mobility, and political participation. Our discussions also will focus on developments in anthropological theory, types of anthropological evidence, and ethnographic methods and writing.
Note: Expected to be given in 2014–15.

[Anthropology 1732. China Through Ethnography and Film: Seminar]
Catalog Number: 44236
Susan Greenhalgh
Half course (spring term). Th., 3–5, W., 5–8 p.m. EXAM GROUP: 9, 17, 18
The rapid rise of China on the global stage is one of the most stunning developments of our time. Since the early 1980's, when China reopened its doors to research by foreign scholars, growing numbers of anthropologists have been conducting fieldwork in the People's Republic. What have anthropologists learned about the transformations underway there? What new constructs and field strategies does the anthropology of China have to contribute to anthropology generally? In this course we seek answers in film and ethnography. Following existing emphases in the literature, we will focus on issues of transformation in governance, subjectivity, and difference in a nation under an increasingly neoliberal regime.
Note: Expected to be given in 2014–15.

[Anthropology 1733. Intimate Ethnographic Film]
Catalog Number: 17518 Enrollment: Limited to 7.
Michael Herzfeld
Half course (fall term). M., 7–9 p.m. EXAM GROUP: 9
A small studio methodology course (capped at 7 students) to explore the use of small video cameras (camcorders) and other equipment in the course of field research. Explores relationship among visual imagery, sound recording, and the social dimensions necessary to achieving cultural intimacy, as well as the relationship between image and caption/subtitle in conveying ethnographic knowledge and historical depth. Assignments include production of a short

ethnographic film and a final essay.
Note: Expected to be given in 2014–15.

[Anthropology 1742. Housing and Heritage: Conflicts over Urban Space]
Catalog Number: 61658
Michael Herzfeld
Half course (spring term). M., W., at 11. EXAM GROUP: 4
The celebration of national and local forms of heritage often rides roughshod over the interests of the local citizenry it is intended to serve. In this course we look at how such conflicts play out in several cities - notably Athens, Bangkok, Beijing, Istanbul, Jerusalem and Rome - and address the ethical, practical, and architectural conflicts that arise from an anthropological perspective.
Note: Expected to be given in 2014–15.

[Anthropology 1790. Violence in the Andes: Coca, Conflict, and Control]
Catalog Number: 2224
Kimberly Theidon
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
In this course we address the politics of coca and conflict in the Andean Region. We will trace different historical understandings of coca, ranging from the "miracle drug" to "moral panic". Our readings will allow us as to analyze the complex dynamics of coca production, counter-narcotics and counter-insurgency efforts in the Andes, moving between state and non-state actors as well as domestic and international interests. We will address the rise of indigenous movements within this context, and their potential to redefine political agendas in Colombia, Ecuador, Peru and Bolivia.
Note: Expected to be given in 2014–15.

Anthropology 1795. The Politics of Language and Identity in Latin America
Catalog Number: 7265
Catalina Laserna
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
Introduces theory and research in linguistic anthropology in the context of ethnographic research, film and popular music, from cumbia to hip-hop in Latin America. Examines how the multiplicity and contention of language ideologies play out in the everyday practices. What are the social, linguistic and discursive means by which social identity is constructed? How do ways of speaking, such as border talk and code switching, link face to face communities to the national and transnational spheres? Texts include regional ethnographies, music and documentaries from the region as well as the literature in the burgeoning new field of linguistic anthropology.
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Foreign Cultures.

[Anthropology 1815. Empire, Nation, Diaspora: Asians in the U.S.]
Catalog Number: 60047
Ajantha Subramanian
Half course (fall term). Hours to be arranged.
The U.S. is commonly described as a multicultural society and Asian Americans as "model minorities" with strong group identities. But when did multiculturalism become a defining

characteristic of American society? What is its relationship to race and class? Why did migrants from Asia come here and how has their reception changed over time? When do they call themselves "Asians" and when do they privilege other self-representations? We will explore these questions through history, anthropology, literature, and film.
Note: Expected to be given in 2014–15.

[Anthropology 1820. Japan in the Ethnographic Gaze: Seminar]
Catalog Number: 1267 Enrollment: Limited to 12.
Theodore C. Bestor
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
We examine ethnographies of Japan from the 1930s to the present to illuminate how Japan, as a cultural and social "whole," has been ethnographically problematized and re-problematized in different eras, from different theoretical interests such as culture-and-personality, modernization, and tradition, structuralist, post-structuralist, and cultural studies.
Note: Expected to be given in 2014–15. No prerequisites; open to all concentrators, esp. in Anthropology, East Asian Studies, and Music.

Anthropology 1832ar (formerly Anthropology 1836aar). Sensory Ethnography I: Studio Course - *(New Course)
Catalog Number: 56332 Enrollment: Limited to 10. Interview required.
Lucien G. Castaing-Taylor
Half course (fall term). Tu., Th., 1–4, W., 6–9 p.m. EXAM GROUP: 9, 15, 16, 17
First of a three-term sequence in which students apply media anthropological theory and conduct ethnography using film, video, sound, and/or still photography.
Note: Offered in Visual and Environmental Studies as 158ar.

Anthropology 1832br (formerly Anthropology 1836br). Sensory Ethnography II: Studio Course - *(New Course)
Catalog Number: 51555 Enrollment: Limited to 10. Interview required
Lucien G. Castaing-Taylor
Half course (spring term). M., W., 1–4. EXAM GROUP: 6, 7, 8
Second of a three-term sequence in which students apply media anthropological theory and conduct ethnography using film, video, sound, and/or still photography.
Note: Offered in Visual and Environmental Studies as 158bxr.

[*Anthropology 1832cr (formerly Anthropology 1836r). Sensory Ethnography III: Studio Course] - *(New Course)*
Catalog Number: 23312 Enrollment: Limited to 10. Interview required.
Lucien G. Castaing-Taylor
Half course (fall term). Tu., Th., 1–4, W., 6–9 p.m. EXAM GROUP: 9, 15, 16, 17
Third in a three-term sequence in which students apply media anthropological theory and conduct ethnography using film, video, sound, and/or still photography.
Note: Expected to be given in 2014–15. Offered in Visual and Environmental Studies as 158cr.

***Anthropology 1836br (formerly *Anthropology 1836bbr). Sensory Ethnography II: Studio Course**

Catalog Number: 6213 Enrollment: Limited to 10.
Mary M. Steedly and Robb Moss
Half course (fall term). M., W., 1–4. EXAM GROUP: 6, 7, 8
Second half of a year-long sequence (including 1836aar, spring 2013) in which students apply media anthropological theory and conduct ethnography using film, video, sound, still photography, and/or hypermedia. Emphasis is on pre-production and production in the spring, and on post-production in the fall.
Note: Interview with instructor and teaching assistant required for admission.

[Anthropology 1850. Ethnography as Practice and Genre]
Catalog Number: 1686
Mary M. Steedly
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
For sociocultural anthropologists, ethnography is both a way of studying human communities and a way of writing about them. Ethnographic fieldwork raises issues of participation, power, and perspective; cultural relativism; the nature of evidence; and the ethics of engagement. Writing ethnography highlights other issues, such as the politics of representing "others." This course explores these and related issues through close reading and intensive discussion of selected texts.
Note: Expected to be given in 2014–15. This course fulfills the undergraduate "Methods" requirement for Social Anthropology.

[Anthropology 1875. Moving Pictures: An Anthropology of Images]
Catalog Number: 46551
Mary M. Steedly
Half course (spring term). M., W., (F.), at 12. EXAM GROUP: 5
Most people today live in an environment awash with images in motion. This course explores, from an anthropological point of view, the implications of this media-saturated environment in a range of ethnographic and historical contexts. Issues to be addressed include: technologies and mediation; global and subglobal circuits of transmission; the nature of image-based publics and publicity; media temporalities; visibility, visualization and surveillance.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

Anthropology 1876. Society, Culture, and Modernity in Greece - *(New Course)*
Catalog Number: 80078
Michael Herzfeld
Half course (spring term). M., W., at 10. EXAM GROUP: 3
This course explores the socio-cultural dynamics of modern Greece through ethnographies, films, and media representations. Special attention will be paid to Greek notions of tradition, history, and heritage; resistance, anarchy, and social banditry; the impact of urbanization; and the ongoing economic crisis in relation to concepts of interpersonal and international debt.

Anthropology 1882. The Woman and the Body
Catalog Number: 15985
Susan Greenhalgh

Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This course probes the culture and politics of the body in America today, stressing America's role as a center of bodily ideals that now dominate global imaginations. Emphasizing the intersections of gender with race/ethnicity, class, and sexuality, the course examines the diverse notions of beauty, bodily practices, and body politics embraced by American women (and, to a lesser extent, men) of different classes, ethnicities, and sexualities. It deals with critical issues facing our society in the early 21st century -- the growing prevalence of eating disorders, the normalization of cosmetic surgery, rising levels of childhood and adult obesity using contemporary theory to tease out their complex sources and effects. Lying at the intersection of the anthropology of the body, medical anthropology, and women's/gender studies, the course outlines an important new arena for critical inquiry.

Anthropology 1890. Making News: Journalists and Media in Comparative Perspective - *(New Course)*
Catalog Number: 29148
Amrita Ibrahim
Half course (spring term). W., 10–12. EXAM GROUP: 3, 4
In this course, we will study how journalism emerged as a modern political institution across a range of socio-cultural contexts. What are its rules, routines, and rituals? How are its values of objectivity and freedom constituted? Is journalism a straightforward report of reality or does it forge our perceptions of reality depending on political, economic, and social ideologies? How does news affect us, shaping our politics and action, and enable communication in our daily lives?
Note: Open to cross registration, mainly for undergraduates/graduate students allowed with permission of the instructor.

Anthropology 1923. Japan's 2011 Disasters and Their Aftermath: A workshop on digital research - *(New Course)
Catalog Number: 34485 Enrollment: Limited to 15.
Theodore C. Bestor and Andrew Gordon
Half course (fall term). W., 2–5. EXAM GROUP: 7, 8, 9
This course explores the historical and ethnographic contexts of Japan's compound disasters of March 2011. As people sought to survive and make sense of the disasters, social media as well as photos, videos and websites played critical roles. We examine the role of these records, using a participatory digital archive developed at Harvard. Student teams will develop research questions, collect digital material, and create multimedia narratives. Students will complement their research with study of responses to similar gloabal events as well as critical reflection on digital scholarship and the emerging practice of "crisis archiving."
Note: This course is also offered in the History Department as History 1923.

[Anthropology 1935. Secularism in Question: Seminar]
Catalog Number: 52752
Asad A. Ahmed
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Secularism, once understood as a normative political arrangement that promoted social peace and multiple religiosities, has recently been critiqued for circumscribing or denying people's

abilities to live according to their religious understandings. However, such arguments have also stimulated strident responses that re-instantiate secular values and the enlightenment critique of religion as divisive and irrational. This course will examine recent controversies in France, India, the US and Turkey that have put secularism into question.
Note: Expected to be given in 2014–15.

Anthropology 1936. Anthropology of Religion - *(New Course)*
Catalog Number: 79416
Anya Bernstein
Half course (fall term). W., 3–5. EXAM GROUP: 8
What happened to religion in the modern world? We start off by exploring traditional anthropological themes, such as animism, magic, and ritual, while paying particular attention to the classic secularization thesis advanced by social scientists. We will then focus on the crucial contemporary issues, such as debates on secularism, political theologies, globalization and commodification of religion, body and sexuality, and the emergence of "new age" spirituality. This course is not a survey of specific religions, but a theoretical introduction to the main themes in the anthropological study of religion.

[Anthropology 1975. Culture and Social Relations]
Catalog Number: 22928
Nicholas H. Harkness
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
What is a social relation? This course addresses this question by combining foundational readings in social theory with contemporary ethnographies in socio-cultural anthropology. We explore the cultural dimensions of social relations through different themes, such as politics, economics, religion, ethnicity, kinship, and language.
Note: Expected to be given in 2014–15.

[*Anthropology 1986. Art, Anthropology, and Aesthetics]
Catalog Number: 3844 Enrollment: Limited to 15.
Lucien G. Castaing-Taylor
Half course (spring term). F., 9–11. EXAM GROUP: 2, 3
In this seminar we shall study the warp and weft of human existence by crisscrossing between the anthropology of art and the art of anthropology. Both affinities and differences between art-making and anthropology will be considered, as well as alternative means of apprehending and expressing aesthetic and social experience cross-culturally.
Note: Expected to be given in 2014–15.

[Anthropology 1994. Readings and Research in Contemporary Africa: Seminar]
Catalog Number: 61257
Kerry R. Chance
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
Readings and research in contemporary Africa
Note: Expected to be given in 2014–15.

Anthropology 1995 (formerly Social Analysis 70). Food, Culture, and Society
Catalog Number: 3940
Theodore C. Bestor
Half course (spring term). M., W., (F.), at 12, and a weekly section to be arranged. EXAM GROUP: 5
Food is pragmatic necessity and symbolic statement. Cultural and social processes (that are common across cultures) shape systems of culinary meaning and belief, as well as their interactions with social institutions and material realities of food production and consumption. Perspectives include structuralist and materialist interpretations of food taboos, historical movements of empires and foodstuffs, and the political economy of food and cuisine. Lectures, films, discussions, and ethnographic research assignments will focus on how food shapes (and reflects) identity (national, ethnic, religious, gender, class), and how in turn social institutions (from domestic units to the global food system) shape and transform food and its meanings. Historical and contemporary cases include examples from the United States, Japan, China, South Asia, Africa, Latin America, and Europe.
Note: This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[Anthropology 1996. Angels, Ghosts, and Hustlers: Bangkok Live]
Catalog Number: 97643
Michael Herzfeld
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
This ethnographic exploration of a huge Asian metropolis emphasizes the changing role of markets and temples; the impact of tourism and new transportation systems; religious doctrine and popular worship; and urban political dynamics.
Note: Expected to be given in 2014–15.

Primarily for Graduates

[Anthropology 2615. Meaning and Practice]
Catalog Number: 59343
Nicholas H. Harkness
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
What is meaningful social behavior? This course explores theories of practice (and praxis) through the semiotic pragmatics of social action.
Note: Expected to be given in 2014–15.

[Anthropology 2618. The Body in the Age of Obesity]
Catalog Number: 53474 Enrollment: Limited to 15.
Susan Greenhalgh
Half course (fall term). W., 10–12. EXAM GROUP: 3, 4
This course takes a critical, anthropological look at the nation’s cultural and political obsession with the "obesity epidemic." Placing the growing girth of Americans in historical and global context, it asks how the weighty body replaced smoking as the focus of the latest national "crisis," how the problem of "obesity" has been framed, what solutions have been put in place to address it, and with what effects for individuals and society at large. The course draws on work

in many fields — from public health and the anthropologies of science and medicine; to American and fat studies; to political ecology, food systems, and food justice studies — in an effort to stimulate interdisciplinary conversations about what today's intense focus on obese bodies means for us as human scientists and as citizens of the world.
Note: Expected to be given in 2014–15.

***Anthropology 2626. Research Design**
Catalog Number: 9193 Enrollment: Limited to 12.
Theodore C. Bestor
Half course (spring term). W., 4–6. EXAM GROUP: 9
Seminar focuses on weekly writing assignments leading to complete dissertation research proposals; defining theoretical and ethnographic contexts of research problem; reviewing literature; explaining site selection, methodology, timetable, human subjects protection; preparing budget; identifying grant sources.
Note: By permission only. Limited to doctoral candidates, with preference given to second and third year students in Anthropology.

[Anthropology 2628. Proposal Writing]
Catalog Number: 32957 Enrollment: Limited to 12.
Susan Greenhalgh
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
This course is a practicum designed to help students craft effective research and grant proposals, learn how to constructively critique others' proposals, and develop enduring collaborative relationships. The first half of the semester will focus on Wenner-Gren type proposals, the second half on proposals for the National Science Foundation and similar funders. To the extent time permits, the class will also pursue a secondary objective: imparting professional skills, primarily in the area of writing and publishing, but also in oral presentation, that will be useful to students throughout their professional lives.
Note: Expected to be given in 2014–15. Class is open to third year (or higher) social anthropology graduate students who have done most of the background reading for a major research project and are actively working on formal research proposals. For most students this will be a proposal for their PhD dissertation research. This course is intended to follow and to build on the skills developed in Anthropology 2626 (Research Design), offered in the Spring semester.
Prerequisite: Anthropology 2626

[*Anthropology 2635. Image/Media/Publics: Seminar]
Catalog Number: 9515 Enrollment: Limited to 15.
Mary M. Steedly
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Explores the relations among technologies of image production and circulation, the nature and intensity of the circulating image, and the generation of publics and counter-publics. Questions of scale, mediation, publicity, and mobilization will be considered.
Note: Expected to be given in 2014–15. Open to advanced undergraduates with permission of instructor.

[Anthropology 2638. Political Anthropology of Colonial and Postcolonial South Asia]
Catalog Number: 67859
Asad A. Ahmed
Half course (fall term). W., 4–6. EXAM GROUP: 9
This course explores conceptual understandings of politics and the political as-well as the practice of formal and informal politics in South Asia. Formal politics is criticized by moral and cultural discourses from liberal and religious perspectives, which mark it as corrupt. Can we think of politics as having promise and possibilities in addition to perils? We begin by examining a variety of discourses to see how politics is conceptualized before moving to diverse sites to examine its practice. In particular we look at political parties as organizations where many of these tensions are expressed and managed.
Note: Expected to be given in 2014–15.

[Anthropology 2642. Anthropology of Moralities]
Catalog Number: 89557
Kimberly Theidon
Half course (fall term). Hours to be arranged.
This course draws upon an interdisciplinary set of readings, both theoretical and empirical, to explore a genealogy of moral questions within the fields of moral philosophy and anthropology. We will explore the formation of ethical subjects and subjectivities, as well as the construction of moral economies, communities and their limits.
Note: Expected to be given in 2014–15.

[Anthropology 2645. Reconfiguring Regimes: Power, Law and Governance]
Catalog Number: 9925
Kimberly Theidon
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Studies changing concepts of law, power and governance within contemporary global politics. Combines theoretical readings with ethnographic inquiries of the state, the legal, the magical, and the just.
Note: Expected to be given in 2014–15.

***Anthropology 2650a. History and Theory of Social Anthropology: Proseminar**
Catalog Number: 1752
Mary M. Steedly
Half course (fall term). Tu., 9–12. EXAM GROUP: 11, 12, 13
A critical review of the major theoretical approaches in social anthropology.
Note: In conjunction with Anthropology 2840 in 2009-10, required of candidates for the PhD in Social Anthropology. Limited to, and aimed at, doctoral candidates. Not open to undergraduates.

***Anthropology 2650b. History and Theory of Social Anthropology: Proseminar**
Catalog Number: 7971
Ajantha Subramanian
Half course (spring term). Th., 10–1.
Continuation of Anthropology 2650a.
Note: Required of candidates for the PhD in Social Anthropology. Not open to undergraduates.

[Anthropology 2652. Psychological Anthropology]
Catalog Number: 22538
Kimberly Theidon
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
This course explores the historical development of psychological anthropology. We will read classic texts in the field, and then turn to current debates regarding emotions, mental illness, violence and its legacies, perpetrator motivations and victimhood.
Note: Expected to be given in 2014–15.

[Anthropology 2654. Anthropology of Gender and Sexuality] - *(New Course)*
Catalog Number: 67631
Kimberly Theidon
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
This course will explore the myriad ways that sex, gender and sexuality have been constructed in specific cultural and historical contexts, and how these categories have been analyzed by anthropologists. The course will address key issues such as essentialism/constructivism, universalism, difference, identities, sexualities, gendered bodies, and the intersections between gender and colonialism, nationalism, race/ethnicity, class and global capitalism.
Note: Expected to be given in 2014–15. There will be biweekly film screenings in addition to seminar meetings.

[Anthropology 2660. The Anthropology of Knowledge: Seminar]
Catalog Number: 7070
Michael Herzfeld
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
Comparative exploration of local epistemologies from craft apprentices and skilled manual workers to schoolchildren, journalists and scientists, emphasizing the embodiment, inculcation, and transmission of practical knowledge and the relationships among cosmology, social context, and pragmatic understanding.
Note: Expected to be given in 2014–15.

[Anthropology 2674. Legal Anthropology and Modern Governance]
Catalog Number: 82966
Asad A. Ahmed
Half course (spring term). W., 4–6. EXAM GROUP: 9
This course is split into two parts. The first part introduces classic themes and texts in legal anthropology and the second part examines debates on the expansion of law as a means of modern governance.
Note: Expected to be given in 2014–15.

Anthropology 2676. Muslims, Islam and Anthropology - *(New Course)*
Catalog Number: 84531
Asad A. Ahmed
Half course (spring term). M., 11–1. EXAM GROUP: 4, 5
This is a survey course to the anthropology of Islam. We first critically examine seminal texts by Evans-Pritchard, Ernst Gellner and Clifford Geertz before turning to Talal Asad's analysis of

anthropological categories, and attempt to situate the study of Islam as a discursive tradition. In the second half we focus on recent ethnographic materials that explore Muslim engagements with, and responses to, various features of modernity such as the state, democracy, gender equality as well as the management and securitization of Muslims in the West.

[*Anthropology 2682. Anthropology of Urbanism: Japan in Comparative Perspective]
Catalog Number: 95848
Theodore C. Bestor
Half course (spring term). M., W., F., at 1 and section to be arranged. EXAM GROUP: 6
This course examines patterns of Japanese urbanism -- social, cultural, historical, and built-environmental -- through interdisciplinary discussion. It is open to graduate students in any department or programs. Students are required to attend lectures of SW 33 Tokyo; students in Anthro 2682 will participate in specialized discussion sections and will frame term projects tailored to their future research plans in close consultation with the professor. The seminar is equally open to graduate students with strong interests in urban anthropology, in urban design and planning, and in Japanese/Asian Studies in history, the social sciences, and the humanities.
Note: Expected to be given in 2014–15. Students must also attend all lectures of Societies of the World 33 "Tokyo" MW(F) 1 pm.

[Anthropology 2688. The Frankfurt School, Film, and Popular Culture]
Catalog Number: 1182 Enrollment: Limited to 15.
Steven C. Caton
Half course (spring term). Th., 4–6. EXAM GROUP: 18
Focus in the Frankfurt School and such concepts as the culture industry, critical theory and research, art and mass media reproduction, negative dialective, public sphere, and other of its contributions to social and aesthetic theory.
Note: Expected to be given in 2014–15.

Anthropology 2695. Design Anthropology: Objects, Landscapes, Cities
Catalog Number: 39129 Enrollment: Limited to 16.
Gareth Gerard Doherty (Design School)
Half course (spring term). F., 9–12. EXAM GROUP: 2, 3, 4
This course will examine the intersections between design and anthropology. In recent years, there has been a movement in anthropology toward a focus on objects, while design, which has traditionally been concerned with objects, has been moving toward the understanding of objects as part of a greater milieu. This course explores the common ethnographic ground. No background in anthropology or design required.
Note: Offered jointly with the Graduate School of Design as GSD 3336.

Anthropology 2704. Linguistic Pragmatics and Cultural Analysis in Anthropology
Catalog Number: 4411
Steven C. Caton
Half course (fall term). W., 10–12. EXAM GROUP: 3, 4
Exploring classic theory and recent innovations in linguistic anthropology and the semiotic anthropology of communication, we connect the social life of language to its role in culture.
Note: Limited to graduate students, who will also be expected to attend all Anthropology 1640

lectures.
Prerequisite: Limited to graduate students, who will also be expected to attend all Anthropology 1640 lectures.

Anthropology 2706. Disease, Disability, and the Body
Catalog Number: 87741
Laurence A. Ralph
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
This course will theorize the ways in which disability and disease become linked to inequality. We will explore the social factors that produce forms of suffering, as well as kinds of violence that people experience when social difference is mapped onto the materiality of their bodies.

[Anthropology 2712. Ethnographies of Food]
Catalog Number: 31444
Theodore C. Bestor
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
We will discuss the "food turn" in anthropology through reading contemporary (and classic) ethnographies of food in contexts of production, distribution, social exchange, gender, and science. Note: Undergraduates encouraged to participate.
Note: Expected to be given in 2014–15.

Anthropology 2713 (formerly Anthropology 1713). Economic Rights and Wrongs
Catalog Number: 91647
Kerry R. Chance
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
Amid ongoing financial crisis and recent political uprisings in various parts of the globe, newly assertive groups are articulating demands for "rights" with a material premise, raising questions about democratic governance, its inclusions and exclusions today. This course discusses the "socio-economic" within a human rights paradigm, and, more broadly, through classic and contemporary social theory. We will examine current debates over socio-economic rights from housing to health to environment, and the terrain "social, economic and political" upon which they are articulated.

[Anthropology 2718. Democracy and Memory: Exploring the Relationship in Latin America] - *(New Course)*
Catalog Number: 60567
Kimberly Theidon
Half course (fall term). Hours to be arranged.
This interdisciplinary seminar is part of the DRCLAS initiative, "Democracy and Violence in Latin America." Beginning in the 1980s, processes of democratic transitions occurred throughout Latin America, with new constitutions written and implemented against a backdrop of public memories of past political repression and injustice. These historical processes raise compelling questions about the relationship between memory, forgetting, and democracy. In this course, we explore the legacies of violence and oppression, as well as the legacies of the transitional justice initiatives that have been implemented to address the past.
Note: Expected to be given in 2014–15.

***Anthropology 2722. Sonic Ethnography**
Catalog Number: 68581 Enrollment: Limited to 12.
Ernst Karel
Half course (spring term). Tu., F., 10:30–12. EXAM GROUP: 3, 4, 12, 13
This is a practice-based course in which students record, edit, and produce anthropologically informed audio works which interpret culture and lived experience. Listening sessions will provide a broad context of contemporary work using location recordings, and readings will situate the practice within the growing field of sound studies. In their projects, students will experiment with technical and conceptual strategies of recording and composition as they engage with questions of ethnographic representation through the sensory dimension of sound.
Note: Course will also include additional weekly two-hour listening session, and occasional required technique/technology workshops, to be scheduled.
Prerequisite: Experience in media production helpful but not required.

Anthropology 2725. Anthropology and History - *(New Course)*
Catalog Number: 48056 Enrollment: Limited to 20.
Ajantha Subramanian and Vincent Brown
Half course (spring term). Tu., 10–12. EXAM GROUP: 12, 13
Explores exchanges between the disciplines of History and Anthropology, emphasizing overlaps and distinctions in the treatment of mutual concerns such as the representation of time and space, the conceptualization of power, and the making of the subject.
Note: This course is also offered through the History Department as History 2725. Credit may be earned for either Anthropology 2725 or History 2725, but not both.

Anthropology 2727. Anthropology of Media - *(New Course)*
Catalog Number: 86635 Enrollment: Open to undergraduates with permission of Instructor
Amrita Ibrahim
Half course (fall term). Th., 10–12. EXAM GROUP: 12, 13
Anthropologists have been studying media since the 1990s, but only recently have they become attentive to the process of mediation through which media intervene in social and political life, rather than primarily as a means of representation. In this course, we will focus on ethnographies of media that privilege the materiality of media and its circulatory powers, while exploring how a medium's effectiveness lies in the paradoxical effacement of its materiality. Texts will engage the tension between the experience of mediation and immediacy through electronic and digital media, and the question of power, politics, and governmentality that these forms mediate.

[Anthropology 2740. Culture, Mental Illness, and the Body]
Catalog Number: 6013
Byron J. Good (Medical School)
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
Briefly reviews the figure of mental illness in Western thought and the social sciences, then focuses on themes in cross-cultural studies of psychopathology: culture and diagnosis; cultural influences on depression, schizophrenia, and dissociation; madness in non-Euroamerican healing systems; and transnational aspects of psychiatry.
Note: Expected to be given in 2014–15.

[Anthropology 2745. Psychological Approaches to the Anthropology of Subjectivity]
Catalog Number: 77819
Byron J. Good (Medical School) and Alasdair Simon Donald (Medical School)
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
This course will trace the history of psychological theories in anthropological studies of subjectivity and their influence on ethnographic writing. Although more general topics in the history of psychological anthropology will be considered, the course will give particular focus to the relevance of diverse psychoanalytic theories and clinical writing for anthropology. The course will include recent writings on topics such as violence, post-colonialism, and affect, and the place of contemporary theorists within and influenced by psychoanalysis for an anthropology of the subject and subjectivity. Theoretical, methodological and interviewing issues, as well as approaches to writing, will be considered.
Note: Expected to be given in 2014–15.

[Anthropology 2750. Local Biologies: Perspectives on the Interaction Between Culture and Biology]
Catalog Number: 8267
Arthur Kleinman
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
Reviews the variety of anthropological perspectives on the interactions between culture and biology. Topics include mind-brain-society interaction in pain; cross-cultural studies of menopause; sociosomatics of depression; the new genetics and eugenics; research on stress and trauma.
Note: Expected to be given in 2014–15. Open to advanced undergraduates with permission of instructor.

Anthropology 2765. Gender in Conflict: Violence, Militarism and War
Catalog Number: 7015
Kimberly Theidon
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
In this seminar we will combine theoretical texts with classic and contemporary ethnographies to explore the anthropological study of ethics and ethical resources as related to debates that have animated the field of medical anthropology.

Anthropology 2785. Theories of Subjectivity in Current Anthropology
Catalog Number: 1995
Byron J. Good (Medical School)
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
An overview of current theories of the subject and subjectivity in anthropology. Seminar this year will focus on concept of ‘haunting’ in relation to violence and memory, with particular attention to the writings of Jacques Derrida and Wilfred Bion in particular.

[Anthropology 2795. Medical Anthropology: Theoretical Trajectories, Emergent Realities]
Catalog Number: 55818
Byron J. Good (Medical School) and Mary-Jo Del Vecchio Good (Medical School)
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16



Provides a critical reading of the history of medical anthropology to the present. Focuses on theoretical perspectives and debates, as well as methodologies and positioning of actors in the field.
Note: Expected to be given in 2014–15.

Anthropology 2805. Biopolitics
Catalog Number: 89606 Enrollment: Limited to 15.
Susan Greenhalgh
Half course (spring term). W., 10–12. EXAM GROUP: 3, 4
The modern era has seen the rise of a new field of knowledge and power that takes as its object life itself, in the biological sense. In Foucault's well-known scheme, biopower operates at two interrelated levels -- the disciplines of the human body and the regulations of the species body, or population as a whole -- and is aimed at optimizing life forces. Foucault proposed that biopower, the calculated power over human life, especially at the level of the population, is the essential form of power in the modern political era. This course traces the emergence of an anthropology of biopolitics over the last decade, teasing out the concepts, problems, and ethnographic practices by which this domain is being studied. Through explorations of biological, genetic, therapeutic, and healthist citizenship, new practices of biosociality, and the creation of world-quality populations, the course identifies new assemblages of technologies, logics, and ethics that are emerging in different spaces in an increasingly globalized world. The course also goes beyond Foucault to explore new domains of nonhuman biopolitics that are transforming understandings of life politics today. Lying at the intersection of technoscience studies, governmentality studies, medical anthropology, and the anthropology of the global, the politics of life itself is an important new arena for anthropological inquiry.
Note: Students will be required to attend selected lectures of the undergraduate course The Woman and the Body.

[Anthropology 2812. Space and Power]
Catalog Number: 29833 Enrollment: Limited to 12.
Ajantha Subramanian
Half course (fall term). Tu., 10–12. EXAM GROUP: 12, 13
This course considers space as a structuring principle of social life and as a product of political activity. It treats space as a dynamic force animating human existence rather than as its static backdrop.
Note: Expected to be given in 2014–15.

[Anthropology 2816. Law for Anthropologists, Anthropology for Lawyers]
Catalog Number: 89528 Enrollment: Restricted to graduate students
Sally F. Moore
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
Theoretical and practical ideas, old and new, about law in society. Looking at the academic literature and at ethnographic description. The uses of the legal in fieldwork. Interpreting the place, shape, claims and efficacy of law in particular social and cultural contexts.
Note: Expected to be given in 2014–15.

[Anthropology 2817r. Law as a Dimension of Fieldwork: Instances and Interpretations]
Catalog Number: 12667
Sally F. Moore
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
This course is intended for advanced graduate students in the Anthropology Department and in the Law School who will be doing fieldwork projects for their dissertations. The emphasis will be on a wide variety of field situations and their analysis. Legal matters are shown to be a useful entry point for the study of the larger society, and can often serve as a way of identifying the major social processes that are under way at the time of observation. The writings of various social theorists will also be touched on to ask how pertinent their concepts are to the analysis of actually observed events.
Note: Expected to be given in 2014–15.

[Anthropology 2826. Foucault and Anthropology]
Catalog Number: 49744
Asad A. Ahmed
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
Foucault had little interest in colonialism or law. Yet historians and anthropologists have used his ideas productively in colonial and postcolonial settings. This course explores the possibilities and limits of Foucauldian concepts and methods.
Note: Expected to be given in 2014–15.

[*Anthropology 2830. Creative Ethnography]
Catalog Number: 98073
Mary M. Steedly
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
A writing-intensive seminar in which students explore various genres and styles of ethnographic representation by sharing work in progress. A range of supplemental readings provide descriptive models and theoretical orientations.
Note: Expected to be given in 2014–15.

[Anthropology 2832. Voice and Voicing]
Catalog Number: 51326 Enrollment: Limited to graduate students
Nicholas H. Harkness
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
We explore various literal and tropic conceptualizations of "voice" and "voicing " in anthropological theory and related disciplines, including linguistics, music, philosophy, semiotics, and sociology.
Note: Expected to be given in 2014–15.
Prerequisite: Anthropology 2704 highly recommended

[*Anthropology 2837. Media Archaeology of Place]
Catalog Number: 10136
Lucien G. Castaing-Taylor and Ernst Karel
Half course (fall term). Tu., Th., 2-4; film screenings, W 6-8pm. EXAM GROUP: 16, 17
Combining media art practice with critical inquiry and ethnographic research, Boston and other

sites serve as laboratories for exploring different modes of representing place. Films, maps, sound recordings, and other media artifacts are treated as archaeological objects and are re-interpreted for exhibition.
Note: Expected to be given in 2014–15. Admission by interview with instructor.

Anthropology 2840. Ethnography and Personhood
Catalog Number: 3560
Michael Herzfeld
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
Intensive, critical review of major ethnographies, exploring the relationship between society and personhood, examining ethnographic writing and its relation to other genres (including biography); and tracing anthropological theory through changes in descriptive and analytic practice.
Note: Given in alternate years.

[*Anthropology 2845. Media Anthropology Theory]
Catalog Number: 5422
Lucien G. Castaing-Taylor
Half course (fall term). Tu., 1–4. EXAM GROUP: 15, 16, 17
Seminar offering a critical overview of the field of media anthropology, as it has developed over the last half century. Attention will be on the media as both an object and a genre of anthropology.
Note: Expected to be given in 2014–15. Students must attend all VES 189 classes.

[*Anthropology 2850r. Practicum in Foreign-Language Ethnography]
Catalog Number: 9856
Michael Herzfeld
Half course (fall term). Hours to be arranged.
Readings in ethnographic and related theoretical works written in a selected foreign language; discussion, class presentations, and final papers will be in that language also.
Note: Expected to be given in 2014–15. Offered when demand and availability permit. Primarily for doctoral students.

[Anthropology 2855. Deep China: The Moral Life of the Person: What Anthropology and Psychiatry Tell Us About China today]
Catalog Number: 1679
Arthur Kleinman
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
What do accounts of depression, suicide, substance abuse, sexually transmitted diseases, SARS, HIV/AIDS, starvation and the personal and family trauma of political violence teach us about China and the Chinese over the last few decades?
Note: Expected to be given in 2014–15. Open to undergraduates.

[*Anthropology 2856. Biography, the Novel, Psychotherapy and Ethnography: Deep Ways of Knowing the Person in the Moral Context]
Catalog Number: 8459

Arthur Kleinman
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
Compares deep ways of knowing the person in his/her cultural, political, economic and, most especially, moral context. Reads strong examples from each field to learn about individual and collective experience under uncertainty and danger.
Note: Expected to be given in 2014–15. Open to graduate students and advanced undergraduates.

[Anthropology 2862. Anthropology of Biomedicine]
Catalog Number: 10624
Arthur Kleinman
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Examines the culture, history, institutional arrangements, social relationships, technology, training, political economy and local worlds of contemporary biomedicine. Readings are from medical anthropology, anthropology of science, history of medicine, and sociology and political science.
Note: Expected to be given in 2014–15.
Prerequisite: For graduate students and advanced undergraduates

Anthropology 2864. Anthropology of Financial Systems - *(New Course)*
Catalog Number: 91383
Sohini Kar
Half course (fall term). M., 10–12. EXAM GROUP: 3, 4
This course will explore theories and ethnographies of finance capitalism, examining the ways in which emergent financial systems have come to shape everyday life, including through new technologies, market actors, and crisis. The course will cover theories of political economy, particularly in relation to finance capital, as well as the social studies of finance, and contemporary ethnographies of financial systems.
Note: Open to advanced undergraduates with permission of instructor.

[Anthropology 2870. Transgressive Texts: Contemporary Latin American Ethnography]
Catalog Number: 3347
Kimberly Theidon
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
A reading seminar of ethnographic accounts of globalization, identity formation, and political action in Latin America. We explore cultural forms and materials conditions, locating the politics of representation within fields of power and conflict.
Note: Expected to be given in 2014–15.

Anthropology 2876 (formerly Anthropology 276). New Ethnographies in the Anthropology of Social Experience and Moral Life
Catalog Number: 5029
Arthur Kleinman
Half course (spring term). Th., 4–6. EXAM GROUP: 18
New ethnographies of social experience, moral life, and subjectivity are remaking theory and scholarship. Students in this course will critically examine studies of illness, violence, and cultural responses to other forms of human problems as well as to other human conditions. Our

emphasis is on the methodology and style of writing experience-oriented ethnographies. We also examine studies of change in subjectivity and moral experience in times of social transformation, and the contribution they make to social theory, scholarship, and policy.
Note: Open to advanced undergraduates.

[Anthropology 2980. "Culture"]
Catalog Number: 1114
Mary M. Steedly
Half course (spring term). W., 3–6. EXAM GROUP: 8, 9
"Culture" is one of anthropology's key concepts, but there has never been agreement as to the term's meaning. We tour the work of culture's key theorists, with an emphasis on American anthropological perspectives. Is culture still a useful concept in anthropological analysis?
Note: Expected to be given in 2014–15. For first-year graduate students, or by permission of instructor. In 2009-10 (only), counts as second part of Social Anthropology Proseminar course requirement.

Social Anthropology Cross-listed Courses

African and African American Studies 97. Sophomore Tutorial
African and African American Studies 119x. Chocolate, Culture, and the Politics of Food
African and African American Studies 178. Health, Society, and Subjectivity in the American Context
African and African American Studies 189x. Medicine, Culture, and Society
African and African American Studies 190x. The Anthropology of Law: Perspectives from Africa and Elsewhere
African and African American Studies 209a. Africa Rising? New African Economies/Cultures and Their Global Implications
African and African American Studies 209b. Africa Rising? New African Economies/Cultures and Their Global Implications
Culture and Belief 58. Case Studies in the Medical Humanities: Interdisciplinary Perspectives on the Experience of Illness and Healing - *(New Course)*
History 2725. History and Anthropology: Seminar - *(New Course)*
Societies of the World 25. Case Studies in Global Health: Biosocial Perspectives
Societies of the World 30. Moctezuma's Mexico: Then and Now (2012)!
[Societies of the World 33 (formerly Foreign Cultures 84). Tokyo]
Societies of the World 46 (formerly Anthropology 1621). The Anthropology of Arabia
Societies of the World 51 (formerly Anthropology 1655). Politics of Nature
South Asian Studies 196. Work and Religion in Modern South Asia - *(New Course)*
***Visual and Environmental Studies 158br. Living Documentary: Studio Course**
***Visual and Environmental Studies 351hf. Critical Media Practice: Non Fiction Filmmaking Workshop**

Graduate Courses of Reading and Research

***Anthropology 3000. Reading Course**
Catalog Number: 3454

Asad A. Ahmed 5567, Ofer Bar-Yosef 1887, Theodore C. Bestor 2292, Davíd L. Carrasco 4213, Lucien G. Castaing-Taylor 4584, Steven C. Caton 2307 (on leave spring term), Song Pae Cho 7355, Jean Comaroff 6484, John Comaroff 6485, Paul Farmer (Medical School) 5039, William L. Fash 1512 (on leave spring term), Rowan K. Flad 5059 (on leave 2013-14), Byron J. Good (Medical School) 7648, Mary-Jo Del Vecchio Good (Medical School) 7721, Susan Greenhalgh 3297 (on leave fall term), Nicholas H. Harkness 6918 (on leave 2013-14), Michael Herzfeld 3122 (on leave fall term), Amrita Ibrahim 7359 (spring term only), Arthur Kleinman 7473, C. C. Lamberg-Karlovsky 2387, Matthew Joseph Liebmann 6555, Peter Der Manuelian 4279 (on leave spring term), Richard H. Meadow 1572, Sally F. Moore 7225, Jeffrey Quilter 5383, Laurence A. Ralph 1676, Mary M. Steedly 2783 (on leave spring term), Emily W. Stokes-Rees 7053, Ajantha Subramanian 4618, Kimberly Theidon 4973, Christian Alexander Tryon 7367, Jason A. Ur 5307, Gary Urton 4469, and James L. Watson 2172
Special reading in selected topics under the direction of members of the Department.
Note: Consult the appropriate member of the Department.

***Anthropology 3001. Reading for General Examination**
Catalog Number: 5689
Members of the Department
Individual reading in preparation for the General Examination for the PhD degree.
Note: Restricted to candidates for the PhD degree and ordinarily to those who have completed at least one year in residence.

***Anthropology 3100. Old World Archaeology (Europe, Asia, and Africa)**
Catalog Number: 3463
Ofer Bar-Yosef 1887, C. C. Lamberg-Karlovsky 2387, and Richard H. Meadow 1572

***Anthropology 3111. Asiatic Archaeology and Ethnography**
Catalog Number: 5398
Rowan K. Flad 5059 (on leave 2013-14) and C. C. Lamberg-Karlovsky 2387

***Anthropology 3120. Scientific Archaeology**
Catalog Number: 0284
Richard H. Meadow 1572

***Anthropology 3130. Archaeology and Ethnography of the Near and Middle East**
Catalog Number: 3787
Ofer Bar-Yosef 1887 and C. C. Lamberg-Karlovsky 2387

***Anthropology 3140. Methods and Theory in Archaeology**
Catalog Number: 5440
Members of the Department

Anthropology 3150. Law and Theory - *(New Course)
Catalog Number: 41344
Sally F. Moore 7225

Anthropology 3200. Dissertation Writing Workshop in Social Anthropology - *(New Course)
Catalog Number: 36774
Fall: Jean Comaroff 6484 and John Comaroff 6485; Spring: Michael Herzfeld 3122
Half course (fall term; repeated spring term). Fall: W., 12–2; Spring: Tu., 7–9 p.m.

***Anthropology 3300. Supervised Field Work in Anthropology**
Catalog Number: 5683
Members of the Department
General instruction in field methods and practice in the various divisions of anthropology, including archaeology, ethnography, and physical anthropology. Instructional personnel and location of course vary with the research program of the staff. Lectures, conferences, field and laboratory work.
Note: May be taken by graduate students for academic credit, but since it is tuition-free, does not count for residence credit leading to reduced tuition. Open to students with adequate previous training in the subject.

***Anthropology 3400. Reading and Research**
Catalog Number: 6699
Members of the Department
Note: Consult the appropriate member of the Department.

***Anthropology 3500. Direction of Doctoral Dissertations**
Catalog Number: 1864
Members of the Department
Note: Consult the appropriate member of the Department.

***Anthropology 3502. Thesis Writing Workshop (China dissertations)**
Catalog Number: 7300
James L. Watson 2172 and members of the Department
Half course (spring term). .

Applied Computation

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the School of Engineering and Applied Sciences Offering Instruction in Applied Computation

Ryan Prescott Adams, Assistant Professor of Computer Science
Katia Bertoldi, Assistant Professor of Applied Mechanics, Associate Professor of Applied Mechanics
William H. Bossert, David B. Arnold, Jr. Professor of Science
Michael P. Brenner, Glover Professor of Applied Mathematics and Applied Physics and Professor of Physics, Harvard College Professor, Area Dean for Applied Mathematics
David M. Brooks, Gordon McKay Professor of Computer Science *(on leave spring term)*
Cristopher R. Cecka, Lecturer on Computational Science
Yiling Chen, Associate Professor of Computer Science *(on leave fall term)*
Stephen N. Chong, Associate Professor of Computer Science
Krzysztof Z. Gajos, Associate Professor of Computer Science
Steven J. Gortler, Robert I. Goldman Professor of Computer Science
Efthimios Kaxiras, John Hasbrouck Van Vleck Professor of Pure and Applied Physics
David J. Knezevic, Lecturer on Computational Science
Edward W. Kohler, Associate Professor of Computer Science
Zhiming Kuang, Gordon McKay Professor of Atmospheric and Environmental Science
H. T. Kung, William H. Gates Professor of Computer Science and Electrical Engineering *(on leave fall term)*
Harry R. Lewis, Gordon McKay Professor of Computer Science
L. Mahadevan, Lola England de Valpine Professor of Applied Mathematics, of Organismic and Evolutionary Biology, and of Physics
Brad D. Malone, Lecturer on Computational Science
Michael D. Mitzenmacher, Thomas J. Watson, Sr. Professor of Computer Science *(on leave 2013-14)*
John G. Morrisett, Allen B. Cutting Professor of Computer Science *(on leave spring term)*
Cherry Murray, John A. and Elizabeth S. Armstrong Professor of Engineering and Applied Sciences, Professor of Physics, and Dean of the School of Engineering and Applied Sciences
Radhika Nagpal, Fred Kavli Professor of Computer Science
David C. Parkes, George F. Colony Professor of Computer Science, Harvard College Professor, Area Dean for Computer Science
Hanspeter Pfister, An Wang Professor of Computer Science
Pavlos Protopapas, Lecturer on Computational Science
Margo I. Seltzer, Herchel Smith Professor of Computer Science
Sadasivan Shankar, Distinguished Scientist in Residence at the Institute for Applied Computational Science
Stuart M. Shieber, James O. Welch, Jr. and Virginia B. Welch Professor of Computer Science *(on leave 2013-14)*
Michael D. Smith, John H. Finley, Jr. Professor of Engineering and Applied Sciences, and Dean of the Faculty of Arts and Sciences
Vahid Tarokh, Perkins Professor of Applied Mathematics and Vinton Hayes Senior Research Fellow of Electrical Engineering, Area Dean for Electrical Engineering
Eli Tziperman, Pamela and Vasco McCoy, Jr. Professor of Oceanography and Applied Physics, Area Dean Environmental Sciences & Engineering,
Salil P. Vadhan, Vicky Joseph Professor of Computer Science and Applied Mathematics
Leslie G. Valiant, T. Jefferson Coolidge Professor of Computer Science and Applied Mathematics

James H. Waldo, Gordon McKay Professor of the Practice of Computer Science
Gu-Yeon Wei, Gordon McKay Professor of Electrical Engineering and Computer Science
Daniel S. Weinstock, Lecturer in Computational Science
Woodward Yang, Gordon McKay Professor of Electrical Engineering and Computer Science

Other Faculty Offering Instruction in Applied Computation

Joseph K. Blitzstein, Professor of the Practice in Statistics

Primarily for Graduates

Applied Computation 209. Data Science - *(New Course)*
Catalog Number: 46831
Hanspeter Pfister (Computer Science) and Joseph K. Blitzstein (Statistics)
Half course (fall term). Tu., Th., 2:30–4, and a weekly section.
Learning from data in order to gain useful predictions and insights. This course introduces methods for five key facets of an investigation: data wrangling, cleaning, and sampling to get a suitable data set; data management to be able to access big data quickly and reliably; exploratory data analysis to generate hypotheses and intuition; prediction based on statistical methods such as regression and classification; and communication of results through visualization, stories, and interpretable summaries. Built around three modules: prediction and elections, recommendation and business analytics, and sampling and social network analysis.
Note: Only one of CS 109, AC 209, or Stat 121 can be taken for credit. Only admitted graduate students can take AC 209, in which case we expect significant differences in readings, assignments, and projects.
Prerequisite: Programming knowledge at the level of CS 50 or above, and statistics knowledge at the level of Stat 100 or above (Stat 110 recommended).

[Applied Computation 263. Data and Computation on the Internet]
Catalog Number: 83688
Ian Stokes-Rees
Half course (fall term). M., W., 4–5:30. EXAM GROUP: 9
This course explores the Internet as a central component of modern scientific data processing and computation. We will examine the architecture of the Internet and the models of computation and data with which it is compatible. Through readings and exercises, students will explore the trade-offs of these various models and gain an appreciation for successful Internet-oriented system design for modern, federated, data- and compute-intensive scientific research. Students will complete a team project to develop an Internet-based system for scientific data processing. Python will be used for examples.
Note: Expected to be given in 2014–15.
Prerequisite: A course in object-oriented programming (e.g. Computer Science 51) and familiarity with the Unix operating system or variants.

[Applied Computation 272 (formerly Applied Mathematics 272r). Kinetic Methods for Fluids: Theory and Applications]
Catalog Number: 27235

Instructor to be determined
Half course (spring term). W., 3–5, M., 7–9 p.m.
Systematic introduction to kinetic methods for studying fluids, based on the lattice Boltzmann equation. Emphasizes theory, including discrete dynamics and symmetry, as well as hands-on programming of basic algorithms for fluid flow simulations, paying attention to understanding of the theoretical basis and connection to real fluid physics. The course lays the foundation for further research on the method extensions, particularly in complex fluids and micro/nano-fluidics and presents specific applications in various science and engineering problems.
Prerequisite: Knowledge of basic classical physics, fluid dynamics, and numerical methods are desirable.

Applied Computation 274 (formerly Applied Mathematics 274). Computational Fluid Dynamics
Catalog Number: 70261
David J. Knezevic
Half course (spring term). Tu., Th., 10–11:30.
A theoretical and practical introduction to the key tools in computational fluid dynamics. The course will examine a range of numerical algorithms relevant to fluids modeling, analyzing the stability, convergence and accuracy of each. Students will implement an extensive range of CFD algorithms. Topics include the hyperbolic partial differential equations and conservation laws, with a focus on numerical discretization via discontinuous Galerkin finite element methods, followed by simulation of viscous incompressible fluids via the continuous Galerkin finite element method.
Prerequisite: A first course in scientific computing, e.g. Applied Mathematics 111 or 205, and knowledge of computer programming.

Applied Computation 275 (formerly Applied Mathematics 275). Computational Design of Materials
Catalog Number: 18739
Brad Malone and Sadasivan Shankar
Half course (fall term). M., W., 2:30–4.
This course will provide the background and an extensive set of examples showing how computational methods are applied to modern design of materials with desired functionality. The methods will span multiple length and time scales, including molecular dynamics simulations, first-principles approaches, stochastic methods for optimization and sampling, and continuum elasticity theory. Examples will include problems in electronic and photonic devices, materials for energy conversion, storage, and environmental protection, and those related to mechanical strength of materials.
Prerequisite: Undergraduate coursework in quantum mechanics, solid state physics, thermodynamics and statistical mechanics is recommended. Knowledge of physical chemistry and solid mechanics is required.

Applied Computation 298r. Interdisciplinary Seminar in Computational Science & Engineering
Catalog Number: 46142
Daniel Weinstock

Half course (spring term). F., 12–3. EXAM GROUP: 5, 6, 7
This course, centered on the Institute for Applied Computation Science (IACS) seminar series, will provide broad exposure to cutting-edge topics, applications, and unifying concepts in Computational Science & Engineering. Students will read, present and discuss journal articles related to IACS talks, attend the seminars and meet with visiting speakers. Possible topics to be covered include scientific visualization, computational approaches to disease, mathematical neuroscience, computational archeology, and computational finance.

Applied Computation 299r. Special Topics in Applied Computation - *(New Course)*
Catalog Number: 93975
Pavlos Protopapas
Half course (fall term; repeated spring term). Hours to be arranged.
Supervision of experimental or theoretical research on acceptable applied computation problems and supervision of reading on topics not covered by regular courses of instruction.
Note: Open to graduate students and AB/SM candidates only. This course is graded and is ordinarily taken with the approval of the Committee on Higher Degrees. Applicants must file a project sheet before study cards are filed. Project sheets may be obtained from the Student Affairs Office, Pierce Hall 110.

Applied Mathematics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the School of Engineering and Applied Sciences Offering Instruction in Applied Mathematics

Karen Alim, Lecturer on Applied Mathematics
William H. Bossert, David B. Arnold, Jr. Professor of Science
Michael P. Brenner, Glover Professor of Applied Mathematics and Applied Physics and Professor of Physics, Harvard College Professor, Area Dean for Applied Mathematics *(Co-Director of Undergraduates Studies in Applied Mathematics)*
Beth Chen, Lecturer on Applied Mathematics
Yiling Chen, Associate Professor of Computer Science *(on leave fall term)*
Robert D. Howe, Abbott and James Lawrence Professor of Engineering, Area Dean for Bioengineering
Evelyn Hu, Tarr-Coyne Professor of Applied Physics and of Electrical Engineering
David J. Knezevic, Lecturer on Computational Science

Margo S. Levine, Lecturer on Applied Mathematics *(Assistant Director of Undergraduates Studies in Applied Mathematics)*
L. Mahadevan, Lola England de Valpine Professor of Applied Mathematics, of Organismic and Evolutionary Biology, and of Physics
Cherry Murray, John A. and Elizabeth S. Armstrong Professor of Engineering and Applied Sciences, Professor of Physics, and Dean of the School of Engineering and Applied Sciences
Pavlos Protopapas, Lecturer on Computational Science
Sharad Ramanathan, Professor of Molecular and Cellular Biology and Gordon McKay Professor of Applied Physics
James R. Rice, Mallinckrodt Professor of Engineering Sciences and Geophysics
Christopher Rycroft, Assistant Professor of Applied Math
Mauricio Santillana, Lecturer on Applied Mathematics
Avi M. Shapiro, Preceptor in Applied Mathematics
Yaron Singer, Assistant Professor of Computer Science
Jenny Suckale, Lecturer on Applied Mathematics
Vahid Tarokh, Perkins Professor of Applied Mathematics and Vinton Hayes Senior Research Fellow of Electrical Engineering, Area Dean for Electrical Engineering
Evelina Tsoncheva, Lecturer on Applied Mathematics
Eli Tziperman, Pamela and Vasco McCoy, Jr. Professor of Oceanography and Applied Physics, Area Dean Environmental Sciences & Engineering,
Salil P. Vadhan, Vicky Joseph Professor of Computer Science and Applied Mathematics *(Co-Director of Undergraduates Studies in Applied Mathematics)*
Leslie G. Valiant, T. Jefferson Coolidge Professor of Computer Science and Applied Mathematics

Other Faculty Offering Instruction in Applied Mathematics

Donald G. M. Anderson, Gordon McKay Professor of Applied Mathematics, Emeritus
Roger W. Brockett, An Wang Professor of Electrical Engineering and Computer Science, Emeritus
Michael Manish Desai, Assistant Professor of Organismic and Evolutionary Biology and of Physics
Navin Khaneja, Gordon McKay Professor of Electrical Engineering *(on leave 2013-14)*

The School of Engineering and Applied Sciences *(www.seas.harvard.edu)* offers undergraduate and graduate courses in Applied Mathematics, Applied Physics, Computer Science, Earth and Planetary Sciences, and Engineering Sciences. Engineering and Applied Sciences faculty also offer several courses in the section entitled Freshman Seminars, Extra-Departmental Courses, and House Seminars.

For information concerning the concentration in Applied Mathematics, please consult the Director of Undergraduate Studies or the Office of Student Affairs, School of Engineering and Applied Sciences, Pierce Hall 110. Many additional courses of interest to applied mathematicians can be found in the Computer Science, Engineering Sciences, Mathematics, and Statistics sections of the catalog.

Primarily for Undergraduates

Applied Mathematics 21a. Mathematical Methods in the Sciences
Catalog Number: 6395
Evelyn Hu and Margo S. Levine
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
Complex numbers. Multivariate calculus: partial differentiation, directional derivatives, techniques of integration and multiple integration. Vectors: dot and cross products, parameterized curves, line and surface integrals. Vector calculus: gradient, divergence and curl, Green's, Stokes' and Gauss' theorems, including orthogonal curvilinear coordinates. Applications in electrical and mechanical engineering.
Note: May not be taken for credit by students who have passed Mathematics 21a. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: Mathematics 1b or equivalent.

Applied Mathematics 21b. Mathematical Methods in the Sciences
Catalog Number: 5074
Margo S. Levine
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Linear algebra: matrices, determinants, eigenvalues, eigenvectors, Markov processes. Optimization and least-squares analysis. Ordinary differential equations. Infinite series and Fourier series. Orthogonality and completeness. Introduction to partial differential equations. Applications in electrical and mechanical engineering.
Note: May not be taken for credit by students who have passed Mathematics 21b. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: Applied Mathematics 21a or equivalent.

Applied Mathematics 50. Introduction to Applied Mathematics
Catalog Number: 9344
Christopher Rycroft and Avi M. Shapiro
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Introduction to the problems and issues of applied mathematics. This will be accomplished both through the reading of papers that use mathematical arguments to have substantial impact on some field of human activity, as well as guest lecturers from around Harvard to discuss how mathematics is used in their field.

***Applied Mathematics 91r. Supervised Reading and Research**
Catalog Number: 7607
Margo S. Levine
Half course (fall term; repeated spring term). Hours to be arranged.
An individual project of guided reading and research culminating in a substantial paper or other piece of work which can be meaningfully evaluated to assign a letter grade; may not be taken on a PA/FL basis. Students engaged in preparation of a senior thesis ordinarily should take Applied Mathematics 99r instead.

Note: May be taken as a half course in either term; normally may not be taken for more than two terms. Applications may be obtained at Pierce Hall 110. Students should consult their advisers and concentration literature for further information and guidance. Applications must be signed by the student, by the faculty member supervising the project (who will recommend the grade), and by the Director of Undergraduate Studies, who will sign the student's study card once the project and its method of evaluation have been approved.

***Applied Mathematics 99r. Thesis Research**
Catalog Number: 4648
Margo S. Levine
Half course (fall term; repeated spring term). Hours to be arranged.
Provides an opportunity for students to engage in preparatory research and the writing of a senior thesis. Graded on a SAT/UNS basis as recommended by the thesis supervisor. The thesis is evaluated by the supervisor and by two additional readers.
Note: May be taken as a half course in either term; normally may not be taken for more than two terms. The Director of Undergraduate Studies will sign the student's study card once a faculty member has agreed in writing to supervise preparation of the thesis, and reaffirmed this agreement if the course is to be repeated. Applications may be obtained at Pierce Hall 110. Students should consult their advisers and concentration literature for further information and guidance.

For Undergraduates and Graduates

Applied Mathematics 101. Statistical Inference for Scientists and Engineers
Catalog Number: 3350
Robert D. Howe
Half course (fall term). M., W., 11–12:30. EXAM GROUP: 4, 5
Introductory statistical methods for students in the applied sciences and engineering. Random variables and probability distributions; the concept of random sampling, including random samples, statistics, and sampling distributions; the Central Limit Theorem and its role in statistical inference; parameter estimation, including point estimation and maximum likelihood methods; confidence intervals; hypothesis testing; simple linear regression; and multiple linear regression. Introduction to more advanced techniques as time permits.
Note: May not be taken in addition to Engineering Sciences 101. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: Applied Mathematics 21b or Mathematics 21b or equivalent.

Applied Mathematics 104 (formerly Applied Mathematics 105a). Series Expansions and Complex Analysis
Catalog Number: 7732
Evelina Tsoncheva
Half course (fall term). M., W., F., at 1. EXAM GROUP: 6
Introduces fundamental concepts for solving real-world problems and emphasizes their applications through examples from the physical and social sciences. Topics: series expansions and their convergence; complex functions, mappings, differentiation, integration, residues,

Taylor and McLaurin expansions; wave (Fourier) and wavelet expansions and transformations, and their uses in signal and image analysis and solving differential equations.
Prerequisite: Applied Mathematics 21a and 21b, or Mathematics 21a and 21b.

Applied Mathematics 105 (formerly Applied Mathematics 105b). Ordinary and Partial Differential Equations
Catalog Number: 6316
Michael P. Brenner and Karen Alim
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Ordinary differential equations: power series solutions; special functions; eigenfunction expansions. Review of vector calculus. Elementary partial differential equations: separation of variables and series solutions; diffusion, wave and Laplace equations. Brief introduction to nonlinear dynamical systems and to numerical methods.
Prerequisite: Applied Mathematics 21a and 21b, or Mathematics 21a and 21b.

Applied Mathematics 106. Applied Algebra
Catalog Number: 3871
Vahid Tarokh
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
Introduction to abstract algebra and its applications. Sets, subsets, and partitions; mappings, operations, and equivalence relations; groups, rings, and fields, polynomials, encryption, computer coding, application of modular arithmetic, combinatorial designs, lattices, application of trellis representation of lattices, fast algorithms.
Prerequisite: Applied Mathematics 21a and 21b, or Mathematics 21a and 21b.

Applied Mathematics 107. Graph Theory and Combinatorics
Catalog Number: 6411
Leslie G. Valiant
Half course (spring term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
Topics in combinatorial mathematics that find frequent application in computer science, engineering, and general applied mathematics. Specific topics taken from graph theory, enumeration techniques, optimization theory, combinatorial algorithms, and discrete probability.

Applied Mathematics 111. Introduction to Scientific Computing
Catalog Number: 7000
Mauricio Santillana
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Many complex physical problems defy simple analytical solutions or even accurate analytical approximations. Scientific computing can address certain of these problems successfully, providing unique insight. This course introduces some of the widely used techniques in scientific computing through examples chosen from physics, chemistry, and biology. The purpose of the course is to introduce methods that are useful in applications and research and to give the students hands-on experience with these methods.
Prerequisite: Applied Mathematics 21a and 21b, or Mathematics 21a and 21b, or permission of instructor.

Applied Mathematics 115. Mathematical Modeling
Catalog Number: 1768
William H. Bossert
Half course (fall term). M., W., 11–12:30. EXAM GROUP: 4, 5
Abstracting the essential components and mechanisms from a natural system to produce a mathematical model, which can be analyzed with a variety of formal mathematical methods, is perhaps the most important, but least understood, task in applied mathematics. This course approaches a number of problems without the prejudice of trying to apply a particular method of solution. Topics drawn from biology, economics, engineering, physical and social sciences.
Prerequisite: Mathematics at least at the level of Applied Mathematics 21a, b but preferably at the level of Applied Mathematics 105 (formerly Applied Mathematics 105b). Additional skills in analysis, algebra, probability, statistics and computer programming will increase the value of the course to students.

Applied Mathematics 120. Applicable Linear Algebra
Catalog Number: 4378
Avi M. Shapiro
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
An algorithmic approach to topics in matrix theory which arise frequently in applied mathematics: linear equations, pseudoinverses, quadratic forms, eigenvalues and singular values, linear inequalities and optimization, linear differential and difference equations.
Prerequisite: Applied Mathematics 21b, or Mathematics 21b, or equivalent.

Applied Mathematics 121. Introduction to Optimization: Models and Methods
Catalog Number: 3187 Enrollment: Limited to 60.
Yiling Chen
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Introduction to basic mathematical ideas and computational methods for solving deterministic and stochastic optimization problems. Topics covered: linear programming, integer programming, branch-and-bound, branch-and-cut, Markov chains, Markov decision processes. Emphasis on modeling. Examples from business, society, engineering, sports, e-commerce. Exercises in AMPL, complemented by Maple or Matlab.
Note: May not be taken in addition to Engineering Sciences 102.
Prerequisite: Applied Mathematics 21b or Mathematics 21b (linear algebra) and some knowledge of probability and statistics at the level of Statistics 110 or Applied Mathematics 101 or permission of instructor.

Applied Mathematics 126. Statistics and Inference in Biology - *(New Course)*
Catalog Number: 89788
Sharad Ramanathan and Michael Manish Desai
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
We often deal with incomplete information when going about our lives: recognizing a friend's face covered by a shadow, having a phone conversation where the reception is poor, reading a document with lots of spelling and grammatical errors. In such circumstances, we make good guesses to process and understand the data. How do we do this? What kind of mathematical framework do we need to interpret noisy and incomplete data? This course will develop a set of

statistical tools that will help us solve such poorly posed problems. We will draw on examples from primary literature in biology to study optical illusions, text recognition, sequence alignment, decoding cryptographs, processing of chemo-attractive signals to find food, and survival strategies of bacteria in unpredictable environments to motivate the underlying mathematical framework.
Prerequisite: Mathematics 19a/b or Mathematics 21a/b.

Applied Mathematics 140r. Computational Geometry - *(New Course)*
Catalog Number: 30645
Beth Chen
Half course (fall term). Section 1: M., W., F., 1–3; Section 2: M., W., F., 2–4.
An inquiry based and hands on exploration in computational geometry. Topics include: projective geometry (duality between points/lines, symmetry among spheric/planar/hyperbolic geometry), linear algebra (vectors, matrices, symmetry groups) and recursion. We will draw pretty pictures (fractals, tesselations, algebraic curves, etc). We will write computer programs in Mathematica (and possibly Java, if time permits).
Note: If you have conflicts with another class, but you're interested, please email Beth Chen (bethchen@seas.harvard.edu) or Fiona Wood (fwood@college.harvard.edu) to make arrangements. Grading based on final project, inclass assignments, inclass participation. No written exams, no written homework outside class. You will present your finished programs and pretty pictures to the class.
Prerequisite: Applied Mathematics 21a/b or Mathematics 21a/b. You know how to multiply matrices and vectors. No previous programming experience required.

Applied Mathematics 141r. Computational Music Theory - *(New Course)
Catalog Number: 46959 Enrollment: Limited to 24.
Beth Chen and Evelina Tsoncheva
Half course (spring term). Section 1: M., W., 1–2:30, F., 1–4; Section 2: M., W., 2:30–4, F., 1–4,. EXAM GROUP: 6, 7
An inquiry based and hands on exploration in computational music theory, combining mathematics, computer programming and aesthetics. Math topics: vector space model of music theory, binary tree model of scale theory. Programming in *Mathematica:* converting between notes and numbers, output to music notation, input from audio. Aesthetics: build your own musical instruments, invent your own music notation, compose pieces. You need to bring your laptop to class every day. Be sure to install & register *Mathematica* before the first class. Generally, we will program on Mondays and Wednesdays, and build/test instruments on Fridays. Grading based on final project, in-class assignments, in-class participation. No written exams or written homework outside class. You will present your finished programs, instruments and beautiful music to the class.
Prerequisite: Applied Mathematics 21a/b or Mathematics 21a/b or equivalent. No previous programming experience required.

Applied Mathematics 147. Nonlinear Dynamical Systems
Catalog Number: 7708
Avi M. Shapiro
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14

An introduction to nonlinear dynamical phenomena, covering the behavior of systems described by ordinary differential equations. Topics include: stability; bifurcations; chaos; routes to chaos and universality; approximations by maps; strange attractors; fractals. Techniques for analyzing nonlinear systems are introduced with applications to physical, chemical, and biological systems such as forced oscillators, chaotic reactions, and population dynamics.
Prerequisite: Mathematics 21a and 21b, or Applied Mathematics 21a and 21b.

Cross-listed Courses

Earth and Planetary Sciences 100. The Missing Matlab Course: An Introduction to Programming and Data Analysis
MCB 111. Mathematics in Biology
[MCB 131. Computational Neuroscience]
[MCB 198. Advanced Mathematical Techniques for Modern Biology]

Primarily for Graduates

Applied Mathematics 201. Physical Mathematics I
Catalog Number: 3241
James R. Rice and Avi M. Shapiro
Half course (fall term). M., W., F., 1–2:30. EXAM GROUP: 6, 7
Introduction to methods for developing accurate approximate solutions for problems in the sciences that cannot be solved exactly, and integration with numerical methods and solutions. Topics include: approximate solution of integrals, algebraic equations, nonlinear ordinary differential equations and their stochastic counterparts, and partial differential equations. Introduction to "sophisticated" uses of MATLAB.
Prerequisite: Applied Mathematics 104 (formerly Applied Mathematics 105a), Applied Mathematics 105 (formerly Applied Mathematics 105b) or equivalent.

Applied Mathematics 202. Physical Mathematics II
Catalog Number: 6559
Eli Tziperman
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
Theory and techniques for finding exact and approximate analytical solutions of partial differential equations: eigenfunction expansions, Green functions, variational calculus, transform techniques, perturbation methods, characteristics, integral equations, selected nonlinear PDEs including pattern formation and solitons, introduction to numerical methods.
Note: Applied Mathematics 201 and Applied Mathematics 202 are independent of each other and may be taken at any order.
Prerequisite: Applied Mathematics 105 or equivalent. Also useful: Applied Mathematics 104 or equivalent.

Applied Mathematics 205. Advanced Scientific Computing: Numerical Methods
Catalog Number: 1370
David J. Knezevic
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13

An examination of the mathematical foundations of a range of well-established numerical algorithms, exploring their use through practical examples drawn from a range of scientific and engineering disciplines. Emphasizes theory and numerical analysis to elucidate the concepts that underpin each algorithm. There will be a significant programming component. Students will be expected to implement in Matlab a range of numerical methods through individual and group-based project work to get hands-on experience with modern scientific computing.
Prerequisite: Familiarity with linear algebra and calculus; basic programming knowledge at the Computer Science 50 level.

Applied Mathematics 206. Advanced Applied Algebra
Catalog Number: 6018
Vahid Tarokh
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
Sets, subsets, and partitions; mappings, operations, and equivalence relations; groups, rings, and fields, polynomials, encryption, computer coding, application of modular arithmetic, combinatorial designs, lattices, application of trellis representation of lattices, fast algorithms; selected readings.
Note: Meets with Applied Mathematics 106. Students enrolled in Applied Mathematics 206 will be assigned additional readings.

Applied Mathematics 207 (formerly Applied Mathematics 205b). Advanced Scientific Computing: Stochastic Optimization Methods
Catalog Number: 78757
Pavlos Protopapas
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Develops skills for computational research with focus on stochastic approaches, emphasizing implementation and examples. Stochastic methods make it feasible to tackle very diverse problems when the solution space is too large to explore systematically, or when microscopic rules are known, but not the macroscopic behavior of a complex system. Methods will be illustrated with examples from a wide variety of fields, ranging from simulating the immune system to strategies for investing in financial markets.
Prerequisite: Basic knowledge of a computer programming language (such as C or/and Python).

[*Applied Mathematics 215. Fundamentals of Biological Signal Processing]
Catalog Number: 23661 Enrollment: Limited to 20.
Instructor to be determined
Half course (spring term). Tu., Th., 10–11:30.
The course will introduce Bayesian analysis, maximum entropy principles, hidden markov models and pattern theory. These concepts will be used to understand information processing in biology. The relevant biological background will be covered in depth.
Note: Expected to be given in 2014–15.
Prerequisite: A strong background in Calculus, Linear Algebra, Fourier Analysis, complex analysis at the advanced undergraduate level and an introductory knowledge of probability theory is required. Knowledge of Statistical Mechanics and comfort with programming will be useful.

Applied Mathematics 221. Advanced Optimization
Catalog Number: 84323
Yaron Singer
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
This is a graduate level course on optimization which provides a foundation for applications such as statistical machine learning, signal processing, finance, and approximation algorithms. The course will cover fundamental concepts in optimization theory, modeling, and algorithmic techniques for solving large-scale optimization problems. Topics include elements of convex analysis, linear programming, Lagrangian duality, optimality conditions, and discrete and combinatorial optimization. Exercises and the class project will involve developing and implementing optimization algorithms.
Note: Offered jointly with the Business School as 4460.
Prerequisite: Applied Mathematics 21b or Mathematics 21b (linear algebra) and Applied Mathematics 121 or equivalent or permission of instructor. Comfort with programming.

[Applied Mathematics 222. Stochastic Modeling]
Catalog Number: 78317
Douglas Stephen Fearing (Business School)
Half course (spring term). Tu., Th., 4:15–5:45. EXAM GROUP: 18
The course covers the modeling, analysis, and control of stochastic systems. Topics include a review of probability fundamentals, Markov chains, Markov decision processes and dynamic programming, Poisson processes, queuing theory, and optimization under uncertainty. Applications will be presented in production planning, inventory management, service systems, and sports. The goal of the course is to introduce archetypical problems in each area as well as foundational theoretical results. Coming out of this course, students should be well-positioned to take further graduate courses on any of the areas covered.
Note: Expected to be given in 2014–15. Offered jointly with the Business School as 4465.
Prerequisite: Applied Mathematics 121.

Applied Mathematics 299r. Special Topics in Applied Mathematics
Catalog Number: 5798
Michael P. Brenner
Half course (fall term; repeated spring term). Hours to be arranged.
Supervision of experimental or theoretical research on acceptable applied mathematics problems and supervision of reading on topics not covered by regular courses of instruction.
Note: Open to graduate students and AB/SM candidates only. Students must arrange such work with a member of the School of Engineering and Applied Sciences. This course is graded and is ordinarily taken with the approval of the Committee on Higher Degrees. Applicants must file a project sheet before study cards are filed. Project sheets may be obtained from the Student Affairs Office, Pierce Hall 110.

Cross-listed Courses

[Applied Computation 272 (formerly Applied Mathematics 272r). Kinetic Methods for Fluids: Theory and Applications]
Applied Computation 274 (formerly Applied Mathematics 274). Computational Fluid

Dynamics
Applied Computation 275 (formerly Applied Mathematics 275). Computational Design of Materials
***Computer Science 365. SEAS Teaching Practicum**

Graduate Courses of Reading and Research

Reading courses are odd-numbered; research courses are even-numbered.

***Applied Mathematics 311,312. Numerical Mathematics: Analysis, Synthesis and Computation**
Catalog Number: 7333,6118
Donald G. M. Anderson 1061

***Applied Mathematics 315,316. Stochastic Processes, Dynamical Systems, Applied Differential Geometry**
Catalog Number: 2458,2459
Roger W. Brockett 3001

***Applied Mathematics 317,318. Special Topics in Physical Mathematics**
Catalog Number: 9160,2166
Michael P. Brenner 4101

***Applied Mathematics 319,320. Topics in Macroscopic Physics and Quantitative Biology**
Catalog Number: 2084,4567
L. Mahadevan 4758

***Applied Mathematics 321,322. Biological Applications of Mathematics and Automatic Computers**
Catalog Number: 7615,4243
William H. Bossert 1049

***Applied Mathematics 331,332. Theoretical Mechanics in the Earth and Engineering Sciences**
Catalog Number: 0112,0251
James R. Rice 7270

***Applied Mathematics 341,342. Applied Probability and Statistical Inference, Classical and Quantum Information Theory**
Catalog Number: 0970,6033
Navin Khaneja 4192 (on leave 2013-14)

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Applied Physics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the School of Engineering and Applied Sciences Offering Instruction in Applied Physics

Joanna Aizenberg, Amy Smith Berylson Professor of Materials Science
Michael J. Aziz, Gene and Tracy Sykes Professor of Materials and Energy Technologies
David C. Bell, Gordon McKay Professor of the Practice of Electron Microscopy
Michael P. Brenner, Glover Professor of Applied Mathematics and Applied Physics and Professor of Physics, Harvard College Professor, Area Dean for Applied Mathematics
Federico Capasso, Robert L. Wallace Professor of Applied Physics and Vinton Hayes Senior Research Fellow in Electrical Engineering
David R. Clarke, Extended Tarr Family Professor of Materials
Philippe Cluzel, Professor of Molecular and Cellular Biology and Gordon McKay Professor of Applied Physics
Kenneth B. Crozier, Associate Professor of Electrical Engineering on the Gordon McKay Endowment
Cynthia M. Friend, Theodore William Richards Professor of Chemistry and Professor of Materials Science
Jene A. Golovchenko, Rumford Professor of Physics and Gordon McKay Professor of Applied Physics
Fawwaz Habbal, Senior Lecturer on Applied Physics
Donhee Ham, Gordon McKay Professor of Electrical Engineering and Applied Physics
Lene V. Hau, Mallinckrodt Professor of Physics and of Applied Physics
Evelyn Hu, Tarr-Coyne Professor of Applied Physics and of Electrical Engineering
Efthimios Kaxiras, John Hasbrouck Van Vleck Professor of Pure and Applied Physics
David Keith, Gordon McKay Professor of Applied Physics
Carolann Koleci, Preceptor in Applied Physics
Charles M. Lieber, Mark Hyman, Jr. Professor of Chemistry
Marko Loncar, Tiantsai Lin Professor of Electrical Engineering
Vinothan N. Manoharan, Gordon McKay Professor of Chemical Engineering and Professor of Physics *(on leave 2013-14)*
Eric Mazur, Balkanski Professor of Physics and Applied Physics, Area Dean for Applied Physics
Ian D. Morrison, Lecturer on Applied Physics
Cherry Murray, John A. and Elizabeth S. Armstrong Professor of Engineering and Applied Sciences, Professor of Physics, and Dean of the School of Engineering and Applied Sciences
Venkatesh Narayanamurti, Benjamin Peirce Professor of Technology and Public Policy *(on leave fall term)*
Daniel Joseph Needleman, Associate Professor of Applied Physics and of Molecular and Cellular Biology

David R. Nelson, Arthur K. Solomon Professor of Biophysics and Professor of Physics and Applied Physics *(on leave fall term)*
Kevin K. Parker, Tarr Family Professor of Bioengineering and Applied Physics *(on leave spring term)*
Peter S. Pershan, Frank B. Baird, Jr. Professor of Science *(on leave fall term)*
Sharad Ramanathan, Professor of Molecular and Cellular Biology and Gordon McKay Professor of Applied Physics
Shriram Ramanathan, Associate Professor of Materials Science
James R. Rice, Mallinckrodt Professor of Engineering Sciences and Geophysics
Frans A. Spaepen, John C. and Helen F. Franklin Professor of Applied Physics
Eli Tziperman, Pamela and Vasco McCoy, Jr. Professor of Oceanography and Applied Physics, Area Dean Environmental Sciences & Engineering,
David A. Weitz, Mallinckrodt Professor of Physics and of Applied Physics
Robert M. Westervelt, Mallinckrodt Professor of Applied Physics and of Physics
Tai T. Wu, Gordon McKay Professor of Applied Physics and Professor of Physics
Amir Yacoby, Professor of Physics and of Applied Physics

Other Faculty Offering Instruction in Applied Physics

Zhiming Kuang, Gordon McKay Professor of Atmospheric and Environmental Science
Christopher Joseph Lombardo, Lecturer on Engineering Sciences
Paul C. Martin, John Hasbrouck Van Vleck Professor of Pure and Applied Physics, Emeritus
Shmuel Rubinstein, Assistant Professor of Applied Physics
Patrick Thaddeus, Robert Wheeler Willson Professor of Applied Astronomy, Emeritus

The School of Engineering and Applied Sciences *(www.seas.harvard.edu)* offers undergraduate and graduate courses in Applied Mathematics, Applied Physics, Computer Science, Earth and Planetary Sciences, and Engineering Sciences. Engineering and Applied Sciences faculty also offer several courses in the section entitled Freshman Seminars, Extra-Departmental Courses, and House Seminars.

Primarily for Undergraduates

***Applied Physics 50a. Physics as a Foundation for Science and Engineering, Part I**
Catalog Number: 77155 Enrollment: Limited to 50.
Eric Mazur and Carolann Koleci
Half course (fall term). Tu., Th., 10–1. EXAM GROUP: 12, 13, 14
AP 50a is the first half of a one-year, team-based and project-based introduction to physics. This course teaches students to develop scientific reasoning and problem-solving skills. AP50a topics include: kinematics; linear and rotational motion; relativity; conservation of momentum and energy; forces; gravitation; and oscillations and waves. Multivariable and vector calculus is introduced and used extensively in the course. Students work in teams on three-month long projects, each culminating in a project fair. The twice-weekly class periods are all inclusive: there are no separate labs or discussion sections.
Note: AP50a satisfies the premedical requirements and is equivalent in content and rigor to a standard introductory physics course for scientists and engineers (Physical Sciences 2, Physical

Sciences 12a, Physics 15a), but focuses on the application of physics to real-world problems. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe.
Prerequisite: Mathematics preparation at least at the level of Mathematics 1b concurrently is required. However, some elementary ideas from multivariable calculus are used and students are encouraged to take Applied Mathematics 21a or Mathematics 21a concurrently. The mathematics content of Applied Physics 50a will be coordinated with Applied Mathematics 21a. This course can be taken concurrently with AM 21a to meet the calculus prerequisite. This course can be taken concurrently with AM 21a to meet the calculus prerequisite.

***Applied Physics 50b. Physics as a Foundation for Science and Engineering, Part II**
Catalog Number: 92262 Enrollment: Limited to 50.
Eric Mazur and Carolann Koleci
Half course (spring term). Tu., Th., 10–1. EXAM GROUP: 12, 13, 14
AP 50b is the second half of a one-year, team-based and project-based introduction to physics. This course teaches students to develop scientific reasoning and problem-solving skills. AP50b topics include: electrostatics; electric currents; magnetostatics; electromagnetic induction; Maxwell's Equations; electromagnetic radiation; geometric optics; and, wave optics. Multivariable and vector calculus is introduced and used extensively in the course. Students work in teams on three-month long projects, each culminating in a project fair. The twice-weekly class periods are all inclusive: there are no separate labs or discussion sections.
Note: AP50b satisfies the premedical requirements and is equivalent in content and rigor to a standard introductory physics course for scientists and engineers (Physical Sciences 3, Physical Sciences 12b, Physics 15b), but focuses on the application of physics to real-world problems. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe.
Prerequisite: A solid knowledge of multivariable calculus at the level of Applied Math 21a or Math 21a is required. Mathematics 21a can be taken concurrently.

For Undergraduates and Graduates

Applied Physics 195. Introduction to Solid State Physics
Catalog Number: 1842
Federico Capasso
Half course (fall term). W., F., 1–2:30. EXAM GROUP: 6, 7
Free electron Fermi gas. Crystals. Band structure. Metals, insulators, semiconductors. Phonons; thermal properties. Electron transport. PN junctions. Heterojunctions. Low dimensional systems. Transistors. Optical properties of solids. Optoelectronic devices. Magnetism. Spintronics. Superconductivity.
Note: Designed as a first course in solid state physics for students with knowledge of elementary quantum mechanics, for example, Physics 143a. Some knowledge of statistical physics is also helpful, but not a formal prerequisite. Students who propose to take Applied Physics 295a in the spring term, and who have not previously taken a formal course in solid state physics, are strongly advised to take this course first.

Cross-Listed Courses

Applied Mathematics 147. Nonlinear Dynamical Systems
Earth and Planetary Sciences 131. Introduction to Physical Oceanography and Climate
Physics 129. Energy Science

Primarily for Graduates

Additional courses of interest to graduate students in Applied Physics include: Applied Mathematics 203, Engineering Sciences 220, 225r, 240, 241, 242r, 246, 247, and 274.

Applied Physics 216. Electromagnetic Interactions with Matter
Catalog Number: 4691
Jene A. Golovchenko
Half course (spring term). W., F., 10:30–12. EXAM GROUP: 3, 4
This course will focus on how electromagnetic fields and matter interact. Deterministic, statistical, classical, and quantum mechanical considerations will be covered. The course will be useful for experimental and applied physics students in atomic, solid state, optical, chemical, and biophysics.
Note: Offered in alternate years.
Prerequisite: An advanced undergraduate course at the level of Physics 153 is required.

[Applied Physics 217. Applications of Modern Optics]
Catalog Number: 6965
Vinothan N. Manoharan
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Optical systems and lasers have recently revolutionized both technology and basic research. We cover simple models of light-matter interactions, Fourier optics and holography, light scattering, and optics in biology: single-molecule studies, optical coherence tomography, nonlinear imaging techniques.
Note: Expected to be given in 2014–15.
Prerequisite: An undergraduate course in electromagnetism and quantum mechanics.

Applied Physics 218. Electrical, Optical, and Magnetic Properties of Materials
Catalog Number: 9804
Shriram Ramanathan
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Classical and quantum description of electrical, optical and magnetic properties, and their fundamental physical origins; experimental techniques. Properties of compositionally complex materials such as ceramics. Structure-property relations. Applications in semiconductor, information storage, and energy industries.
Prerequisite: Introductory solid-state physics or equivalent course.

Applied Physics 225. Introduction to Soft Matter
Catalog Number: 5298
David A. Weitz, Ian D. Morrison, and Shmuel Rubinstein
Half course (fall term). M., W., 2:30–4. EXAM GROUP: 7, 8

Introduction to the physics of soft matter, also called complex fluids or squishy physics, includes the study of capillarity, thin films, polymers, polymer solutions, surfactants, and colloids,. Emphasis is on physical principles which scale bulk behavior. Students will understand the concepts, experimental techniques, and, especially, the open questions. Lecture notes are supplied in place of a textbook.
Prerequisite: Knowledge of basic thermodynamics, statistical mechanics and differential equations.

[Applied Physics 226. Introduction to Soft Matter - Capillarity and Wetting]
Catalog Number: 5796
Instructor to be determined
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
Consider phenomena strongly influenced by surface tensions, high curvatures, thin films, diffusion, adsorption, wetting, which are variously mobile, dynamic, polymeric, transient, and fragile. Emphasis on the physics, thermodynamics, rheological, and scaling laws that govern bulk behavior.
Note: Expected to be given in 2014–15. Offered in alternate years.
Prerequisite: Knowledge of thermodynamics and basic statistical mechanics and some familiarity with phase diagrams and differential equations.

[Applied Physics 235. Chemistry in Materials Science and Engineering]
Catalog Number: 5081
Joanna Aizenberg
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Select topics in materials chemistry, focusing on chemical bonds, crystal chemistry, organic and polymeric materials, hybrid materials, surfaces and interfaces, self-assembly, electrochemistry, biomaterials, and bio-inspired materials synthesis.
Note: Expected to be given in 2014–15.
Prerequisite: Introductory thermodynamics, chemistry or equivalent.

***Applied Physics 275. Photovoltaic Devices**
Catalog Number: 76133 Enrollment: 20 students, upper level undergraduates, and graduate students.
Christopher Lombardo
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
The course will provide an overview of the solid state device physics and p-n junction operation necessary to understand the operation. Several different solar architectures will be discussed including crystalline and amorphous silicon, multijunction, CdTe, CIGS, organic, dye sensitized as well as additional related topics light management, building integrated devices, and policy and economic issues relating to adoption.
Note: Applied Physics 275 is also offered as Engineering Sciences 175. Students may not take both for credit.
Prerequisite: Engineering Sciences 173 or equivalent, or permission from instructor.

Applied Physics 282. Solids: Structure and Defects
Catalog Number: 5737

Frans A. Spaepen
Half course (fall term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
Bonding, crystallography, diffraction, phase diagrams, microstructure, point defects, dislocations, and grain boundaries.
Note: Intended for students in applied mechanics, materials science, condensed matter physics, and chemistry.

[Applied Physics 284. Statistical Thermodynamics]
Catalog Number: 2257
Instructor to be determined
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
Basic principles of statistical physics and thermodynamics, with applications including: the equilibrium properties of classical and quantum gases, phase transitions and critical phenomena, as illustrated by the liquid-gas transition and simple magnetic models. Our treatment will include Bose-Einstein condensation and degenerate Fermi gases.
Note: Expected to be given in 2014–15. Students may wish to take Physics 262 when this course is bracketed.
Prerequisite: Ordinarily, Physics 143a, b, and Physics 181 or Engineering Sciences 181.

Applied Physics 291. Electron Microscopy Laboratory
Catalog Number: 1761 Enrollment: Limited to 16.
David C. Bell
Half course (spring term). M., 2-3:30, and a three-hour laboratory session to be arranged. EXAM GROUP: 7, 8
Lectures and laboratory instruction on transmission electron microscopy(TEM) and Cs corrected, aberration-correction microscopy and microanalysis. Lab classes include; diffraction, dark field imaging, X-ray spectroscopy, electron energy-loss spectroscopy, atomic imaging, materials sample preparation, polymers, and biological samples.
Note: Primarily for graduate students planning to use TEM for their research.

Applied Physics 292. Kinetics of Condensed Phase Processes
Catalog Number: 3733
Frans A. Spaepen
Half course (spring term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
Kinetic principles underlying atomic motions, transformations, and other atomic transport processes in condensed phases. Application to atomic diffusion, continuous phase transformations, nucleation, growth, coarsening and mechanisms of plastic deformation.
Note: Will not be offered in 2014-15. Offered in alternate years.
Prerequisite: An undergraduate-level course in thermodynamics.

Applied Physics 293 (formerly Deformation of Solids). Dislocations and Deformation Behavior of Materials
Catalog Number: 6796
David R. Clarke
Half course (fall term). Tu., Th., 10:30–12. EXAM GROUP: 12, 13
Dislocations are fundamental defects in crystalline solids affecting deformation and crystal

growth. The use of dislocations to establish constitutive behavior for the deformation of materials over a wide variety of stresses and temperatures, as well as in modeling stress distributions and interfacial reactions will be included.
Note: Offered in alternate years.
Prerequisite: Knowledge of thermodynamics, electromagnetism and elements of crystal structure.

***Applied Physics 294hfr. Materials Science Seminar**
Catalog Number: 4924
Michael J. Aziz, David R. Clarke, and Frans A. Spaepen
Half course (throughout the year). Th., at 4. EXAM GROUP: 18
Special topics in materials science.
Prerequisite: See instructor.

Applied Physics 295a. Introduction to Quantum Theory of Solids
Catalog Number: 6937
Efthimios Kaxiras
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Properties of solids, electrical, optical, thermal, magnetic, mechanical, are treated based on an atomic scale picture and using the single electron approximation. Metals, semiconductors, and insulators are covered, including special topics such as superconductivity.
Note: Students may wish to take Physics 296 when this course is bracketed.
Prerequisite: Applied Physics 195 or equivalent, and one full quantum mechanics graduate level course similar to Physics 251a. Physics 251b may be taken concurrently.

[Applied Physics 295b. Quantum Theory of Solids]
Catalog Number: 3610
Instructor to be determined
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Theoretical description of solids focusing on the effects of interactions between electrons, including dielectric response, magnetism, and superconductivity. Also, subjects from the physics of strongly correlated systems, such as quantum antiferromagnetism and high temperature superconductors.
Note: Expected to be given in 2014–15.
Prerequisite: Applied Physics 295a, Physics 251a, and 251b, or permission of instructor.

[Applied Physics 298r. Interdisciplinary Chemistry, Engineering and Physics: Seminar]
Catalog Number: 7500
Robert M. Westervelt and members of the Faculty
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Materials-related topics chosen from: Structure and Self-Assembly; Mechanical Properties; Surfaces and Interfaces; Biomaterials; Synthesis and Fabrication; Characterization Techniques; Soft Materials, and Complex Fluids.
Note: Expected to be given in 2014–15. The class will be divided into teams and each team will spend 4 weeks investigating a current research problem posed by a faculty member. This will entail reading and lab work and will be followed by a presentation to the full class. Each team

will work on 3 problems through the term. Suitable for graduate students with undergraduate concentrations in chemistry, engineering, or physics having present or potential research interests in this field. The course will provide an introduction to current research problems as well as the methodology of research and presentation. A final paper based on one theme will also be required. Taught by faculty from Chemistry, Physics, and the School of Engineering and Applied Sciences who are associated with Harvard's Materials Research Science and Engineering Center.

Applied Physics 299r. Special Topics in Applied Physics
Catalog Number: 2103
Eric Mazur
Half course (fall term; repeated spring term). Hours to be arranged.
Supervision of experimental or theoretical research on acceptable applied physics problems and supervision of reading on topics not covered by regular courses of instruction.
Note: Open to graduate students and AB/SM candidates only. Students must arrange such work with a member of the School of Engineering and Applied Sciences. This course is graded and is ordinarily taken with the approval of the Committee on Higher Degrees. Applicants must file a project sheet before study cards are filed. Project sheets may be obtained from the Student Affairs Office, Pierce Hall 110.

Cross-Listed Courses

Engineering Sciences 220. Fluid Dynamics
***Physics 215. Biological Dynamics**
Physics 232. Advanced Classical Electromagnetism

Graduate Courses of Reading and Research

Reading courses are odd-numbered; research courses are even-numbered.

***Applied Physics 301,302. Ultrafast Electronic Devices**
Catalog Number: 6859,6068
Donhee Ham 4519

***Applied Physics 303,304. Materials Science of Biological Inorganic Nanostructures**
Catalog Number: 3564,9306
Joanna Aizenberg 5876

***Applied Physics 321,322. Materials Physics and Engineering**
Catalog Number: 24677,91306
David R. Clarke 6684

***Applied Physics 323,324. Topics in Materials Science**
Catalog Number: 5947,5970
Shriram Ramanathan 5341

***Applied Physics 325,326. Optics with Cold Atoms, Nano-structures, and Bio-molecules**
Catalog Number: 0488,7669
Lene V. Hau 2151

***Applied Physics 329,330. Heterogeneous Nanophotonic Devices and Bio-templated Electronic Materials**
Catalog Number: 69998,18476
Evelyn Hu 6682

***Applied Physics 331,332. Experimental Condensed Matter Physics**
Catalog Number: 0467,1560
Robert M. Westervelt 6148

***Applied Physics 333,334. Electronic Properties of Nanostructures, Interaction of Biomolecules with Nanostructures, and X-Ray Physics**
Catalog Number: 1033,6126
Jene A. Golovchenko 1986

***Applied Physics 335,336. Theoretical Study of the Structure and Electronic Properties of Nanoscale Materials and Biological Macromolecules**
Catalog Number: 7902,7903
Efthimios Kaxiras 3050

***Applied Physics 337,338. Growth and Properties of Nanostructures and Nanostructure Assemblies; Development and Application of New Probe Microscopies; Biophysics**
Catalog Number: 3050,3051
Charles M. Lieber 3102

***Applied Physics 339,340. Topics in Electromagnetic Theory**
Catalog Number: 4258,3127
Tai T. Wu 1051

***Applied Physics 341,342. Nano-Lasers and Single-Photon Sources**
Catalog Number: 1441,0650
Marko Loncar 5703

***Applied Physics 343,344. Topics in Electromagnetic Theory and Molecular Spectroscopy**
Catalog Number: 2695,4213
Patrick Thaddeus 1398

***Applied Physics 345,346. Energy Storage System Analysis**
Catalog Number: 98679,35431
David Keith 3221



***Applied Physics 347,348. Mechanics in Earth and Environmental Science**
Catalog Number: 4033,3514
James R. Rice 7270

***Applied Physics 351,352. Statistical and Condensed Matter Theory**
Catalog Number: 3992,3993
Paul C. Martin 2103

***Applied Physics 355,356. Special Topics in Theoretical Engineering**
Catalog Number: 4864,9197
Michael P. Brenner 4101

***Applied Physics 357,358. Nanophotonics**
Catalog Number: 3865,5593
Kenneth B. Crozier 5146

***Applied Physics 359,360. Nonlinear Laser Physics and Materials Engineering**
Catalog Number: 5760,3525
Eric Mazur 7952

***Applied Physics 361,362. Photonics, Quantum Devices and Nanostructures**
Catalog Number: 9431,9506
Federico Capasso 4571

***Applied Physics 363,364. Experimental Soft Condensed Matter Physics**
Catalog Number: 8975,7242
David A. Weitz 2497

***Applied Physics 365,366. Experimental Condensed Matter: Ballistic Transport in Semiconductors, Nanostructures, and Tunneling Microscopy**
Catalog Number: 9195,0425
Venkatesh Narayanamurti 5445 (on leave fall term)

***Applied Physics 367,368. Topics on Condensed Matter Physics**
Catalog Number: 6975,4173
David R. Nelson 5066 (on leave fall term)

***Applied Physics 369,370. Experimental Condensed Matter: Synchrotron X-Ray Scattering Studies of Interfacial Phenomena (Liquids and Solid)**
Catalog Number: 2442,7532
Peter S. Pershan 1105 (on leave fall term)

***Applied Physics 371,372. Biological Physics and Quantitative Biology**
Catalog Number: 6003,9040
Daniel Joseph Needleman 6151

***Applied Physics 373,374. Signaling Processing and Systems Biology**
Catalog Number: 59715,74822
Sharad Ramanathan 6015

Applied Physics 375,376. Nonlinear Dynamics of Soft Interfaces - *(New Course)
Catalog Number: 21788,64808
Shmuel Rubinstein 7296

***Applied Physics 383,384. Topics in Atmospheric and Climate Dynamics**
Catalog Number: 3214,3221
Zhiming Kuang 5285

***Applied Physics 387,388. Climate Dynamics and Physical Oceanography**
Catalog Number: 3549,8599
Eli Tziperman 4748

***Applied Physics 391,392. Experimental Soft Condensed Matter and Materials Physics**
Catalog Number: 1164,5559
Vinothan N. Manoharan 5251 (on leave 2013-14)

***Applied Physics 393,394. Experimental Studies of Interfaces and Surfaces**
Catalog Number: 1331,5451
Cynthia M. Friend 7446

***Applied Physics 395,396. Topics in Materials Science**
Catalog Number: 4012,5003
Michael J. Aziz 1337

***Applied Physics 397,398. Materials Science**
Catalog Number: 4266,5010
Frans A. Spaepen 4991

Cross-Listed Courses

***Computer Science 365. SEAS Teaching Practicum**

Archaeology

Faculty of the Committee on Archaeology

Peter Der Manuelian, Philip J. King Professor of Egyptology *(Chair, fall term) (on leave spring term)*
Richard H. Meadow, Senior Lecturer on Anthropology *(Chair, spring term)*
Ruth Bielfeldt, Associate Professor of History of Art and Architecture *(on leave fall term)*
Suzanne P. Blier, Allen Whitehill Clowes Professor of Fine Arts and Professor of African and African American Studies *(on leave 2013-14)*
Davíd L. Carrasco, Neil L. Rudenstine Professor for the Study of Latin America in the Faculty of Divinity and the Faculty of Arts and Sciences
Susanne Ebbinghaus, George M.A. Hanfmann Curator of Ancient Art
William L. Fash, Bowditch Professor of Central American and Mexican Archaeology and Ethnology *(on leave spring term)*
Rowan K. Flad, Professor of Anthropology *(on leave 2013-14)*
Joseph Greene, Assistant Director of the Semitic Museum
Ioli Kalavrezou, Dumbarton Oaks Professor of Byzantine Art *(on leave spring term)*
C. C. Lamberg-Karlovsky, Stephen Phillips Professor of Archaeology and Ethnology
Matthew Joseph Liebmann, Associate Professor of Anthropology
Laura S. Nasrallah, Professor of New Testament and Early Christianity *(Divinity School)*
Kimberley C. Patton, Professor of the Comparative and Historical Study of Religion *(Divinity School)*
Jeffrey Quilter, Senior Lecturer on Anthropology
Adrian Staehli, Professor of Classical Archaeology *(on leave spring term)*
Piotr Steinkeller, Professor of Assyriology
Jason A. Ur, John L. Loeb Associate Professor of the Social Sciences
Gary Urton, Dumbarton Oaks Professor of Pre-Columbian Studies

The Committee on Archaeology is a multidisciplinary group of scholars appointed to promote the teaching of archaeology at Harvard and advance knowledge of archaeological activity, research, fieldwork, and techniques in the many and varied fields where archaeology is employed as an approach to past cultures and histories around the world. Archaeology can be seen as the study of past human societies through the recovery, analysis, and interpretation of material remains. Those who practice archaeology employ a wide range of methods, techniques, and theoretical orientations drawn from across the spectrum of academic disciplines to further their specific intellectual goals. Likewise, scholars of many disciplines who do not consider themselves to be practicing archaeologists nevertheless use the results of archaeological work in their teaching and research.

The listing below is a compilation of courses in which the practice of archaeology is taught or the use of archaeological information is integral. The interested student is urged to consult the full listings of the various departments for related courses, relevant undergraduate tutorials, and graduate-level reading courses. The courses listed below are ordinarily acceptable for the Secondary Field in Archaeology with the approval of the Secondary Field Adviser. Additional courses including courses in other departments may also be deemed acceptable. See the Standing Committee's iSite for information about the Secondary Field in Archaeology.

General Education

Culture and Belief 21. Pathways through the Andes–Culture, History, and Beliefs in Andean South America
Science of Living Systems 16. Human Evolution and Human Health
Societies of the World 30. Moctezuma's Mexico: Then and Now (2012)!
[Societies of the World 38. Pyramid Schemes: The Archaeological History of Ancient Egypt]
[Societies of the World 40 (formerly Anthropology 1174). The Incas: The Last Great Empire of Pre-Columbian South America]
[Societies of the World 41. Medieval Europe]

Freshman Seminars

***Freshman Seminar 30g. Digging Up the Past: Harvard and Egyptian Archaeology**

African and African American Studies

[African and African American Studies 174. The African City]

Anthropology

***Anthropology 91xr. Supervised Reading and Research in Archaeology**
***Anthropology 92xr. Archaeological Research Methods in Museum Collections**
Anthropology 1010. The Fundamentals of Archaeological Methods & Reasoning
[Anthropology 1025r (formerly Anthropology 1025). Museum Anthropology, Thinking with Objects: Kayaks: Seminar]
[Anthropology 1032. The Dawn of Mesoamerican Civilization]
Anthropology 1040. Origins of the Food We Eat
[Anthropology 1045. Ancient Settlement Systems: Seminar]
Anthropology 1060. Archaeological Science
[Anthropology 1065. The Ancient Near East]
Anthropology 1080. North American Archaeology: Lost Tribes and Ancient Capitals of Native America
[Anthropology 1085. Six Great Discoveries in New World Archaeology]
[Anthropology 1090. Ethnography and Archaeology]
[Anthropology 1095 (formerly Social Analysis 50). Urban Revolutions: Archaeology and the Investigation of Early States]
[Anthropology 1125. The Moche of Ancient Peru: Politics, Economy, Religion and Art]
[Anthropology 1130. Archaeology of Harvard Yard]
[Anthropology 1131. Archaeology of Harvard Yard II: Laboratory Methods and Analysis]
Anthropology 1150. Ancient Landscapes
[Anthropology 1155. Before Baghdad: Cities of Ancient Mesopotamia]
[Anthropology 1165. Digging the Glyphs: Adventures in Decipherment]
Anthropology 1175. The Archaeology of Ethnicity
Anthropology 1182. People of the Sun: The Archaeology of Ancient Mexico - *(New Course)*

[Anthropology 1190. Encountering the Conquistadors]
[Anthropology 1210. The Archaeology of Ancient China]
[Anthropology 1214. The Archaeology of Women and Children]
Anthropology 1230. African Archaeology - *(New Course)*
[Anthropology 1250. The Pyramids of Giza: Technology, Archaeology, History: Seminar]
[*Anthropology 2000. Osteoarchaeology Lab]
Anthropology 2010ar. Materials in Ancient Societies: Metals
[Anthropology 2010br. Materials in Ancient Societies: Metals]
***Anthropology 2020. GIS and Spatial Analysis in Archaeology**
Anthropology 2022. Picturing the Past: An Introduction to Digital Epigraphy and Archaeological Illustration - *(New Course)
Anthropology 2056. Household Archaeology - *(New Course)*
[Anthropology 2062. Religions of Latin America]
***Anthropology 2070a. Archaeological Method and Theory: Seminar**
Anthropology 2070b. Case Studies and Research Proposal Preparation
[Anthropology 2085. Archaeology of Ritual and Religion]
[Anthropology 2090. Economic Archaeology: Culture Contact]
[Anthropology 2092. Early China: Archaeology and Texts]
Anthropology 2110r (formerly Anthropology 211r). Issues in Mesoamerican Archaeology: Seminar
[Anthropology 2177 (formerly Anthropology 1177). South American Archaeology]
Anthropology 2210. Archaeology and the Ancient Economy
Anthropology 2212. The Archaeology of Enlightenment - *(New Course)*
[Anthropology 2240. Archaeology of Production: Seminar]
[Anthropology 2250a. Proseminar in Archaeology]
Anthropology 2250b. Proseminar in Archaeology

Celtic Languages and Literatures

Celtic 103. Celts: People or Myth?

The Classics

Classical Archaeology 101. Roman Antiquity
Classical Archaeology 240. "Reading" Visual Media: Mythological Images in Greek Vase Painting - *(New Course)*

History

[*History 80f. Carolingian Civilization]
[History 1011. The World of the Roman Empire]
[History 1940. Science and the Global Human Past: Case Studies at the Cutting Edge: Conference Course]
History 2055 (formerly History 2055hf). Early Medieval History, Archaeology and Archaeoscience: Seminar
Societies of the World 53 (formerly History 1040). The Fall of the Roman Empire

History of Art and Architecture

[History of Art and Architecture 13x. Introduction to Greek and Roman Sculpture]
[History of Art and Architecture 132e. The Ideal of the Everyday in Greek Art]
[History of Art and Architecture 139j. Greek Myths on Roman Sarcophagi]
[History of Art and Architecture 141k. Rome, Constantinople, Ravenna in the Light of Imperial Rule : Proseminar]
[History of Art and Architecture 143r. The Art of the Court of Constantinople : Proseminar]
History of Art and Architecture 197. The Imperial Arts of the Inca and the Aztec
[*History of Art and Architecture 240r. Topics in Byzantine Art : Illustrating the Word: manuscripts and their images from the Byzantine religious and secular world]

Human Evolutionary Biology

Human Evolutionary Biology 1411. Evolution and Adaptation of the Human Diet
Human Evolutionary Biology 1419. Laboratory Methods in Human Evolutionary Biology
[Human Evolutionary Biology 1423. Human Origins and Evolution]
[Human Evolutionary Biology 1490r. Primate Evolution]
***Human Evolutionary Biology 1530. Hominid Paleontology and Evolution**
Human Evolutionary Biology 1540. Human Migration
[Human Evolutionary Biology 1940. Science and the Human Past: Case Studies at the Cutting Edge: Conference Course]

Near Eastern Languages and Civilizations

[Ancient Near East 100. History of the Ancient Near East]
[Ancient Near East 102. Introduction to Mesopotamian Religion]
Ancient Near East 103. Ancient Lives - *(New Course)*
[Ancient Near East 155r. Ancient Mesopotamia: Archaeology and Texts]

The Study of Religion

Religion 1016. The Shock of the Old: Conference Course
Religion 1310. Ancient Greek Sanctuaries: Oracles - *(New Course)*
[*Religion 2348ab. Archaeology and the World of the New Testament: Seminar]

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Architecture, Landscape Architecture and Urban Planning

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on the Degree of Doctor of Philosophy in Architecture, Landscape Architecture, and Urban Planning

Erika Naginski, Professor of Architectural History *(Design School) (Co-Chair)*
Antoine Picon, G. Ware Travelstead Professor of the History of Architecture and Technology *(Design School) (Co-Chair)*
Eve Marion Blau, Adjunct Professor of the History of Urban Form *(Design School)*
Svetlana Boym, Curt Hugo Reisinger Professor of Slavic Languages and Literatures and Professor of Comparative Literature
Neil Brenner, Professor of Urban Theory *(Design School)*
Giuliana Bruno, Professor of Visual and Environmental Studies
Lizabeth Cohen, Howard Mumford Jones Professor of American Studies, and Dean of the Radcliffe Institute for Advanced Study *(on leave 2013-14)*
Diane Emily Davis, Professor of Urbanism and Development *(Design School)*
Sonja Duempelmann, Associate Professor of Landscape Architecture *(Design School)*
Edward Eigen, Associate Professor of Architecture and Landscape Architecture *(Design School)*
K. Michael Hays, Eliot Noyes Professor in Architectural Theory *(Design School)*
Timothy Worrall Hyde, Associate Professor of Architecture *(Design School)*
Sheila Jasanoff, Pforzheimer Professor of Science and Technology Studies at the John F. Kennedy School of Government *(Kennedy School)*
Jerold Kayden, Frank Backus Williams Professor of Urban Planning and Design *(Design School)*
Sanford Kwinter, Term Professor of Architectural Theory and Criticism *(Design School)*
Michèle Lamont, Robert I. Goldman Professor of European Studies and Professor of Sociology and of African and African American Studies
Alina A. Payne, Alexander P. Misheff Professor of History of Art and Architecture
A. Hashim Sarkis, Aga Khan Professor of Landscape Architecture and Urbanism in Muslim Societies *(Design School)*
Christine Smith, Robert C. and Marian K. Weinberg Professor of Architectural History *(Design School)*

Other Faculty Offering Instruction in Architecture, Landscape Architecture, and Urban Planning

Alan Altshuler, Harvard University Distinguished Service Professor *(Kennedy School, Design School)*
Susan S. Fainstein, Term Professor of Urban Planning *(Design School)*
Richard T. T. Forman, Professor of Advanced Environmental Studies in the Field of Landscape Ecology *(Design School)*
Peter L. Galison, Joseph Pellegrino University Professor *(on leave spring term)*

José A. Gomez-Ibãnez, Derek Bok Professor of Urban Planning and Public Policy *(Kennedy School, Design School)*
K. Michael Hays, Eliot Noyes Professor in Architectural Theory *(Design School)*
Neil Levine, Emmet Blakeney Gleason Professor of History of Art and Architecture *(on leave fall term)*
Gülru Necipoglu-Kafadar, Aga Khan Professor of Islamic Art
Katharine Park, Samuel Zemurray, Jr. and Doris Zemurray Stone Radcliffe Professor of the History of Science
John R. Stilgoe, Robert and Lois Orchard Professor in the History of Landscape Development

The PhD in Architecture, Landscape Architecture, and Urban Planning is administered by a joint committee of the Faculty of Design and of the Faculty of Arts and Sciences. The program is intended for persons who wish to enter careers in scholarship and advanced research as distinct from the professional practice of architecture, landscape architecture, or urban planning.

Students must master a major area of their field and achieve a thorough grounding (equivalent to one year of full-time study) in the theory and methods of one of the arts and sciences related to their major subject, such as fine arts, history, philosophy, or sociology. Major areas of study include the history and theory of architecture, landscape architecture and urban form from antiquity to the present; or the analysis and development of cities, landscapes, and regions with emphasis on social, economic, ecological, transportation, and infrastructural systems.

Applicants must show evidence of distinguished work at the bachelor's or master's level, and should indicate their major subject of interest and the department of the Faculty of Arts and Sciences in which they will carry out their minor discipline.

The Harvard Design School also offers a separate, three-year program leading to the Doctor of Design degree, which is oriented to the practice of architecture, landscape architecture, and urban design. This program requires a separate and different application. For information, contact the Admissions Office, Harvard University, Graduate School of Design, 48 Quincy Street, Cambridge, MA 02138. The phone number is 617-495-5453.

Graduate Courses of Reading and Research

***Design 300. Reading and Research in Architecture, Landscape Architecture, or Urban Planning**
Catalog Number: 6076
Alan Altshuler (Kennedy School, Design School) 3541, Eve Marion Blau (Design School) 5078, Svetlana Boym 1926, Giuliana Bruno 2658, Lizabeth Cohen 3627 (on leave 2013-14), Susan S. Fainstein (Design School) 5504, Richard T. T. Forman (Design School) 1207, José A. Gomez-Ibãnez (Kennedy School, Design School) 4586, K. Michael Hays (Design School) 2759, Jerold Kayden (Design School) 2442, Neil Levine 4178 (on leave fall term), Gülru Necipoglu-Kafadar 1688, Katharine Park 2974, Alina A. Payne 4605, Antoine Picon (Design School) 4295, A. Hashim Sarkis (Design School) 4594, Christine Smith (Design School) 2445, and John R. Stilgoe 8032

***Design 304. Direction of Doctoral Dissertations in Architecture**
Catalog Number: 2503
Eve Marion Blau (Design School) 5078, Giuliana Bruno 2658, Peter L. Galison 3239 (on leave spring term), K. Michael Hays (Design School) 2759, Neil Levine 4178 (on leave fall term), Gülru Necipoglu-Kafadar 1688, Alina A. Payne 4605, Antoine Picon (Design School) 4295, A. Hashim Sarkis (Design School) 4594, Christine Smith (Design School) 2445, and John R. Stilgoe 8032

***Design 307. Direction of Doctoral Dissertations in Landscape Architecture**
Catalog Number: 7028
Richard T. T. Forman (Design School) 1207, K. Michael Hays (Design School) 2759, Gülru Necipoglu-Kafadar 1688, and John R. Stilgoe 8032

***Design 310. Direction of Doctoral Dissertations in Urban Planning**
Catalog Number: 5219
Alan Altshuler (Kennedy School, Design School) 3541, Lizabeth Cohen 3627 (on leave 2013-14), Susan S. Fainstein (Design School) 5504, José A. Gomez-Ibãnez (Kennedy School, Design School) 4586, Jerold Kayden (Design School) 2442, and A. Hashim Sarkis (Design School) 4594

Arts and Humanities

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

The Humanities include a range of disciplines that explore the ways in which people have articulated their understanding of themselves and the world. Humanities courses are taught by teams of faculty from several departments and fulfill requirements in Humanities concentrations and General Education.

The Frameworks in the Humanities courses, which include Humanities 11a: The Art of Looking, Humanities 11b: The Art of Listening, and Humanities 11c: The Art of Reading, introduce students to fundamental problems, histories, and critical methods that prepare students for more advanced work in a wide variety of concentrations. The Frameworks courses include an attention to exemplary texts, sounds, images, and objects and address how basic acts of looking, listening, and reading can disclose unexpected cultural, historical, and aesthetic richness.

Humanities

Primarily for Undergraduates

Humanities 11a. Frameworks: The Art of Looking - *(New Course)*
Catalog Number: 66831 Enrollment: Limited to 90.
Robin E. Kelsey (History of Art and Architecture) and Jennifer L. Roberts (History of Art and Architecture)
Half course (fall term). M., (W.), F., at 12; additional course event meetings; and weekly sections to be arranged. EXAM GROUP: 5
Visual information today is superabundant thanks to our smartphones, tablets, and other screen-based gadgets. But few of us recognize how thoroughly our habits and experiences of looking have been conditioned by interfaces with long and complex histories. Participants in this new Framework Course, developed as part of the Humanities Project at Harvard, will approach looking through a consideration of key technologies from its history, such as the telescope, the television, and the easel painting. Students will learn about the hidden intricacies of looking and hone skills of visual, material, and spatial analysis through encounters with aesthetic objects from Harvard's collections.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding.

Humanities 11b. Frameworks: The Art of Listening - *(New Course)*
Catalog Number: 69722
Alexander Rehding (Music) and John T. Hamilton (Comparative Literature)
Half course (fall term). W., at 11, and weekly sections M., F., to be arranged. EXAM GROUP: 4
Our world is steeped in sound, but we must learn to pay attention to listening. Sounds produce emotions, mark out spaces, call up memories; silence can be deafening; voice is a marker of identity. This course will sharpen our ears. We explore the sonic world through diverse readings and creative projects with sound. Discussions and assignments will open our minds (and ears) to listening practices, what the arts teach us about listening, and how we describe our experiences as listeners. We examine the relationships between sound and time, community, responsibility and attentiveness, and explore the soundscape in which we live.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding.

Humanities 11c. Frameworks: The Art of Reading - *(New Course)*
Catalog Number: 84969 Enrollment: Limited to 30.
Homi K. Bhabha (English) and Peter Sacks (English)
Half course (spring term). W., 3–5, and weekly section to be arranged. EXAM GROUP: 8, 9
This course introduces "reading" as a wide-ranging practice of interpretation, applicable to social phenomena and historical narratives as well as to literary texts. Participants in this introduction to the humanities will examine a range of texts, from poems and political journalism to graphic novels and blogs, both to practice close and subtle reading and to see how these texts seek to establish rules for their own interpretation. Rather than look at a particular artistic tradition or literary history, we will develop a set of "all-terrain" interpretive skills that can be deployed on a range of intellectual and cultural objects.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding.

Humanities Studio

Primarily for Undergraduates

Open to all FAS students, Humanities Studios are project-based courses designed to foster translational thinking. They combine in-depth research, design thinking, and hands-on training with digital tools and media in an environment that involves sustained cross-disciplinary teamwork. At once practical and experimental, Humanities Studio courses renew the relevance of the critical and narrative tools of the arts and sciences for a world in which technology is a means of inquiry.

Humanities Studio 1. Cold Storage - An Interactive Documentary Project - *(New Course)*
Catalog Number: 66908 Enrollment: Admission to the course by application.
Jeffrey Schnapp (Romance Languages and Literatures)
Half course (spring term). Tu., 8:30-11:30. EXAM GROUP: 10, 11, 12, 13
Libraries are not mere repositories, but sites breeding strange hybrids of knowledge, people, and material things. This studio will research and produce an experimental documentary exploring library hybrids, with special focus on the Harvard Depository, where nine million of the documents that make up the university's collections are stored. Students will explore the cultural and technical dimensions of libraries, depositories, and storage facilities; produce ethnography, oral history, and other writing; practice video production and editing; and engage in website design and development. Students with interest in the history of libraries or with media production or technical skills are particularly welcome.

Humanities Studio 2. Homeless Paintings of the Italian Renaissance: A Hands on Curatorial Experiment - *(New Course)*
Catalog Number: 25517 Enrollment: Limited to 18. Admission to the course by application.
Jeffrey Schnapp (Romance Languages and Literatures)
Half course (spring term). W., 1–3,, with optional meeting Th., 9. EXAM GROUP: 6, 7
Amidst the archives that Bernard Berenson bequeathed to Harvard is a collection of 16,000 photographs of Renaissance paintings classified as "homeless": works documented by photographs whose location is unknown. The studio will explore the curatorial possibilities of this corpus and develop an "animated archive" using the web-based Curarium platform. It will identify, describe, and interpret objects in the collection; reconstruct the stories of lost or destroyed works; and investigate the historical and cultural dimensions of lost art, including the role of dealers, market forces, and desire; the ephemeral nature of art; and the photographic documentation of treasured objects.

Medical Humanities

Storytelling and listening are central to understanding medical and physical circumstances and to diagnosis and treatment. The following courses link literature, philosophy, reasoning, and writing with our understanding of medical, ethical and biosocial realities.

[Aesthetic and Interpretive Understanding 50 (formerly Literature 128). Literature and Medicine]
African and African American Studies 189x. Medicine, Culture, and Society
Classical Studies 165. Medicine in the Greco-Roman World

[Culture and Belief 11. Medicine and the Body in East Asia and in Europe]
Culture and Belief 58. Case Studies in the Medical Humanities: Interdisciplinary Perspectives on the Experience of Illness and Healing - *(New Course)*
***Freshman Seminar 23k. Insights from Narratives of Illness**
***Freshman Seminar 26f. Dreams: Our Mind by Night**
Greek 109. The Literature of Affliction - *(New Course)*
History of Science 112. Magic, Medicine and Miracles: Health and Healing in the Middle Ages and Renaissance

Asian Studies Programs

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Council on Asian Studies
Arthur Kleinman, Esther and Sidney Rabb Professor of Anthropology in the Faculty of Arts and Sciences and Professor of Medical Anthropology in the Faculty of Medicine, Harvard College Professor *(Chair)*
Ryuichi Abe, Reischauer Institute Professor of Japanese Religions
William P. Alford, Henry L. Stimson Professor of Law *(Law School)*
Ali S. Asani, Professor of Indo-Muslim and Islamic Religion and Cultures *(on leave fall term)*
Theodore C. Bestor, Reischauer Institute Professor of Social Anthropology
Homi K. Bhabha, Anne F. Rothenberg Professor of the Humanities
Barry R. Bloom, Harvard University Distinguished Service Professor and Joan L. and Julius H. Jacobson Professor of Public Health *(Public Health)*
Peter K. Bol, Charles H. Carswell Professor of East Asian Languages and Civilizations *(on leave spring term)*
Sugata Bose, Gardiner Professor of Oceanic History and Affairs
Mary C. Brinton, Reischauer Institute Professor of Sociology *(on leave 2013-14)*
James K. M. Cheng, Librarian of the Harvard-Yenching Library
Diana L. Eck, Fredric Wertham Professor of Law and Psychiatry in Society
Carter J. Eckert, Yoon Se Young Professor of Korean History
Mark C. Elliott, Mark Schwartz Professor of Chinese and Inner Asian History
Rowan K. Flad, Professor of Anthropology *(on leave 2013-14)*
Byron J. Good, Professor of Medical Anthropology in the Department of Social Medicine *(Medical School)*
Mary-Jo Del Vecchio Good, Professor of Global Health and Social Medicine *(Medical School)*
Andrew Gordon, Lee and Juliet Folger Fund Professor of History
Susan Greenhalgh, John King and Wilma Cannon Fairbank Professor of Chinese Society *(on*



leave fall term)
Janet Gyatso, Hershey Professor of Buddhist Studies *(Divinity School)*
Helen Hardacre, Reischauer Institute Professor of Japanese Religions and Society
Nicholas H. Harkness, Assistant Professor of Anthropology *(on leave 2013-14)*
Michael Herzfeld, Ernest E. Monrad Professor of the Social Sciences *(on leave fall term)*
David Howell, Professor of Japanese History
William C. Hsiao, K.T. Li Professor of Economics *(Public Health)*
C.-T. James Huang, Professor of Linguistics *(on leave 2013-14)*
Wesley M. Jacobsen, Professor of the Practice of the Japanese Language and Director of the Japanese Language Program
Sheila Jasanoff, Pforzheimer Professor of Science and Technology Studies at the John F. Kennedy School of Government *(Kennedy School)*
Tarun Khanna, Jorge Paulo Lemann Professor *(Business School)*
Sun Joo Kim, Harvard-Yenching Professor of Korean History
William C. Kirby, T. M. Chang Professor of China Studies and Spangler Family Professor of Business Administration
Shigehisa Kuriyama, Reischauer Institute Professor of Cultural History
Wai-yee Li, Professor of Chinese Literature
Yukio Lippit, Professor of History of Art and Architecture
David McCann, Korea Foundation Professor of Korean Literature *(on leave spring term)*
Michael B. McElroy, Gilbert Butler Professor of Environmental Studies
Ian J. Miller, Associate Professor of History
Anne E. Monius, Professor of South Asian Religions *(Divinity School)*
Stephen Owen, James Bryant Conant University Professor
Parimal G. Patil, Professor of Religion and Indian Philosophy
Elizabeth J. Perry, Henry Rosovsky Professor of Government
Susan J. Pharr, Edwin O. Reischauer Professor of Japanese Politics
Michael J. Puett, Walter C. Klein Professor of Chinese History
J. Mark Ramseyer, Mitsubishi Professor of Japanese Legal Studies *(Law School)*
James Robson, Professor of East Asian Languages and Civilizations
Peter G. Rowe, Raymond Garbe Professor of Architecture and Urban Design *(Design School) (spring term)*
Anthony Saich, Daewoo Professor of International Affairs at the John F. Kennedy School of Government*(Kennedy School)*
Mary M. Steedly, Professor of Anthropology *(on leave spring term)*
Ajantha Subramanian, Professor of Anthropology
Jeannie Chi Young Suk, Professor of Law *(Law School)*
Michael A. Szonyi, Professor of Chinese History *(on leave 2013-14)*
Hue-Tam Ho Tai, Kenneth T. Young Professor of Sino-Vietnamese History
Karen Thornber, Professor of Comparative Literature
Xiaofei Tian, Professor of Chinese Literature
Leonard W. J. van der Kuijp, Professor of Tibetan and Himalayan Studies
Charles A. Waldheim, John E. Irving Professor of Landscape Architecture *(Design School)*
David Der-Wei Wang, Edward C. Henderson Professor of Chinese Literature
Eugene Wang, Abby Aldrich Rockefeller Professor of Asian Art
Martin K. Whyte, John Zwaanstra Professor of International Studies and of Sociology *(on leave*

spring term)
Michael Witzel, Wales Professor of Sanskrit
Richard K. Wolf, Professor of Music
Mark Wu, Assistant Professor of Law *(Law School)*
Tomiko Yoda, Takashima Professor of Japanese Humanities *(on leave 2013-14)*
Alexander Nikolas Zahlten, Assistant Professor of East Asian Languages and Civilizations

The Council on Asian Studies was created by resolutions of the Faculty of Arts and Sciences of April 12, 1972, and April 25, 2001. It exists to coordinate, advise, and promote teaching and research on Asia. It is comprised of faculty members from different departments of the FAS and from several schools of the University who study East Asia, Southeast Asia, South Asia, and Inner Asia. It oversees or advises several academic programs mentioned below, and it provides faculty oversight to the Harvard University Asia Center.

The AM program in Regional Studies—East Asia is supervised by the Council and is described below.

The AB Concentration in East Asian Studies is advised and supported by the Council, and is described under East Asian Languages and Civilizations. Courses on East Asian languages, early history, literature, and thought are listed under East Asian Languages and Civilizations.

Programs in South Asian Studies and in Inner Asian and Altaic Studies are advised and supported by the Council and are listed separately in the catalog.

Other courses in Asian Studies are listed under the General Education, Core Curriculum, Anthropology, Economics, Government, History, History of Art and Architecture, Linguistics, Psychology, Sociology, the Study of Religion, and other departments.

The Harvard University Asia Center was created in 1997. Its Steering and Executive Committees are drawn from the Faculty of the Council on Asian Studies. The Center coordinates and supports research, teaching, and public programs on Asia throughout the University. The Center sponsors lectures, seminars, and conferences; supports faculty and student research; publishes books and journals; funds research and travel grants to undergraduate and graduate students; administers Harvard's National Resource Center for East Asian Studies, and manages the competition for Title VI Foreign Language and Area Studies Fellowships for graduate and professional students. The Center publishes a bi-weekly calendar of events during the Academic Year. The Asia Center is located at the Center for Government and International Studies (CGIS), 1730 Cambridge Street, room S113.

Faculty of the Standing Committee on the Degree of Master of Arts in Regional Studies-East Asia
Karen Thornber, Professor of Comparative Literature *(Chair)*
Rowan K. Flad, Professor of Anthropology *(on leave 2013-14)*
Andrew Gordon, Lee and Juliet Folger Fund Professor of History
Nicholas H. Harkness, Assistant Professor of Anthropology *(on leave 2013-14)*
Jie Li, Assistant Professor of East Asian Languages and Civilizations
James Robson, Professor of East Asian Languages and Civilizations

Alexander Nikolas Zahlten, Assistant Professor of East Asian Languages and Civilizations

The program in Regional Studies—East Asia, leading to a Master of Arts degree, is a basic preparation (1) for students who intend to go on to PhD work in an East Asian specialization; and (2) for students who wish to equip themselves for nonacademic work. The program, which normally requires two years for completion, aims to make the student broadly conversant with the societies of the region, and also to give him or her a sound knowledge of one of the languages of the area. Details may be obtained from the Committee's offices at 1730 Cambridge Street, Cambridge, MA, 02138 or 617-495-3777.

Faculty of the Standing Committee on the Degree of Doctor of Philosophy in History and East Asian Languages

Mark C. Elliott, Mark Schwartz Professor of Chinese and Inner Asian History *(Chair)*
Peter K. Bol, Charles H. Carswell Professor of East Asian Languages and Civilizations *(on leave spring term)*
Carter J. Eckert, Yoon Se Young Professor of Korean History
Andrew Gordon, Lee and Juliet Folger Fund Professor of History
David Howell, Professor of Japanese History
Sun Joo Kim, Harvard-Yenching Professor of Korean History
William C. Kirby, T. M. Chang Professor of China Studies and Spangler Family Professor of Business Administration
Shigehisa Kuriyama, Reischauer Institute Professor of Cultural History
Ian J. Miller, Associate Professor of History
Michael J. Puett, Walter C. Klein Professor of Chinese History
Michael A. Szonyi, Professor of Chinese History *(on leave 2013-14)*
Hue-Tam Ho Tai, Kenneth T. Young Professor of Sino-Vietnamese History

As of 2006, the Standing Committee on the PhD in History and East Asian Languages is not accepting new applications to the program. Interested students should consult the listing for the Department of East Asian Languages and Civilizations under "Degree in History and East Asian Languages" in the Graduate School of Arts and Sciences Handbook.

Graduate Courses of Reading and Research

***Regional Studies — East Asia 300. Thesis Research and Writing**
Catalog Number: 4614
Karen Thornber 5764 and members of the Faculty
Candidates for the A.M. degree in Regional Studies—East Asia may undertake A.M. thesis reading and research in an approved area of their choice under the direction of a member of the Faculty.
Prerequisite: Permission of the faculty member and the Director of Graduate Studies of the RSEA program required. Only one course graded SAT/UNSAT may be used to fulfill the RSEA course requirement.

***Regional Studies — East Asia 399. Reading and Research**
Catalog Number: 92282
Karen Thornber 5764 and members of the Faculty

Candidates for the A.M. degree in Regional Studies—East Asia may undertake reading and research in an approved area of their choice under the direction of a member of the Faculty. *Prerequisite:* Permission of the faculty member and the Director of Graduate Studies of the RSEA program required. Only one course graded SAT/UNSAT may be used to fulfill the RSEA course requirement.

Astronomy

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Astronomy

Abraham Loeb, Frank B. Baird, Jr. Professor of Science *(Chair)*
Charles Alcock, Professor of Astronomy
Edo Berger, John L. Loeb Associate Professor of the Natural Sciences *(Director of Undergraduate Studies)*
David Charbonneau, Professor of Astronomy *(on leave 2013-14)*
Daniel James Eisenstein, Professor of Astronomy
Douglas Finkbeiner, Professor of Astronomy and of Physics
Alyssa A. Goodman, Professor of Astronomy
Jonathan E. Grindlay, Paine Professor of Practical Astronomy
Lars Hernquist, Mallinckrodt Professor of Astrophysics
John Asher Johnson, Professor of Astronomy
Robert P. Kirshner, Clowes Professor of Science
John M. Kovac, Associate Professor of Astronomy
Julia C. Lee, Associate Professor of Astronomy
James M. Moran, Donald H. Menzel Professor of Astrophysics
Ramesh Narayan, Thomas Dudley Cabot Professor of the Natural Sciences *(Director of Graduate Studies)*
Karin Oberg, Assistant Professor of Astronomy
Dimitar D. Sasselov, Phillips Professor of Astronomy
Irwin I. Shapiro, Timken University Professor
Alicia M. Soderberg, Thomas D. Cabot Associate Professor of Astronomy *(on leave spring term)*
Christopher Stubbs, Samuel C. Moncher Professor of Physics and of Astronomy, Harvard College Professor

Other Faculty Offering Instruction in the Department of Astronomy

Sean M. Andrews, Lecturer on Astronomy
Steven Robert Cranmer, Lecturer on Astronomy
Alexander Dalgarno, Phillips Professor of Astronomy, Emeritus
Thomas M. Dame, Lecturer on Astronomy
Rosanne Di Stefano, Lecturer on Astronomy
Martin S. Elvis, Lecturer on Astronomy
Giovanni G. Fazio, Lecturer on Astronomy
Christine Jones Forman, Lecturer on Astronomy
William R. Forman, Lecturer on Astronomy
Lincoln J. Greenhill, Lecturer on Astronomy and Senior Research Fellow
Matthew Holman, Lecturer on Astronomy
Justin C. Kasper, Lecturer on Astronomy
David W. Latham, Lecturer on Astronomy
Jeffrey E. McClintock, Lecturer on Astronomy
Nicholas A. Murphy, Lecturer on Astronomy
Philip M. Sadler, Frances W. Wright Senior Lecturer on Celestial Navigation and Astronomy in the Department of Astronomy
Howard A. Smith, Lecturer on Astronomy
Andrew Szentgyorgyi, Lecturer on Astronomy
Patrick Thaddeus, Robert Wheeler Willson Professor of Applied Astronomy, Emeritus
Alexey A. Vikhlinin, Lecturer on Astronomy
David J. Wilner, Lecturer on Astronomy

Affiliates of the Department of Astronomy

Ruth Ann Murray-Clay, Lecturer on Astronomy *(Affiliate of the Department of Astronomy)*

Primarily for Undergraduates

Astronomy 16 provides an introduction to stellar and planetary astrophysics, and Astronomy 17 provides an introduction to galactic and extragalactic astrophysics. Both courses use single-variable calculus and some introductory mechanics. Together these two courses, which may be taken in either order, provide a complete introductory survey of astrophysics. Astronomy 16 and 17 form the foundation for both the secondary field and the concentration in astrophysics. Both courses receive Gen Ed credit. Students interested in an introduction to the methods of observational astrophysics are encouraged to consider Astronomy 100, which includes a trip to use the telescopes located at the F. L. Whipple Observatory in Arizona. Astronomy 98 is a research tutorial intended for students pursuing the astrophysics concentration or secondary field, although this course is open in special cases to concentrators in related fields. Students interested in substantial independent research during their senior year should consider Astronomy 99, leading to the senior thesis. Astronomy 110, 120, 130, 151, 191, and 193 each offer the opportunity for study of a particular field of astrophysics. Each of these courses requires preparation in mathematics and physics. Students interested in an introduction to astronomy that presumes no mathematical preparation above the level of high school algebra should consider SPU 19, SPU 21, SPU 22, SPU 30, and Astronomy 2. These courses use a variety of approaches aimed at introducing the key concepts that address some of the great questions of astronomy.

Astronomy 2. Celestial Navigation
Catalog Number: 2179 Enrollment: Limited to 30.
Philip M. Sadler
Half course (fall term). Tu., 11:30-1:30, Tu., 7-10 pm. EXAM GROUP: 13, 14, 15, 18
Never be lost again! Find your way on sea, land, or air by employing celestial and terrestrial techniques. Acquire expertise in using navigators' tools (sextant, compass, and charts) while learning the steps to the celestial dance of the sun, moon, stars, and planets. This 108-year-old course continues to rely on practical skills and collaborative problem-solving, while utilizing historical artifacts (instruments, maps, captains' logs) and student-built devices. Culminating in a day-long cruise to practice navigation skills.
Note: Minimal lecturing; predominantly practical activities with individual attention from teaching staff. Math beyond high school trigonometry and geometry unnecessary. This course is offered each year.

Astronomy 16. Stellar and Planetary Astronomy
Catalog Number: 8813
John Asher Johnson
Half course (spring term). M., Th., 2:30–4. EXAM GROUP: 7, 8, 16, 17
This course provides an introduction to the physical principles describing the formation and evolution of stars and their planetary companions. Topics include thermal radiation and stellar spectra; telescopes; energy generation in stars; stellar evolution; orbital dynamics; the Solar system; and exoplanets. This course includes an observational component: students will determine the distance to the Sun, and use the Clay Telescope atop the Science Center to study stellar evolution and detect exoplanets.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. This course is offered each year.
Prerequisite: An introductory course in mechanics, which may be taken concurrently, satisfied by Physics 11a, Physics 15a, Physics 16 or Physical Sciences 12a.

Astronomy 17. Galactic and Extragalactic Astronomy
Catalog Number: 22304
Daniel James Eisenstein and Alicia M. Soderberg
Half course (fall term). M., W., 2:30–4; . EXAM GROUP: 7, 8
This course provides an introduction to the physical principles describing galaxies and the composition and evolution of the Universe. Topics include the interstellar medium; star clusters; the structure and dynamics of the Milky Way; other galaxies; clusters of galaxies; active galaxies and quasars; cosmology; and the early universe. This course includes an observational component: In addition to observing galaxies with the Science Center Clay Telescope, students will use the millimeter-wavelength telescope at the Harvard-Smithsonian Center for Astrophysics to measure the rotation velocity of the Milky Way galaxy and to determine its mass.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. This course is offered each year.

Prerequisite: An introductory course in mechanics, which may be taken concurrently, satisfied by Physics lla, Physics 15a, Physics 16, or Physical Sciences 12a.

***Astronomy 91r. Supervised Reading and Research**
Catalog Number: 1545
Abraham Loeb and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading and research in a subject of astrophysics that is not normally included in the regular course offerings of the department.
Note: Students must arrange for course supervision with an individual member of the Department. The course may be counted only once toward the concentration requirements, and may not be taken more than twice. This course is offeredeach semester.
Prerequisite: Astronomy 16 or Astronomy 17.

***Astronomy 98. Research Tutorial in Astrophysics**
Catalog Number: 3121
Douglas Finkbeiner and members of the Department
Half course (fall term). M., 4–5:30, Tu., 5:30–7:30 p.m.
This tutorial introduces students to research at the forefront of astrophysics, and provides opportunities for students to meet with research scientists and individuals active in science policy, education, and journalism. Students meet weekly for a lecture and discussion over dinner with a guest speaker, preceded by a reading and a preparatory seminar. Students will be mentored throughout the term on a research project of their choosing. The Harvard-Smithsonian Center for Astrophysics is home to one of the largest groups of astronomers in the world, providing extensive opportunities for undergraduate research.
Note: Open to students pursuing the concentration or secondary field in astrophysics, and in special cases to concentrators in other physical sciences. This course is offered each year.
Prerequisite: Astronomy 16 or Astronomy 17.

***Astronomy 99. Senior Thesis in Astrophysics**
Catalog Number: 5413
James M. Moran and members of the Department
Full course. M., 4:15–5:30.
Individually supervised reading and research leading to the senior thesis. The Harvard-Smithsonian Center for Astrophysics is home to one of the largest groups of astronomers in the world, providing extensive opportunities for undergraduate research.
Note: This course is offered each year.
Prerequisite: Astronomy 98.

Cross-listed Courses

Earth and Planetary Sciences 52. Introduction to Global Geophysics
Empirical and Mathematical Reasoning 19 (formerly Quantitative Reasoning 46). The Art of Numbers
Science of the Physical Universe 19 (formerly Science A-35). The Energetic Universe
Science of the Physical Universe 21 (formerly Science A-36). Stellar Understanding of the

Cosmos
Science of the Physical Universe 22. The Unity of Science: From the Big Bang to the Brontosaurus and Beyond
Science of the Physical Universe 30 (formerly Science A-54). Life as a Planetary Phenomenon

For Undergraduates and Graduates

Astronomy 100. Methods of Observational Astronomy
Catalog Number: 95134
Edo Berger
Half course (spring term). W., 12–2; F., 2–4. EXAM GROUP: 5, 6
In this course we will learn the basic tools of modern astronomical research, including telescopes, detectors, imaging, spectroscopy, and common software. Emphasis will be placed on both the theory behind telescopes and their use, and hands-on experience with real data. Using this basic knowledge we will analyze science-level astronomical data from a wide range of telescopes and review the basic properties of stars, galaxies, and other astronomical objects of interest. The course includes a trip to the F. L. Whipple Observatory on Mount Hopkins, Arizona, to gather data with various telescopes.
Note: This course is offered each year.
Prerequisite: Astronomy 16 or Astronomy 17.

[Astronomy 110. Exoplanets]
Catalog Number: 43612
David Charbonneau
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
A survey of the rapidly-evolving field of the detection and characterization of planets orbiting other stars. Topics includes proto-stellar collapse and star formation; comets, meteorites, and protoplanetary disk structure; models of planet formation; methods of detecting extrasolar planets; composition and physical structure of planets; planetary atmospheres; habitable zones; greenhouse effect; biosignatures.
Note: Expected to be given in 2014–15. This course in similar in content to Astro 189. Either Astro 110 or Astro 189 will be offered in 2014-2015.
Prerequisite: Astronomy 16.

[Astronomy 120. Stellar Physics]
Catalog Number: 58719
Alicia M. Soderberg
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Stars are the basic building blocks of galaxies and are responsible for the nucleosynthesis of most of the elements. Topics include stellar structure; energy transport in stars; stellar atmospheres; astroseismology; nuclear fusion in stars; stellar evolution; nucleosynthesis of the elements; stellar death and supernovae; the degenerate remnants of stars; black holes. This course will make use of thermodynamics, statistical mechanics, and quantum mechanics, but will review these subjects as necessary.



Note: Expected to be given in 2014–15. Offered in alternate years.
Prerequisite: Astronomy 16. Physics 15c strongly recommended.

Astronomy 130. Cosmology
Catalog Number: 73826
Douglas Finkbeiner
Half course (spring term). Tu., Th., 2–3:30. EXAM GROUP: 16, 17
The physical model describing the initial conditions, evolution, and ultimate fate of the Universe. Topics include cosmic dynamics; the Robertson-Walker Metric; curvature; estimating cosmological parameters; the accelerating universe; dark matter; gravitational lensing; the cosmic microwave background; nucleosynthesis; inflation and the very early universe; formation of structure. Note: Offered in alternate years.
Note: This course offered alternate years.
Prerequisite: Astronomy 17 or Physics 15c.

Astronomy 151. Astrophysical Fluid Dynamics
Catalog Number: 3025
Lars Hernquist
Half course (spring term). M., W., F., at 9. EXAM GROUP: 2
Fluid and gas dynamics with applications drawn from astrophysical phenomena. Topics include: kinetic theory, diffusive effects, incompressible fluids, inviscid and viscous flows, boundary layer theory, accretion disks, fluid instabilities, turbulence, convection, gas dynamics, linear (sound) waves, method of characteristics, Riemann invariants, supersonic flow, non-linear waves, shocks, similarity solutions, blast waves, radiative shocks, ionization fronts, magnetohygrodynamics, hydromagnetic shocks, dynamos, gravitational collapse, principles of plasma physics, Landau damping, computational approaches, stability criteria, particle based (Lagrangian) methods, adaptive mesh refinement, radiation hydrodynamics.
Note: This course offered alternative years.

[Astronomy 189. Exoplanet Systems]
Catalog Number: 92184 Enrollment:
Matthew Holman and Ruth Ann Murray-Clay
Half course (spring term). M., F., 12:30–2. EXAM GROUP: 5, 6
Introduction to the formation and dynamical evolution of planetary systems. We will discuss how and where planets form and how their orbits evolve with time, shaping the diversity of planetary systems now observed. Applications will be drawn from extrasolar planetary systems as well as our own solar system.
Note: Expected to be given in 2014–15. This course uses results from thermodynamics. Supplemental lectures will be offered for students who have not completed Physics 181 or Engineering Sciences 181. This course is offered alternate years.
Prerequisite: Astronomy 16, and a course in mechanics at the level of Physics 15a or above.

Astronomy 191. Astrophysics Laboratory
Catalog Number: 3615
John M. Kovac
Half course (spring term). F., 2-5, and lab hours to be arranged. EXAM GROUP: 7, 8, 9

Laboratory and observational projects in astrophysics. Students design and undertake two projects from a selection including: observational studies of the cosmic microwave background radiation, molecules in interstellar clouds, the rotation of the galaxy, galactic molecular sources with the submillimeter array (SMA), stars and clusters with the Clay Telescope; and laboratory experiments including super-conducting submillimeter detectors, x-ray CCDs, and hard x-ray imaging detectors and telescopes.
Note: Primarily for concentrators in astrophysics or combined concentrators with physics. Students with physics as their primary concentration, but with a serious interest in astrophysics, may take this to satisfy their laboratory requirement (in lieu of Physics 191) upon petition to the Head Tutor in Physics. This course is offered each year.
Prerequisite: Astronomy 16 or 17, or Physics 15c or equivalent.

[Astronomy 193. Noise and Data Analysis in Astrophysics]
Catalog Number: 4495
James M. Moran
Half course (spring term). M., W., 2–3:30. EXAM GROUP: 7, 8
How to design experiments and get the most information from noisy, incomplete, flawed, and biased data sets. Basic of Probability theory; Bernoulli trials: Bayes theorem; random variables; distributions; functions of random variables; moments and characteristic functions; Fourier transform analysis; Stochastic processes; estimation of power spectra: sampling theorem, filtering; fast Fourier transform; spectrum of quantized data sets. Weighted least mean squares analysis and nonlinear parameter estimation. Bootstrap methods. Noise processes in periodic phenomena. Image processing and restoration techniques. The course will emphasize a Bayesian approach to problem solving and the analysis of real data sets.
Note: Expected to be given in 2014–15. This course offered alternate years.
Prerequisite: Mathematics 21b or equivalent.

Cross-listed Courses

Applied Mathematics 111. Introduction to Scientific Computing
Earth and Planetary Sciences 121. Terrestrial Planets
[Earth and Planetary Sciences 161 (Global Tectonics). Planetary Physics and Global Tectonics]
***Physics 191r. Advanced Laboratory**

Primarily for Graduates

These courses are primarily aimed at graduate students in Astronomy, although properly prepared undergraduates and graduate students from other fields are welcome. All graduate students in Astronomy are required to take Astronomy 200 and to register every year for Astronomy 301hf. Other 200 level courses below, along with Astronomy 151, 189 and 193 above, may be taken as graduate electives. Graduate students in Astronomy are required to take one 200 level Physics-based course selected from Physics 210, 251a and Astronomy 251. Other 200 level Physics courses may be substituted upon petition to the Director of Graduate Studies.

Astronomy 200 (formerly Astronomy 150). Radiative Processes in Astrophysics

Catalog Number: 8993
Ramesh Narayan
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
This course offers a survey of radiative processes of astrophysical importance from radio waves to gamma rays. Topics include thermal and non-thermal processes, including bremsstrahlung, synchrotron radiation, and Compton scattering; radiation in plasmas; atomic and molecular spectra.
Note: Open to seniors concentrating in Astrophysics or Physics. Juniors considering this course should contact the instructor. This course is offered each year.
Prerequisite: Physics 143a.

[Astronomy 201a. Stellar and Planetary Astrophysics]
Catalog Number: 4303
Steven Robert Cranmer
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Stars are the basic building blocks of the universe, and they are responsible for the production of most elements via nucleosynthesis. This course covers the energy generation and transport in stars, stellar atmospheres and radiative transfer, stellar evolution, and asteroseismology. The Sun and its heliosphere are also studied as the closest and best-studied examples of a star and its circumstellar plasma. This course also provides a brief survey of planetary astrophysics, including the dominant processes acting in the interiors and atmospheres of planets in our own solar system and in others.
Note: Expected to be given in 2014–15. This course offered in alternate years.
Prerequisite: Astronomy 200 (may be taken concurrently).

[Astronomy 201b. Interstellar Medium and Star Formation]
Catalog Number: 4206
Alyssa A. Goodman
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Nature of the Interstellar Medium (ISM): composition, energetics, densities and interactions; observations and theory. Processes leading to the formation of stars and planets, as well as studies of the feedback on the ISM from stellar deaths.
Note: Expected to be given in 2014–15. This course offered in alternate years.

Astronomy 202a. Galaxies and Dynamics
Catalog Number: 8237
Daniel James Eisenstein
Half course (fall term). M., W., 9:30–11. EXAM GROUP: 2, 3
An overview of extragalactic astronomy. Galaxy formation, evolution and properties, galactic dynamics, clustering, gas dynamics, star formation and other topics at the frontiers of extragalactic astronomy.
Note: This course offered in alternate years.

Astronomy 202b. Cosmology
Catalog Number: 2446
Daniel James Eisenstein and John M. Kovac

Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
The cosmological principle: isotropy and homogeneity, cosmological world models, thermal history of the Big Bang, the microwave background, inflation, growth of density fluctuations, large scale structure and other topics at the frontiers of cosmology.
Note: This course offered in alternate years.

Astronomy 215hf. Topics in Contemporary Astrophysics - *(New Course)*
Catalog Number: 38496
Edo Berger
Half course (throughout the year). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This full year half course will cover a broad range of contemporary topics in observational and theoretical astrophysics through a set of 10-12 two-week modules taught by members of the Astronomy Department faculty. The course will meet twice per week, and each module will be comprised of a stand-alone topic with a single homework assignment. Enrolled students will be required to sign up for the full year and attend half of the offered modules.
Note: This course offered each year.
Prerequisite: This course is open to all astronomy graduate students.

Astronomy 218. Radio Astronomy
Catalog Number: 2883
James M. Moran
Half course (fall term). M., W., 2:30–4. EXAM GROUP: 7, 8
Historical development; diffraction theory of antennas and interferometers; signal detection and measurement techniques. Thermal, synchrotron and spectral-line emission in the context of radio observations of the sun, planets, pulsars, masers, hydrogen clouds, molecular clouds, ionized regions, active galaxies, quasars, and the cosmic background. Observational projects and laboratory exercises carried out with the Submillimeter Array, Haystack Observatory and the CMB Laboratory.
Note: This course offered in alternate years.
Prerequisite: Astronomy 200 or Physics 153 recommended.

Astronomy 219. High Energy Astrophysics
Catalog Number: 1858
Jonathan E. Grindlay and Alexey A. Vikhlinin
Half course (spring term). M., W., 2–3:30. EXAM GROUP: 7, 8
Discussion of relativistic and high-energy astrophysical phenomena and observational techniques. Accretion onto compact stars (white dwarfs, neutron stars, black holes); active galactic nuclei, galaxy clusters. Gamma-ray bursts and cosmic rays. X-ray and gamma-ray background.
Note: This course offered in alternate years.

[Astronomy 231. Practical Optics for Astronomers] - *(New Course)*
Catalog Number: 65534
Andrew Szentgyorgyi
Half course (spring term). M., W., 11:30–1. EXAM GROUP: 4, 5
he primary goal of this course is to familiarize consumers of astronomical data with the

fundamental physical principles that underlie the instruments that they use to gather data, as well as provide insight into the engineering constraints that bound the capabilities of available instruments. Topics will include first order optical design principles, the design of telescopes, cameras and spectrographs, as well as basic optical engineering principles and computer aided design.
Note: Expected to be given in 2014–15. This course offered in alternate years.
Prerequisite: A solid grasp of 1st and 2nd year undergraduate physics and fluency in the application of differential and integral calculus to physical problems.

[Astronomy 251. Quantum Mechanics for Astrophysics]
Catalog Number: 5381
Lars Hernquist
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
Quantum mechanics with applications to atomic and molecular processes important in astronomical environments. Atomic and molecular structure; spectroscopy (selection rules, oscillator strengths, photoionization); scattering theory (elastic, inelastic, approximate methods); line broadening; collision processes (cross sections, rate coefficients) involving electrons, ions, atoms, and molecules.
Note: Expected to be given in 2014–15. This course offered in alternate years.
Prerequisite: Physics 143a or the equivalent, or permission of instructor.

Astronomy 253. Plasma Astrophysics - *(New Course)*
Catalog Number: 64783
Nicholas A. Murphy and Steven Robert Cranmer
Half course (spring term). M., W., 3:30–5. EXAM GROUP: 8, 9
This course provides an introduction to plasma physics and plasma processes in an astrophysical context. Topics include charged particle motions, kinetic theory, magnetohydrodynamics, waves, instabilities, dynamos, shocks, particle acceleration, and magnetic reconnection. Specific applications may include solar and stellar coronae (including flares), interplanetary space plasmas, magnetized accretion disks, cosmic rays, galactic dynamos, and interstellar turbulence.
Note: This course offered in alternate years.
Prerequisite: Knowledge of intermediate electromagnetism, partial differential equations, and fluid dynamics. Ay151 (Fluid Dynamics) is recommended but not required.

Cross-listed Courses

Applied Mathematics 205. Advanced Scientific Computing: Numerical Methods
Earth and Planetary Sciences 238. Spectroscopy and Radiative Transfer of Planetary Atmospheres
Physics 210. General Theory of Relativity
Physics 251a. Advanced Quantum Mechanics I

Graduate Courses of Reading and Research

Unless otherwise specified, these courses are given fall term, repeated spring term.

***Astronomy 300. Topics in Modern Astrophysics**
Catalog Number: 7915
Charles Alcock 5194, Sean M. Andrews 6903, Edo Berger 6027, David Charbonneau 5225 (on leave 2013-14), Steven Robert Cranmer 3185, Alexander Dalgarno 1157, Thomas M. Dame 2755, Rosanne Di Stefano 1508, Daniel James Eisenstein 6590, Martin S. Elvis 2530, Giovanni G. Fazio 1143, Douglas Finkbeiner 5556, Christine Jones Forman 5766, William R. Forman 6075, Alyssa A. Goodman 3348, Lincoln J. Greenhill 4490, Jonathan E. Grindlay 4593, Lars Hernquist 4250, Matthew Holman 1260, John Asher Johnson 7400, Justin C. Kasper 6261, Robert P. Kirshner 1071, John M. Kovac 6553, David W. Latham 3716, Julia C. Lee 5305, Abraham Loeb 3349, Jeffrey E. McClintock 2108, James M. Moran 4090, Ruth Ann Murray-Clay 6913, Ramesh Narayan 2871, Karin Oberg 7422, Philip M. Sadler 2231, Dimitar D. Sasselov 1020, Irwin I. Shapiro 7660, Howard A. Smith 6880, Alicia M. Soderberg 6570 (on leave spring term), Christopher Stubbs 4856, Patrick Thaddeus 1398, and David J. Wilner 2855
A seminar, reading, or research course may be arranged with any of the faculty listed. Students can also arrange to obtain Astronomy 300 credit for reading or research with scientific staff members of the Harvard-Smithsonian Center for Astrophysics; consult Astronomy Department office.

***Astronomy 301hf. Journal Club**
Catalog Number: 5224
Edo Berger 6027 and Alicia M. Soderberg 6570 (on leave spring term)
Half course (throughout the year). Tu., at 4.
Each week two speakers (faculty, lecturers, and students) will report on current research in astronomy, providing students with an opportunity to practice the organization and presentation of technical material. A minimum of one presentation will be expected from each student each year focused on their own research or new results in the literature. Faculty will similarly discuss recent results from the literature, as well as their own research as a way to provide an overview of research activities at the Harvard Astronomy Department. The course is intended as an opportunity for substantive discussion, as an opportunity to find out about research activities, and to foster interaction between the students and faculty.
Note: This course is offered each semester and attendence is required for all registered graduate students in Astronomy.

***Astronomy 302. Scientists Teaching Science**
Catalog Number: 9869
Philip M. Sadler 2231
Half course (spring term). Tu., 2–3:30.
Learn the secrets of lecturing well, leading discussions, connecting to real-world applications, and creating tests in any scientific discipline as we focus on relevant educational research and case studies, plus engage in practical classroom activities.
Note: Open to graduate students in all areas of science. Assignments help illustrate research findings from life, earth, and physical science education. Undergraduates with an interest in teaching at the pre-college level may be admitted with instructor permission. This course offered each year.
Prerequisite: Experience as a teaching fellow or tutor.

Cross-listed Courses

***Statistics 310hf. Topics in Astrostatistics**

Biological Sciences in Dental Medicine

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Dental Medicine

Bjørn R. Olsen, Hersey Professor of Cell Biology, Professor of Developmental Biology *(Medical School, Dental School) (Chair)*
Malcolm Whitman, Professor of Developmental Biology *(Dental School) (Vice Chair)*
Arkhat Abzhanov, Associate Professor of Organismic and Evolutionary Biology *(on leave 2013-14)*
Roland Elie Baron, Professor of Oral Medicine, Infection, and Immunity, Professor of Medicine *(Dental School, Medical School)*
Floyd E. Dewhirst, Professor of Oral Medicine, Infection, and Immunity *(Dental School)*
Randy King, Professor of Cell Biology *(Medical School)*
Henry M. Kronenberg, Professor of Medicine *(Medical School)*
Beate K. M. Lanske, Associate Professor of Oral Medicine, Infection, and Immunity, Associate Professor of Medicine *(Dental School, Medical School)*
Andrew B. Lassar, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Yefu Li, Assistant Professor of Developmental Biology *(Dental School)*
Richard L. Maas, Professor of Medicine *(Medical School)*
Henry C. Margolis, Associate Professor of Developmental Biology *(Dental School)*
David J. Mooney, Robert P. Pinkas Family Professor of Bioengineering
Mohammed Shawkat Razzaque, Assistant Professor of Oral Medicine, Infection, and Immunity *(Dental School)*
Vicki Rosen, Professor of Developmental Biology *(Dental School)*
Gary B. Ruvkun, Professor of Genetics *(Medical School)*
Charles N. Serhan, Simon Gelman Professor of Anaesthesia *(Medical School)*
Jagesh V. Shah, Associate Professor of Systems Biology, Associate Professor of Health Sciences and Technology, Associate Professor of Medicine *(Medical School)*
Kevin Struhl, David Wesley Gaiser Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Clifford J. Tabin, George Jacob and Jacqueline Hazel Leder Professor of Genetics *(Medical School)*
Xiu-Ping Wang, Assistant Professor of Developmental Biology *(Dental School)*
Matthew L. Warman, Harriet M. Peabody Professor of Orthopedic Surgery, Professor of Genetics *(Medical School)*

Other Faculty Offering Instruction in Dental Medicine

John D. Bartlett, Assistant Professor of Developmental Biology *(Dental School)*
Patricia A. D'Amore, Professor of Ophthalmology (Pathology) *(Medical School)*
Daniel Finley, Professor of Cell Biology *(Medical School)*
David E. Fisher, Edward Wigglesworth Professor of Dermatology *(Medical School)*
Paul F. Goetinck, Professor of Dermatology, Emeritus *(Medical School)*
James Hanken, Professor of Biology and Curator of Herpetology, Alexander Agassiz Professor of Zoology in the Museum of Comparative Zoology
Peter V. Hauschka, Associate Professor of Developmental Biology *(Dental School)*
Elizabeth D. Hay, Louise Foote Pfeiffer Professor of Embryology in the Department of Cell Biology, Emeritus*(Medical School)*
Michael Klagsbrun, Patricia A. Donahoe Professor of Surgery (Pathology) *(Medical School)*
Michael Levin, Visiting Professor of Genetics *(Medical School)*
Yi-Ping Li, Assistant Professor of Oral Medicine, Infection, and Immunity *(Dental School)*
Daniel E. Lieberman, Edwin M. Lerner II Professor of Biological Sciences, Harvard College Professor
Bruce J. Paster, Professor of Oral Medicine, Infection, and Immunity *(Dental School)*
Philip P. Stashenko, Associate Professor of Oral Medicine, Infection, and Immunity *(Dental School)*
Martin A. Taubman, Professor of Developmental Biology *(Dental School)*

The Biological Sciences in Dental Medicine (BSDM) Program, leading to the PhD degree combines faculty from the Department of Developmental Biology and other Harvard School of Dental Medicine departments with faculty from basic science departments at Harvard Medical School, and faculty from the Faculty of Arts and Sciences.

This program offers advanced study in the molecular, supramolecular, cellular, and supracellular processes that provide the intellectual basis for dental medicine.

The BSDM program is intended for scholars interested in pursuing a career in basic or patient-oriented science in the areas of skeletal biology, cell biology and development, immunology, or microbiology leading to a PhD degree. Eligible applicants will be individuals with a baccalaureate in sciences (BS), a master degree in sciences, (MS), a doctoral degree in dentistry, (DMD, DDS), or a medical doctoral degree (MD).

Graduate Courses of Reading and Research

***Biological Sciences in Dental Medicine 300. Research with Faculty**
Catalog Number: 9825

Biological Sciences in Public Health

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Public Health Sciences

Michael Grusby, Professor of Molecular Immunology *(Public Health) (Chair)*

Faculty of the Subcommittee on the Doctor of Philosophy in Biological Sciences in Public Health

Marianne Wessling-Resnick, Professor of Nutritional Biochemistry *(Public Health) (Chair)*
Michael Grusby, Professor of Molecular Immunology *(Public Health) (ex officio)*
Daniel L. Hartl, Higgins Professor of Biology *(FAS)* and Professor in the Department of Immunology and Infectious Diseases *(Public Health) (spring term)*
Lester Kobzik, Professor in the Department of Environmental Health *(Public Health),* Professor of Pathology *(Medical School)*
Susan Mango, Professor of Molecular and Cellular Biology *(spring term) (on leave fall term)*
Frank M. Sacks, Professor of Cardiovascular Disease Prevention *(Public Health),* Professor of Medicine *(Medical School)*
Dyann F. Wirth, Richard Pearson Strong Professor of Infectious Disease *(Public Health)*

Other Faculty Offering Instruction in Biological Sciences in Public Health

Barbara Burleigh, Associate Professor of Immunology and Infectious Diseases *(Public Health)*
James Preston Butler, Associate Professor of Medicine *(Medical School)*
Flaminia Catteruccia, Associate Professor of Immunology and Infectious Diseases *(Public Health)*
David Christiani, Professor of Medicine *(Medical School)*
Manoj T. Duraisingh, Assistant Professor of Immunology and Infectious Diseases *(Public Health)*
Myron Essex, Mary Woodard Lasker Professor of Health Sciences *(Public Health)*
Sarah Merritt Fortune, Assistant Professor of Immunology and Infectious Diseases *(Public Health)*
Jeffrey J. Fredberg, Professor of Bioengineering and Physiology *(Public Health)*
Wendy S. Garrett, Assistant Professor of Immunology and Infectious Diseases *(Public Health)*
Ricardo T. Gazzinelli, Visiting Professor of Immunology and Infectious Diseases *(Public Health)*
Marcia Goldberg, Associate Professor in the Department of Immunology and Infectious Diseases *(Medical School)*
Tiffany Horng, Assistant Professor of Genetics and Complex Diseases *(Public Health)*
Gokhan S. Hotamisligil, James Stevens Simmons Professor of Genetics and Metabolism *(Public Health)*
Curtis Huttenhower, Assistant Professor of Computational Biology and Bioinformatics *(Public Health)*
Phyllis J. Kanki, Professor of Immunology and Infectious Diseases *(Public Health)*
Chih-Hao Lee, Assistant Professor of Genetics and Complex Diseases *(Public Health)*
Tun-hou Lee, Professor of Virology *(Public Health)*
Marc Lipsitch, Professor of Epidemiology *(Public Health)*
Quan Lu, Associate Professor of Environmental Genetics and Pathophysiology *(Public Health)*
William Mair, Assistant Professor of Genetics and Complex Diseases *(Public Health)*
Brendan D. Manning, Professor of Genetics and Complex Diseases *(Public Health)*

Matthias Marti, Assistant Professor in Immunology and Infectious Diseases *(Public Health)*
James Mitchell, Assistant Professor of Genetics & Complex Diseases *(Public Health)*
Eric J. Rubin, Assistant Professor of Medicine (Microbiology and Molecular Genetics) *(Medical School)*
Stephanie A. Shore, Senior Lecturer on Physiology *(Public Health)*
Bernardo Lemos Silva, Assistant Professor of Environmental Epigenetics *(Public Health)*
Joseph G. Sodroski, Professor in the Department of Immunology and Infectious Diseases *(Public Health)*
Vishal S. Vaidya, Assistant Professor of Medicine *(Medical School)*
Zhi-Min Yuan, Professor of Radiobiology *(Public Health)*

The FAS Standing Committee on Higher Degrees in Public Health Sciences has the general responsibility of overseeing the existing PhD degree programs in biological sciences and biostatistics and developing new PhD programs in other important domains of public health.

The committee is composed of representatives from the Faculty of Arts and Sciences, the School of Public Health, and the Medical School. The committee membership is drawn from the biological and numeric sciences to reflect the current PhD programs. As new programs are created in the future, members representing other relevant disciplines will be added to the committee.

The committee works with the Subcommittee on the Degree of Doctor of Philosophy in Biological Sciences and the Subcommittee on the Degree of Doctor of Philosophy in Biostatistics to make policy decisions and ensure the continuing strengths of those programs. The committee is also charged with initiating discussion of and planning for additional PhD programs.

The Subcommittee on the Degree of Doctor of Philosophy in Biological Sciences in Public Health (with membership from the Faculty of Arts and Sciences, the Medical School, and the School of Public Health) and the Subcommittee on the Degree of Doctor of Philosophy in Biostatistics (with membership from the Faculty of Arts and Sciences and the School of Public Health) hold responsibility for oversight of their respective programs, including monitoring requirements and standards for the degree and creating standards for admission.

For more courses of interest, see the School of Public Health catalog.

Primarily for Graduates

***BPH 201r. Laboratory Rotations**
Catalog Number: 32079
Brendan D. Manning (Public Health)
Half course (fall term; repeated spring term). Hours to be arranged.
Members of the Division of Biological Sciences offer hands-on experimental methods of research in biological sciences. Students write a paper and give an oral presentation regarding their 10-week laboratory project.
Note: Offered jointly with the School of Public Health as DBS 300.

BPH 206. Advanced Respiratory Physiology
Catalog Number: 1049
James Preston Butler (Medical School)
Half course (fall term). M., W., 9–10:20. EXAM GROUP: 2, 3
Respiratory measurements are an integral part of public health research. We will critically discuss their scientific bases, noting practical considerations and pitfalls, and their interpretations and inferences about physiological status and disease.
Note: Offered jointly with the School of Public Health as EH 223.
Prerequisite: EH 205 or equivalent, or signature of instructor indicating suitable background required. College-level physiology.

BPH 208. Human Physiology
Catalog Number: 3627
Stephanie A. Shore (Public Health)
Half course (fall term). M., W., 10:30–12:20. EXAM GROUP: 3, 4, 5
An introduction to the principles governing function in the human body designed to provide a framework in physiology for future public health researchers and professionals who have not taken college level physiology courses. Emphasis on the concept of homeostasis and on integrative aspects of physiology. Examples of pathophysiology and environmental physiology highlight these processes.
Note: Offered jointly with the School of Public Health as EH 205. Required lab.
Prerequisite: College-level introductory biology or permission of the instructor.

BPH 210. Pathophysiology of Human Disease
Catalog Number: 3078
Lester Kobzik
Half course (spring term). M., F., 1:30–3:20. EXAM GROUP: 6, 7
Surveys major human disease problems in the cardiovascular, respiratory, hematopoietic, reproductive, and gastrointestinal systems. Emphasis on understanding the pathophysiologic basis of common disease manifestations and the pathogenesis of the disease process.
Note: Offered jointly with the Medical School as BPH 729.0 and with the School of Public Health as EH 208.
Prerequisite: A college-level human physiology course.

BPH 215. Principles of Toxicology
Catalog Number: 5366
Vishal S. Vaidya (Medical School)
Half course (fall term). M., W., 10:30–12:20. EXAM GROUP: 3, 4, 5
Emphasizes mechanisms of injury and clinical consequences following exposures to environmental and occupational chemicals. Examines actions at the molecular, cellular, organ system, and organismal levels. Discusses methods for detecting, evaluating, analyzing, and combating toxic effects.
Note: Offered jointly with the School of Public Health as EH 504.
Prerequisite: Organic chemistry and mammalian physiology or equivalent.

BPH 222. The Science of Human Nutrition
Catalog Number: 0216
Frank M. Sacks and members of the Department
Half course (spring term). Tu., Th., 1:30–3:20. EXAM GROUP: 15, 16
A review of the biochemistry of carbohydrates, fats, proteins, vitamins, and minerals in the context of human disease. Contemporary topics are emphasized. Particular emphasis given to current knowledge of the mechanisms that may explain the role of diet in the causation and/or prevention of ischemic heart disease, diabetes, obesity, hypertension, and cancer. Recommended dietary intakes of selected nutrients are discussed in order to understand their limitations.
Note: Offered jointly with the Medical School as BPH 733.0 and with the School of Public Health as NUT 202.
Prerequisite: Introductory nutrition course. Prior familiarity with nutrition and the health sciences expected, as well as a basic knowledge of biochemistry and human physiology.

***BPH 225r. Advanced Topics in Biological Sciences in Public Health: Seminar**
Catalog Number: 58162
Marianne Wessling-Resnick (Public Health)
Half course (fall term; repeated spring term). Hours to be arranged.
A series of discussions and seminars each running for a half term (7-8 weeks).

Graduate Courses of Reading and Research

***BPH 301 (formerly *BPH 219). Biological Sciences Seminars**
Catalog Number: 1152
Quan Lu (Public Health) 6774
Half course (fall term). Tu., Th., 9–10:20. EXAM GROUP: 11, 12
Faculty present seminars on their current research in the biological sciences and direct a student discussion of the logic and experimental design of this research. Topics include chemical and viral carcinogenesis, DNA damage and repair, immunology, molecular biology, metabolism, cardiovascular disease, parasitology, and how these areas apply to public health issues.
Note: Required for first-year students in the BPH program. Offered jointly with the School of Public Health as DBS 205.

***BPH 312. Regulation of the Cellular Uptake of Macromolecular Nutrients**
Catalog Number: 2736
Marianne Wessling-Resnick (Public Health) 1315

***BPH 315. Molecular Genetic Analysis of Gene Expression and Drug Resistance in Parasitic Protozoan, Including Leishmania and Malaria**
Catalog Number: 2756
Dyann F. Wirth (Public Health) 2492

***BPH 319. Signaling Mechanisms of Peptide Hormones, Genetic and Molecular Basis of Obesity and Diabetes**
Catalog Number: 8425
Gokhan S. Hotamisligil (Public Health) 2725



***BPH 322. Study of Epidemiologic and Biological Characteristics of HIV Viruses in Africa**
Catalog Number: 4523
Phyllis J. Kanki (Public Health) 2270

***BPH 323. Human Lipoprotein Metabolism: Biochemistry and Metabolic Modeling**
Catalog Number: 5530
Frank M. Sacks 2276

***BPH 325. Assessment of the Impact of Workplace Pollutants on Health**
Catalog Number: 7448
David Christiani (Public Health, Medical School) 1514

***BPH 334. Molecular Basis of Host Cell Invasion, Signaling and Differentiation by the Human Pathogen, Trypanosoma Cruzi**
Catalog Number: 2409
Barbara Burleigh (Public Health) 2763

***BPH 336. Study of Human and Primate T-lymphotrophic Retroviruses Including Agents that Cause AIDS**
Catalog Number: 3248
Myron Essex (Public Health) 2499

***BPH 339. Mechanical Basis of Airway and Lung Parenchymal Function**
Catalog Number: 6572
Jeffrey J. Fredberg (Public Health) 1303

***BPH 345. Lung Macrophage Differentiation and Function**
Catalog Number: 1495
Lester Kobzik (Medical School, Public Health) 1313

***BPH 348. Human and Related Primate Retroviruses**
Catalog Number: 3024
Tun-hou Lee (Public Health) 2769

***BPH 357. Physiological and Pharmacological Aspects of Bronchoconstriction.**
Catalog Number: 5047
Stephanie A. Shore (Public Health) 1304

***BPH 358. Human Immunodeficiency Virus Envelope Glycoproteins and Vaccine Development**
Catalog Number: 0241
Joseph G. Sodroski (Medical School, Public Health) 1712

***BPH 365. Virulence Factors of Mycrobacteria; Acquisition of Virulence Determinants of *Vibrio Cholerae*; Generalized Mutagenesis Systems for Bacteria**

Catalog Number: 5044
Eric J. Rubin (Public Health) 4084

***BPH 366. Theoretical, Statistical, and Experimental Approaches to Population Biology and the Epidemiology of Infectious Diseases**
Catalog Number: 7822
Marc Lipsitch (Public Health) 4097

BPH 368. Host-pathogen Interactions of *Shigella
Catalog Number: 6995
Marcia Goldberg (Medical School) 3783

***BPH 372. Molecular Mechanisms Underlying the Pathogenesis of Human Malaria**
Catalog Number: 2598
Manoj T. Duraisingh (Public Health) 5177

***BPH 374. Nuclear Lipid Receptors as Therapeutic Targets of Metabolic Diseases**
Catalog Number: 3153
Chih-Hao Lee (Public Health) 5294

***BPH 375. Signaling Pathways Underlying Tumorigenesis and Metabolic Diseases**
Catalog Number: 3159
Brendan D. Manning (Public Health) 5293

***BPH 376. Secretion and pathogenesis in M. tuberculosis**
Catalog Number: 7620
Sarah Merritt Fortune (Public Health) 5736

***BPH 377. Host-Pathogen Interactions in Malaria Parasites**
Catalog Number: 98913
Matthias Marti (Public Health) 6439

***BPH 379. Transcriptional Mechanisms that Regulate Inflammatory Gene Expression**
Catalog Number: 21747
Tiffany Horng (Public Health) 6612

***BPH 380. Interplay Between the Innate Immune System/Intestinal Microbial Communities**
Catalog Number: 73269
Wendy S. Garrett (Public Health) 6613

***BPH 381. Receptor Signaling and Disease**
Catalog Number: 41678
Quan Lu (Public Health) 6774



***BPH 382. Aging, Stress Resistance and Dietary Restriction**
Catalog Number: 48113
James Mitchell (Public Health) 6907

***BPH 383. Gene regulation and environmental epigenetics**
Catalog Number: 85351
Bernardo Lemos Silva (Public Health) 3606

***BPH 384. Sex and reproduction in the mosquito Anopheles gambiae: targets for the control of malaria transmission**
Catalog Number: 43307
Flaminia Catteruccia (Public Health) 3493

***BPH 385. The Molecular Genetics of Aging**
Catalog Number: 36534
William Mair (Public Health) 3550

***BPH 386. Kidney Disease: From Translational Biomarkers to Molecular Mechanisms & Regenerative Medicine**
Catalog Number: 19866
Vishal S. Vaidya (Medical School) 6964

***BPH 387. The tumor suppressor p53-mediated stress response in human cancer**
Catalog Number: 67403
Zhi-Min Yuan (Public Health) 9265

***BPH 388. Functional analysis of microbial communities and the human microbiome**
Catalog Number: 96614
Curtis Huttenhower (Public Health) 6551

Quarter Courses for Graduate Students Only

***BPH 301qc. Molecular Basis for Nutritional & Metabolic Diseases**
Catalog Number: 29149
Chih-Hao Lee (Public Health) 5294 and Gokhan S. Hotamisligil (Public Health) 2725
Quarter course (spring term). M., 12:30–1:20, W., 10:30–12:10.
Students have an opportunity to review and analyze key papers that provide physiological and molecular evidence that bears on a topic of current interest in human nutrition and related disorders. Additionally, students learn skills necessary for critical thinking, and oral and written presentations.
Note: Offered jointly with the School of Public Health as ID 512.

***BPH 302qc. Interdisciplinary Training in Pulmonary Sciences Part II**
Catalog Number: 95778
Quan Lu (Public Health) 6774 and Lester Kobzik 1313
Quarter course (spring term). Tu., 9:30–11:30, F., 12:30–1:20.

The intersection of environment and health is by necessity an interdisciplinary focus. The most promising advances in lung biology and respiratory disease are resulting from teams of scientists with diverse disciplinary training, including biology, medicine, engineering, and physics. In addition to a strong foundation in a specific discipline, the ability to recognize and act upon opportunities presented by outside disciplines is a crucial skill. This course is designed to train scientists to approach lung biology and respiratory diseases with an interdisciplinary perspective, in particular by bridging the gap between life sciences and physical/engineering sciences. With a focus on laboratory sciences and on mechanistic levels of understanding, course materials will cover 3 main problem areas: asthma, air pollution, and lung infection. The course consists of weekly course-meetings (lectures and case-studies) plus weekly research seminars from the physiology program. Students will gain skills in recognizing the relative strengths and weaknesses of different disciplinary approaches applied to pulmonary sciences, in designing interdisciplinary experiments effectively, and in interpreting interdisciplinary results critically.
Note: Offered jointly with the School of Public Health as EH 513.

***BPH 303qc. Critical Reading in Pathophysiology of Human Diseases**
Catalog Number: 44256
Lester Kobzik 1313
Quarter course (spring term). Tu., 3:30–5.
The objectives of this course are to enhance and supplement knowledge of pathophysiology learned in the main course. This course will use critical reading to explore primary literature, and is especially intended for graduate students in the biological sciences. The course materials and discussions will provide a deeper understanding of the application and translation of basic pathophysiology, as found in current biomedical research.
Note: Offered jointly with the School of Public Health as EH 526.

***BPH 304qc. Ecological and Epidemiological Control of Parasitic Diseases**
Catalog Number: 59363
Matthias Marti (Public Health) 6439 and Dyann F. Wirth (Public Health) 2492
Quarter course (fall term). M., W., F., 3:30–5:20.
Provides an introduction to ecological and epidemiological concepts basic to the control of infectious agents. Considers important parasitic diseases of particular significance in the developing areas of the world. Epidemiological principles of vector-associated diseases are elucidated through study of entities such as malaria and schistosomiasis.
Note: Offered jointly with School of Public Health as IID 201.
Prerequisite: Background in biology required; knowledge of pathogenesis of infectious diseases desirable.

***BPH 305qc. Interdisciplinary Training in Pulmonary Sciences Part 1**
Catalog Number: 22948
Quan Lu (Public Health) 6774 and Lester Kobzik 1313
Quarter course (fall term). Tu., 9:30–10:20, F., 12:30–1:20.
The intersection of environment and health is by necessity an interdisciplinary focus. The most promising advances in lung biology and respiratory disease are resulting from teams of scientists with diverse disciplinary training, including biology, medicine, engineering, and physics. In addition to a strong foundation in a specific discipline, the ability to recognize and act upon

opportunities presented by outside disciplines is a crucial skill. This course is designed to train scientists to approach lung biology and respiratory diseases with an interdisciplinary perspective, in particular by bridging the gap between life sciences and physical/engineering sciences. With a focus on laboratory sciences and on mechanistic levels of understanding, course materials will cover 3 main problem areas: asthma, air pollution, and lung infection. The course consists of weekly course-meetings (lectures and case-studies) plus weekly research seminars from the physiology program. Students will gain skills in recognizing the relative strengths and weaknesses of different disciplinary approaches applied to pulmonary sciences, in designing interdisciplinary experiments effectively, and in interpreting interdisciplinary results critically.
Note: Offered jointly with School of Public Health as EH 512.

***BPH 306qc. Tuberculosis**
Catalog Number: 89577
Sarah Merritt Fortune (Public Health) 5736 and Eric J. Rubin (Medical School) 4084
Quarter course (spring term). Tu., Th., 1:30–3:20.
This is a comprehensive survey course on tuberculosis featuring lectures by some of the leading authorities in the field. The first half of the course focuses on population issues (TB epidemiology in the US and the world), transmission, modeling, and programmatic issues (the essentials of good TB control both here and in high burden countries). The second month deals more with the biomedical aspects of TB, immunology, genetics, diagnosis, decision analysis, and treatment, again, both here and abroad. There is a field trip to the Massachusetts State Laboratory. Because of involvement of several of the faculty, special attention is paid to the global problem of multidrug resistant TB, and the work of Partners in Health, an NGO associated with the medical school. During the second month, medical students join the SPH students for an elective course involving patient interviews at the state TB hospital. They present these cases and related topics in class during the second month. SPH students are evaluated on the basis of class participation and one or more presentations on relevant TB topics of interest. The course ends on or near World TB Day, with optional TB-related activities in the Boston area.
Note: Offered jointly with School of Public Health as IID 202.

***BPH 308qc. Molecular Signals to Understand Exposure Biology**
Catalog Number: 25653
Instructor to be determined
Quarter course (spring term). Fall: Th., 10:30-12:20; Spring: Hours to be arranged.
This course will offer students a deeper understanding of molecular signals often termed, as "Biomarkers" that serve as highly useful tools for understanding the biology of the disease as well as nature and extent of human exposure from environmental contaminants and drugs. The course is divided in 4 modules: 1) Biomarker discovery, 2) Organ/Disease specific biomarkers, 3) Multiscale technologies for biomarker quantitation, and 4) Clinical and statistical considerations in biomarker research.
Note: Offered jointly with School of Public Heath as EH 527.

***BPH 309qc. Tumor Cell Signaling and Metabolism**
Catalog Number: 63523 Enrollment: Limited to 15.
Brendan D. Manning (Public Health) 5293
Quarter course (fall term). M., F., 1:30–3:30.

This course will focus on the metabolic reprogramming of cells as they undergo the transformation from normal to cancer cells. Emphasis will be placed on the unique nutrient and energy demands of growing tumors, the molecular mechanisms by which oncogenic signaling pathways alter cellular metabolism, and therapeutic opportunities arising from the profound differences in the metabolism of normal versus tumor cells. This course consists of one lecture and one session of critical reading of current primary literature related to the lecture each week.
Note: This course will be taught every other year (odd years). Offered jointly with the School of Public Health as GCD 213.
Prerequisite: Preference given to PhD students in HILS-affiliated programs (e.g., BPH, BBS, etc.)

***BPH 310qc. Molecular Mechanisms of Aging**
Catalog Number: 61482
James Mitchell (Public Health) 6907
Quarter course (fall term). M., F., 1:30–3:30.
We will explore molecular mechanisms underlying aging and aging-related disease. Topics will include nutrient signaling and energy metabolism, genome stability and proteostasis, interventional approaches to extended longevity, and theories of aging including the free radical theory. Recent and classic literature will be critically discussed.
Note: This course will be taught every other year (odd years). Offered jointly with the School of Public Health as GCD 212.
Prerequisite: Preference given to PhD students in HILS-affiliated programs (e.g., BPH, BBS, etc.)

BPH 316qc. Molecular and Cell Biology of Infectious Diseases - *(New Course)
Catalog Number: 36484 Enrollment: Limited to 20.
Barbara Burleigh (Public Health) 2763 and Matthias Marti (Public Health) 6439
Quarter course (spring term). Tu., Th., 3–5:50.
This course will focus on medically important eukaryotic parasites (including malaria, toxoplasma, leishmania, trypanosomes, amoebae, and giardia). We will examine central themesin the pathogenesis of infectious diseases. Critical readings and discussions will emphasize biochemistry, cell and molecular biology of host-pathogen interactions during the establishment and maintenance of infection in hosts and host cells. To the extent to which it is possible, infection strategies of protozoan parasites will be compared and contrasted to those of bacterial and viral pathogens. in hosts and host cells.
Note: Offered jointly with School of Public Health as IID216. Meeting Dates: January 28 - March 13. Offered with BPH 317qc.

***BPH 317qc. Immunology of Infectious Diseases**
Catalog Number: 6938 Enrollment: Limited to 35.
Ricardo T. Gazzinelli (Public Health) 7487 and Barbara Burleigh (Public Health) 2763
Quarter course (spring term). Tu., Th., 3:30–5:30.
The available information on molecular and cellular basis of innate immune responses has exploded in the last decade. In particular de role of Toll-Like receptors, inflammasomes and nucleic acid-sensing cytoplasmatic receptors on resistance to and pathogenesis of infectious diseases have been scrutinized. The main focus of the course will be on the interface of the

innate and acquired immune system with microbial pathogens, discussing the role that these interactions play in protective versus deleterious immune responses, and thereby, on disease outcome. The program will promote discussions on fundamental concepts as well as new advances in the role of innate immunity in host resistance and pathogenesis of infectious diseases, with special emphasis on infections of the tropics. Each lecture requires reading several relevant papers and completion of a problem set. A final paper, in the format of a research proposal, is required.
Note: Offered jointly with the Medical School as BPH 724.0 and with the School of Public Health as IID 208. Each lecture requires reading several relevant papers and completion of a problem set. Meeting Dates: March 25 - May 15. Offered with BPH 316qc.
Prerequisite: An immunology course.

Biomedical Engineering

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the School of Engineering and Applied Sciences Offering Instruction in Biomedical Engineering

Joanna Aizenberg, Amy Smith Berylson Professor of Materials Science
Sujata K. Bhatia, Lecturer on Biomedical Engineering *(Assistant Director of Undergraduate Studies in Biomedical Engineering)*
David A. Edwards, Gordon McKay Professor of the Practice of Idea Translation
Robert D. Howe, Abbott and James Lawrence Professor of Engineering, Area Dean for Bioengineering
Donald E. Ingber, Professor of Bioengineering
Neel S. Joshi, Associate Professor of Chemical and Biological Engineering
Jennifer Lewis, Hansjorg Wyss Professor of Biologically Inspired Engineering
David J. Mooney, Robert P. Pinkas Family Professor of Bioengineering *(Director of Undergraduate Studies in Biomedical Engineering)*
Cherry Murray, John A. and Elizabeth S. Armstrong Professor of Engineering and Applied Sciences, Professor of Physics, and Dean of the School of Engineering and Applied Sciences
Kevin K. Parker, Tarr Family Professor of Bioengineering and Applied Physics *(on leave spring term)*
Maurice A. Smith, Thomas D. Cabot Associate Professor of Bioengineering
Conor J. Walsh, Assistant Professor of Mechanical and Biomedical Engineering

Other Faculty Offering Instruction in Biomedical Engineering

Daniel M. Merfeld, Associate Professor of Otology and Laryngology *(Medical School)*

Primarily for Undergraduates

***Biomedical Engineering 91r. Supervised Reading and Research**
Catalog Number: 63962
Sujata K. Bhatia
Half course (fall term; repeated spring term). Hours to be arranged.
Guided reading and research.
Note: Normally open to candidates accepted for work on a specific topic by a member of the teaching staff of the School of Engineering and Applied Sciences. Normally may not be taken for more than two terms; may be counted for concentration in Biomedical Engineering if taken for graded credit. Applicants should file a project sheet before study cards are filed. Project sheets may be obtained from the Student Affairs Office, Pierce Hall 110.

Cross-listed Courses

Engineering Sciences 53. Quantitative Physiology as a Basis for Bioengineering

For Undergraduates and Graduates

Biomedical Engineering 110 (formerly Engineering Sciences 145). Physiological Systems Analysis
Catalog Number: 8197
Daniel M. Merfeld (Medical School)
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
A survey of systems theory with applications from bioengineering and physiology. Analysis: differential equations, linear and nonlinear systems, stability, the complementary nature of time and frequency domain methods, feedback, and biological oscillations. Applications: nerve function, muscle dynamics, cardiovascular regulation. Laboratory: neural models, feedback control systems, properties of muscle, cardiovascular function.
Prerequisite: Applied Mathematics 21b or Mathematics 21b or equivalent. Physiology at the level of Engineering Sciences 53 suggested.

***Biomedical Engineering 121 (formerly *Engineering Sciences 122). Cellular Engineering**
Catalog Number: 8439
Neel S. Joshi
Half course (fall term). M., W., F., at 9, and laboratory to be arranged. EXAM GROUP: 2
This is a combined introductory graduate/upper-level undergraduate course that focuses on examining modern techniques for manipulating cellular behavior and the application of these techniques to problems in the biomedical and biotechnological arenas. Topics will include expanding the genetic code, genetic circuits, rewiring signaling pathways, controlling behavior through cell-matrix interactions, and directed differentiation of stem cells. Lectures will review fundamental concepts in cell biology before delving into topical examples from current literature. Students will work individually and in teams to determine the boundaries of existing cellular engineering techniques using scientific literature and conduct original research in the

laboratory.
Note: This course has a mandatory laboratory section, and it is taught concurrently with Engineering Sciences 222. Students interested in taking the course without the laboratory section should enroll in Engineering Sciences 222.
Prerequisite: At least one semester of college-level organic chemistry and molecular/cellular biology. Physics at the level of Physics AP50 or Physics 12.

Biomedical Engineering 125 (formerly Engineering Sciences 130). Tissue Engineering
Catalog Number: 3169
David J. Mooney
Half course (spring term). Tu., Th., 1-2:30, and a weekly lab. EXAM GROUP: 15, 16
Fundamental engineering and biological principles underlying field of tissue engineering, along with examples and strategies to engineer specific tissues for clinical use. Students will prepare a paper in the field of tissue engineering, and participate in a weekly laboratory in which they will learn and use methods to fabricate materials and perform 3-D cell culture.
Note: Credit may be earned for either Engineering Sciences 230 or Biomedical Engineering 125, but not both.
Prerequisite: Biochemistry or cell biology background.

[Biomedical Engineering 130 (formerly Engineering Sciences 149). Neural Control of Movement]
Catalog Number: 0440
Maurice A. Smith
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Approaches from robotics, control theory, and neuroscience for understanding biological motor systems. Analytical and computational modeling of muscles, reflex arcs, and neural systems that contribute to motor control in the brain. Focus on understanding how the central nervous system plans and controls voluntary movement of the eyes and limbs. Learning and memory; effects of variability and noise on optimal motor planning and control in biological systems.
Note: Expected to be given in 2014–15. Offered in alternate years.
Prerequisite: Mathematics 21b or Applied Mathematics 21b or equivalent, probability and statistics, Physics 11a or equivalent.

Biomedical Engineering 191. Introduction to Biomaterials - *(New Course)
Catalog Number: 30212 Enrollment: Limited to 30.
Jennifer Lewis
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
A biomaterial is any form of matter that is produced by or interacts with biological systems. One of the pillars of biomedical engineering is to use naturally derived and synthetic biomaterials to treat, augment, or replace human tissues. This course examines the structure, properties and processing of biomaterials.
Prerequisite: Physical sciences 1, Math 1b.

Primarily for Graduates

Cross-listed Courses

Engineering Sciences 211. Microphysiological Systems - *(New Course)*
Engineering Sciences 221. Drug Delivery
***Engineering Sciences 222. Advanced Cellular Engineering**
[Engineering Sciences 226r. Special Topics in Neural Engineering: Learning and Memory in Neural Systems]
***Engineering Sciences 227. Medical Device Design**
[Engineering Sciences 228. Biomaterials]
Engineering Sciences 230. Advanced Tissue Engineering

Biophysics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Biophysics

James M. Hogle, Edward S. Harkness Professor of Biological Chemistry and Molecular Pharmacology *(Medical School) (Chair)*
Howard C. Berg, Herchel Smith Professor of Physics and Professor of Molecular and Cellular Biology *(on leave spring term)*
Stephen C. Blacklow, Gustavus Adolphus Pfeiffer Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
George M. Church, Robert Winthrop Professor of Genetics *(Medical School)*
Stephen C. Harrison, Giovanni Armenise - Harvard Professor of Basic Biomedical Science, Professor of Pediatrics *(Medical School)*
David R. Liu, Professor of Chemistry and Chemical Biology, Harvard College Professor
Venkatesh N. Murthy, Professor of Molecular and Cellular Biology
Aravinthan D. T. Samuel, Professor of Physics *(on leave spring term)*
Eugene I. Shakhnovich, Professor of Chemistry and Chemical Biology
Gerhard Wagner, Elkan Blout Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Xiaowei Zhuang, Professor of Chemistry and Chemical Biology and of Physics

Other Faculty Offering Instruction in Biophysics

John A. Assad, Professor of Neurobiology *(Medical School)*
Frederick Ausubel, Professor of Genetics *(Medical School)*
Brian Bacskai, Associate Professor of Neurology *(Medical School)*
William H. Bossert, David B. Arnold, Jr. Professor of Science
Martha L. Bulyk, Associate Professor of Pathology *(Medical School)*

Lewis C. Cantley, Professor of Systems Biology *(Medical School)*
James J. Chou, Associate Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
David E. Clapham, Aldo R. Castaneda Professor of Cardiovascular Research *(Medical School)*
Jon Clardy, Hsien Wu and Daisy Yen Wu Professor of Biological Chemistry and Molecular Pharmacology, *(Medical School)*
Adam E. Cohen, Professor of Chemistry and Chemical Biology and of Physics *(on leave fall term)*
Jonathan B. Cohen, Professor of Neurobiology *(Medical School)*
David P. Corey, Professor of Neurobiology *(Medical School)*
Vladimir Denic, Associate Professor of Molecular and Cellular Biology
Michael Manish Desai, Assistant Professor of Organismic and Evolutionary Biology and of Physics
John E. Dowling, Gordon and Llura Gund Professor of Neurosciences *(on leave 2013-14)*
Michael J. Eck, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Florian Engert, Professor of Molecular and Cellular Biology
Raymond L. Erikson, American Cancer Society Professor of Cellular and Developmental Biology
Conor L. Evans, Assistant Professor of Dermatology *(Medical School)*
Rachelle Gaudet, Professor of Molecular and Cellular Biology
Suzanne Gaudet, Assistant Professor of Genetics *(Medical School)*
David E. Golan, Professor of Biological Chemistry and Molecular Pharmacology, George R. Minot Professor of Medicine, *(Medical School)*
Jene A. Golovchenko, Rumford Professor of Physics and Gordon McKay Professor of Applied Physics
J. Woodland Hastings, Paul C. Mangelsdorf Professor of Natural Sciences, Emeritus
Sun Hur, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Donald E. Ingber, Professor of Bioengineering
Tomas Kirchhausen, Professor of Cell Biology *(Medical School)*
Andrew J. M. Kiruluta, Associate Professor of Radiology *(Medical School)*
Roy Kishony, Associate Professor of Systems Biology *(Medical School)*
Nancy Kleckner, Herchel Smith Professor of Molecular Biology
Isaac S. Kohane, Lawrence J. Henderson Professor of Pediatrics, Associate Professor of Medicine *(Medical School)*
Roberto G. Kolter, Professor of Microbiology and Molecular Genetics *(Medical School)*
Gabriel Kreiman, Associate Professor of Ophthalmology *(Medical School)*
Galit Lahav, Associate Professor of Systems Biology *(Medical School)*
Andres Leschziner, Associate Professor of Molecular and Cellular Biology
Erel Levine, Assistant Professor of Physics
Jun S. Liu, Professor of Statistics
Joseph John Loparo, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
L. Mahadevan, Lola England de Valpine Professor of Applied Mathematics, of Organismic and Evolutionary Biology, and of Physics

Jarrod Marto, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Markus Meister, Visiting Professor of Molecular and Cellular Biology
Keith W. Miller, Mallinckrodt Professor of Pharmacology in the Department of Anaesthesia *(Medical School)*
Leonid Mirny, Member of the Faculty of the Harvard-MIT Division of Health Sciences and Technology *(Medical School)*
Timothy J. Mitchison, Hasib Sabbagh Professor of Systems Biology *(Medical School)*
Andrew W. Murray, Herchel Smith Professor of Molecular Genetics
Daniel Joseph Needleman, Associate Professor of Applied Physics and of Molecular and Cellular Biology
Erin K. O'Shea, Paul C. Mangelsdorf Professor of Molecular and Cellular Biology and of Chemistry and Chemical Biology
Bence P. Olveczky, John L. Loeb Associate Professor of the Natural Sciences
David Pellman, Professor of Cell Biology *(Medical School)*
Mara Prentiss, Mallinckrodt Professor of Physics
Sharad Ramanathan, Professor of Molecular and Cellular Biology and Gordon McKay Professor of Applied Physics
Tom Rapoport, Professor of Cell Biology *(Medical School)*
Samara Louise Reck-Peterson, Associate Professor of Cell Biology *(Medical School)*
Gary B. Ruvkun, Professor of Genetics *(Medical School)*
Bernardo L. Sabatini, Professor of Neurobiology *(Medical School)*
Stuart L. Schreiber, Morris Loeb Professor of Chemistry *(on leave 2013-14)*
Brian Seed, Professor of Genetics *(Medical School)*
Jagesh V. Shah, Associate Professor of Systems Biology, Associate Professor of Health Sciences and Technology, Associate Professor of Medicine *(Medical School)*
William Shih, Associate Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Steven E. Shoelson, Professor of Medicine *(Medical School)*
Pamela A. Silver, Elliott T. and Onie H. Adams Professor of Biochemistry and Systems Biology *(Medical School)*
Timothy A. Springer, Latham Family Professor of Pathology *(Medical School)*
Hanno Steen, Assistant Professor of Pathology *(Medical School)*
Collin Melveton Stultz, Member of the Faculty of Health Sciences and Technology *(Medical School)*
Shamil R. Sunyaev, Associate Professor of Medicine *(Medical School)*
Jack Szostak, Professor of Chemistry and Chemical Biology; Professor of Genetics *(Medical School)*
Naoshige Uchida, Professor of Molecular and Cellular Biology
Gregory L. Verdine, Erving Professor of Chemistry in the Departments of Stem Cell and Regenerative Biology and of Chemistry and Chemical Biology *(on leave 2013-14)*
John Wakeley, Professor of Organismic and Evolutionary Biology
Ronald L. Walsworth, Senior Lecturer on Physics
Thomas Walz, Professor of Cell Biology *(Medical School)*
George M. Whitesides, Woodford L. and Ann A. Flowers University Professor
Kai Wucherpfennig, Professor of Neurology *(Medical School)*

Xiaoliang Sunney Xie, Mallinckrodt Professor of Chemistry and Chemical Biology
Gary I. Yellen, Professor of Neurobiology *(Medical School)*
Peng Yin, Assistant Professor of Systems Biology *(Medical School)*

Biophysics students should consult course listings from the departments of Life Sciences, Chemistry and Chemical Biology, Physics, Molecular and Cellular Biology, the School of Engineering and Applied Sciences (Applied Computation, Applied Mathematics, Applied Physics, Biomedical Engineering, Computer Sciences, and Engineering Sciences), Systems Biology, and the Division of Medical Sciences.

For Undergraduates and Graduates

[Biophysics 101. Computational Biology]
Catalog Number: 6896
George M. Church (Medical School)
Half course (fall term). Hours to be arranged.
Integrating knowledge, research tools in new aspects of bioengineering, personalized medicine, genetically modified organisms, etc. Interplays of biophysical, ecological, economic, social/ethical modeling are explored through multi-disciplinary teams of students, and individual brief reports.
Note: Expected to be given in 2014–15. Section times will be determined at first class. Offered in alternate years.

Biophysics 170. Quantitative Genomics
Catalog Number: 3598
Shamil R. Sunyaev (Medical School), Isaac S. Kohane (Medical School), Leonid Mirny (Medical School), and members of the Committee
Half course (fall term). M., W., F., 2:30–4. EXAM GROUP: 7, 8
In-depth study of genomics: models of evolution and population genetics; comparative genomics: analysis and comparison; structural genomics: protein structure, evolution and interactions; functional genomics, gene expression, structure and dynamics of regulatory networks.
Note: Meets at MIT

Cross-listed Courses

Applied Mathematics 104 (formerly Applied Mathematics 105a). Series Expansions and Complex Analysis
Applied Mathematics 105 (formerly Applied Mathematics 105b). Ordinary and Partial Differential Equations
Applied Mathematics 115. Mathematical Modeling
Applied Mathematics 147. Nonlinear Dynamical Systems
Biomedical Engineering 110 (formerly Engineering Sciences 145). Physiological Systems Analysis
Chemistry 160. Quantum Chemistry
Chemistry 161. Statistical Thermodynamics

Chemistry 163. Frontiers in Biophysics
***Chemistry 165. Experimental Physical Chemistry**
***Chemistry 170 (formerly *Chemistry 270). Chemical Biology**
Chemistry 190. Statistical Mechanics in Chemistry and Biology
Engineering Sciences 156. Signals and Systems
Mathematics 115. Methods of Analysis
MCB 105. Systems Neuroscience
MCB 111. Mathematics in Biology
MCB 115. Cellular Basis of Neuronal Function
***MCB 129. The Brain: Development, Plasticity and Decline**
MCB 169. Molecular and Cellular Immunology
[MCB 176. Biochemistry of Membranes]
SCRB 150 (formerly MCB 150). Human Genetics: Mining Our Genomes for an Understanding of Human Variation and Disease

Primarily for Graduates

Biophysics 205. Computational and Functional Genomics
Catalog Number: 6777 Enrollment: Limited to 20.
Martha L. Bulyk (Medical School), Suzanne Gaudet (Medical School), and Shamil R. Sunyaev (Medical School)
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
Experimental functional genomics, computational prediction of gene function, and properties and models of complex biological systems. The course will primarily involve critical reading and discussion rather than lectures.
Prerequisite: Molecular Biology (MCB 52 or equivalent), solid understanding of basic probability and statistics.

Biophysics 242r. Special Topics in Biophysics
Catalog Number: 6011
James M. Hogle (Medical School)
Half course (spring term). Tu., Th., 10–11:30.
Biophysical topics emerging from special interest research not normally available in established curriculum. This year's focus to be on Single Molecule Methods
Note: Weekly lectures with discussion sections.

Cross-listed Courses

Applied Mathematics 201. Physical Mathematics I
Applied Mathematics 202. Physical Mathematics II
BCMP 200. Molecular Biology
BCMP 201. Biological Macromolecules: Structure, Function and Pathways
[BCMP 228. Macromolecular NMR]
Cell Biology 201. Molecular Biology of the Cell
***Chemistry 242. Quantum Mechanics for Physical Chemistry**
Genetics 201. Principles of Genetics



[MCB 212. Topics in Biophysics]
Microbiology 201. Molecular Biology of the Bacterial Cell
***Microbiology 205. Mechanisms of Microbial Pathogenesis**
Neurobiology 200. Neurobiology
Neurobiology 204. Neurophysiology of Central Circuits
Neurobiology 221. Molecular Neurobiology
[OEB 242. Population Genetics]
Systems Biology 200. Dynamic and Stochastic Processes in Cells
Systems Biology 204. Biomolecular Engineering and Synthetic Biology

Graduate Courses of Reading and Research

***Biophysics 300. Introduction to Laboratory Research**
Catalog Number: 7509
James M. Hogle (Medical School) 2943 and members of the Committee
Half course (fall term; repeated spring term). M., W., F., at 4:30. EXAM GROUP: Fall: 9
Introductory lectures by associated Biophysics faculty members. Lectures Fall semester only accompanied by three periods of instruction in laboratories of structural biology, cell and membrane biophysics, molecular genetics and development, neurobiology, bioinformatics, and physical biochemistry.
Note: Fall semester only: meets on both the Cambridge and HMS campuses. Contact department Admin for fall course schedule.

***Biophysics 301. Quantitative Proteomics of Cancer Progression**
Catalog Number: 1302
Jarrod Marto (Medical School) 5326

***Biophysics 302. Quantitative Analysis of Regulatory Networks**
Catalog Number: 4405
Erin K. O'Shea 5239

***Biophysics 303. NMR Studies of Macromolecular Structure and Function**
Catalog Number: 6135
Gerhard Wagner (Medical School) 2626

***Biophysics 304. Basic Mechanisms of T cell Mediated Autoimmune Diseases**
Catalog Number: 5921
Kai Wucherpfennig (Medical School) 2481

***Biophysics 305. Experimental Atomic Physics, Biophysics, and Soft Matter Physics**
Catalog Number: 8626
Ronald L. Walsworth 2263

***Biophysics 306. Quantitative Models of Cellular Behavior to Investigate Protein Function**
Catalog Number: 4339
Jagesh V. Shah (Medical School) 5248



***Biophysics 307. Dynamics of Network Motifs in Single Living Human Cells**
Catalog Number: 9749
Galit Lahav (Medical School) 5247

***Biophysics 308. System-level Genetic Networks**
Catalog Number: 1036
Roy Kishony (Medical School) 5501

***Biophysics 309. Motile Behavior of Bacteria**
Catalog Number: 2070
Howard C. Berg 1377 (on leave spring term)

***Biophysics 310. Sensory Information in Neuronal Processes**
Catalog Number: 6651
Naoshige Uchida 5745

***Biophysics 311. Digital Computer Applications in Biophysics**
Catalog Number: 7606
William H. Bossert 1049

***Biophysics 312. Multiphoton Microscopy in Imaging Alzheimer's Disease**
Catalog Number: 5860
James M. Hogle (Medical School) 2943 and Brian Bacskai (Medical School) 6693

***Biophysics 313. Neurobiology of Vocal Learning**
Catalog Number: 9094
Bence P. Olveczky 6003

***Biophysics 314. Structure of Viruses and Viral Proteins**
Catalog Number: 0687
James M. Hogle (Medical School) 2943

***Biophysics 315. Structural Molecular Biology**
Catalog Number: 2805
Stephen C. Harrison (Medical School) 3597

***Biophysics 316. Structural Biology of ATP-Dependent Chromatin Remodeling**
Catalog Number: 4680
Andres Leschziner 5928

***Biophysics 317. Biophysical Aspects of the Visual System**
Catalog Number: 4770
John E. Dowling 3545 (on leave 2013-14)



***Biophysics 318. Mechanisms of Circadian Rhythms, Bioluminescence**
Catalog Number: 4699
J. Woodland Hastings 1311

***Biophysics 319. Analysis of Structure and Function of Nicotinic Acetylcholine Receptors**
Catalog Number: 36825
Adam E. Cohen 5761 (on leave fall term)

***Biophysics 320. Single Molecule Studies of Cellular Motors**
Catalog Number: 51932
Samara Louise Reck-Peterson (Medical School) 6165

***Biophysics 321. Molecular and Mechanical Analysis of Chromosomes**
Catalog Number: 7297
Nancy Kleckner 4697

***Biophysics 322. Structural Diversification of Very Long-Chain Fatty Acids**
Catalog Number: 67039
Vladimir Denic 6216

***Biophysics 323. Transcriptional Regulatory Circuits and Neuronal Circuits in Visual Recognition**
Catalog Number: 42674
Gabriel Kreiman (Medical School) 6174

***Biophysics 324. Conformational Changes in Macromolecules**
Catalog Number: 2656
Collin Melveton Stultz (Medical School) 6295

***Biophysics 325. Physics of Macromolecular Assemblies and Subcellular Organization**
Catalog Number: 15517
Daniel Joseph Needleman 6151

***Biophysics 326. Statistical and Continuum Mechanics of Macromolecular Assemblies**
Catalog Number: 82146
L. Mahadevan 4758

***Biophysics 327. Molecular Genetics**
Catalog Number: 4202
Frederick Ausubel (Medical School) 4639

***Biophysics 328. Mechanics and Morphogenesis of Plant Development**
Catalog Number: 92917
Instructor to be determined

***Biophysics 329. Computational and Functional Genomics**
Catalog Number: 4437
George M. Church (Medical School) 1608

***Biophysics 330. Principles of Self vs. Non-self RNA Discrimination by the Immune System**
Catalog Number: 41395
Sun Hur (Medical School) 6403

***Biophysics 331. Communication of Information In and Between Cells and Organisms**
Catalog Number: 56502
Erel Levine 6304

***Biophysics 332. Function of Neuronal Circuits**
Catalog Number: 5444
Markus Meister 3007

***Biophysics 333. Topics in Biophysics and Molecular Biology**
Catalog Number: 0196
Brian Seed (Medical School) 7619

***Biophysics 334. Decision Making in Cells and Organisms**
Catalog Number: 71609
Sharad Ramanathan 6015

***Biophysics 335. Developing novel single-molecule methods to study multi-protein complexes**
Catalog Number: 72097
Joseph John Loparo (Medical School) 6798

***Biophysics 336. Mass Spectrometric and Proteomic Studies of the Cell Cycle**
Catalog Number: 20087
Hanno Steen (Medical School) 6572

***Biophysics 337. Membrane Structure and Function**
Catalog Number: 1800
Keith W. Miller (Medical School) 4124

***Biophysics 338. Foundation of Information Directed Molecular Technology: Programming Nucleic Acid Self-Assembly**
Catalog Number: 20575
Peng Yin (Medical School) 6848

***Biophysics 339. Theoretical and Experimental Approaches to Study Genetic Variation within Populations**
Catalog Number: 87204
Michael Manish Desai 6547

***Biophysics 340. Novel Theory and Experiments in NMR Spectroscopy**
Catalog Number: 35682
Andrew J. M. Kiruluta (Medical School) 4777

***Biophysics 341. Structure and Function of Ligand-Gated Ion Channels**
Catalog Number: 7567
Jonathan B. Cohen (Medical School) 1120

***Biophysics 342. Development and Application of Optical Detection, Treatment and Monitoring Approaches Targeting Major Human Diseases**
Catalog Number: 50789
Conor L. Evans (Medical School) 6802

***Biophysics 343. Theoretical Protein Science, Bioinformatics, Computational Chemistry**
Catalog Number: 6947
Eugene I. Shakhnovich 3147

***Biophysics 344. Directed Evolution and Design of Simple Cellular Systems**
Catalog Number: 6277
Jack Szostak (Medical School) 7096

***Biophysics 346. Biofilm Dynamics**
Catalog Number: 5538
Roberto G. Kolter (Medical School) 7727

***Biophysics 347. Membrane Dynamics; Membrane Structure**
Catalog Number: 5516
David E. Golan (Medical School) 1558

***Biophysics 348. Protein Kinases, Reversible Protein Phosphorylation**
Catalog Number: 4964
Raymond L. Erikson 7506

***Biophysics 349. Structural Biochemistry and Cell Biology of Intracellular Membrane Traffic**
Catalog Number: 4487
Tomas Kirchhausen (Medical School) 1155

***Biophysics 351. Signal Transduction**
Catalog Number: 3848
Lewis C. Cantley (Medical School) 1287

***Biophysics 353. Molecular Genetics of Development**
Catalog Number: 5016
Gary B. Ruvkun (Medical School) 1366

***Biophysics 354. Structural Biology and Cancer Drug Discovery**
Catalog Number: 4420
Gregory L. Verdine 1980 (on leave 2013-14)

***Biophysics 355. Chemical Genetics and Genomics**
Catalog Number: 3035
Stuart L. Schreiber 2166 (on leave 2013-14)

***Biophysics 361. Rational Drug Design; Biomaterials Science; Biophysics**
Catalog Number: 7080
George M. Whitesides 7447

***Biophysics 362. Molecular Physiology of Ion Channels**
Catalog Number: 3784
Gary I. Yellen (Medical School) 3268

***Biophysics 363. Biophysics of Receptor-Ligand Interactions**
Catalog Number: 8687
Stephen C. Blacklow (Medical School) 1462

***Biophysics 364. Systems Cell Biology**
Catalog Number: 5528
Pamela A. Silver (Medical School) 1595

***Biophysics 365. Visual Processing in Primates**
Catalog Number: 8145
John A. Assad (Medical School) 2985

***Biophysics 366. Imaging, Optics, and Biology**
Catalog Number: 2877
David E. Clapham (Medical School) 2987

***Biophysics 367. Structure Biology of Cytoplasmic Signal Transduction**
Catalog Number: 5512
Michael J. Eck (Medical School) 1739

***Biophysics 368. Probing Polymers with Nanospores, Experimental Condensed Matter Physics**
Catalog Number: 1400
Jene A. Golovchenko 1986

***Biophysics 369. Organic Chemistry and Chemical Biology of Molecular Evolution**
Catalog Number: 6337
David R. Liu 2717

***Biophysics 370. Cytoskeleton Dynamics; Mitosis and Cell Locomotion; Small Molecule Inhibitors**
Catalog Number: 8034
Timothy J. Mitchison (Medical School) 3713

***Biophysics 371. Mechanisms of Synaptic Transmission and Plasticity**
Catalog Number: 2326
Venkatesh N. Murthy 2424

***Biophysics 372. Protein Transport Across the ER Membrane**
Catalog Number: 6922
Tom Rapoport (Medical School) 1815

***Biophysics 374. High-Resolution Electron Microscopy**
Catalog Number: 8225
Thomas Walz (Medical School) 3778

***Biophysics 375. Single-Molecule Biophysics**
Catalog Number: 7900
Xiaoliang Sunney Xie 2290

***Biophysics 376. Functional and Computational Genomics Studies of Transcription Factors and Cis Regulatory Elements**
Catalog Number: 2254
Martha L. Bulyk (Medical School) 4259

***Biophysics 377. Statistical Theory and Inference for Stochastic Processes: With Applications to Bioinformatics**
Catalog Number: 4768
Jun S. Liu 3760

***Biophysics 378. Structural and Cellular Biology of Insulin Signal Transduction**
Catalog Number: 4856
Steven E. Shoelson (Medical School) 3951

***Biophysics 379. Theoretical Population Genetics**
Catalog Number: 2274
John Wakeley 5680

***Biophysics 380. Microarray Data: Issues and Challenges**
Catalog Number: 4402
James M. Hogle (Medical School) 2943 and Leonid Mirny (Medical School) 5773

***Biophysics 381. Single-Molecule Biophysics**
Catalog Number: 3046
Xiaowei Zhuang 3991



***Biophysics 382. Regulation of Synaptic Transmission and Dendritic Function in the Mammalian Brain**
Catalog Number: 6116
Bernardo L. Sabatini (Medical School) 4300

***Biophysics 384. NMR Spectroscopy on Membrane-associated Proteins and Peptides**
Catalog Number: 4531
James J. Chou (Medical School) 4950

***Biophysics 385. Small Molecule Signaling, Biosynthesis, and Drug Discovery**
Catalog Number: 8378
Jon Clardy (Medical School) 4667

***Biophysics 386. Synaptic Plasticity and Neuronal Networks**
Catalog Number: 3012
Florian Engert 4290

***Biophysics 387. Structural Studies of the Stereochemistry of Signaling and Transport through Biological Membranes**
Catalog Number: 6869
Rachelle Gaudet 4413

***Biophysics 388. Structural Studies of Nucleo-Protein Assemblies**
Catalog Number: 1543
Instructor to be determined

***Biophysics 390. Regulation of Mitosis**
Catalog Number: 2157
Andrew W. Murray 3765

***Biophysics 391. Computational Methods in Genetics, Genomics and Proteomics**
Catalog Number: 7043
Shamil R. Sunyaev (Medical School) 4671

***Biophysics 392. Biophysics of Mechanosensation**
Catalog Number: 2687
David P. Corey (Medical School) 1345

***Biophysics 393. The Mechanics and Regulation of Mitosis**
Catalog Number: 6759
David Pellman (Medical School) 3702

***Biophysics 394. Experimental Biophysics**
Catalog Number: 7138
Mara Prentiss 2741

***Biophysics 395. Biophysics of Cell Adhesion and Vascular Shear Flow**
Catalog Number: 3918
Timothy A. Springer (Medical School) 6145

***Biophysics 396. Behavioral Neuroscience and Neurophysiology**
Catalog Number: 0966
Aravinthan D. T. Samuel 4625 (on leave spring term)

***Biophysics 397. Research in Integrin Signaling, Cytoskeleton, and Control of Angiogenesis**
Catalog Number: 2982
Donald E. Ingber 2832

***Biophysics 399. Biomolecular Nanotechnology**
Catalog Number: 8294
William Shih (Medical School) 5256

Biostatistics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Public Health Sciences

Michael Grusby, Professor of Molecular Immunology *(Public Health) (Chair)*

Faculty of the Subcommittee on the Degree of Doctor of Philosophy in Biostatistics

Victor Gerard DeGruttola, Professor of Biostatistics *(Public Health) (Chair)*
David J. Hunter, Vincent L. Gregory Professor in Cancer Prevention *(Public Health) (ex officio)*
Jun S. Liu, Professor of Statistics
Carl N. Morris, Professor of Statistics *(on leave spring term)*
Giovanni Parmigiani, Professor of Biostatistics *(Public Health)*

Other Faculty Offering Instruction in Biostatistics in Public Health

Christopher David Barr, Assistant Professor of Biostatistics *(Public Health)*
Rebecca A. Betensky, Professor of Biostatistics *(Public Health)*
Tianxi Cai, Associate Professor of Biostatistics *(Public Health)*
Paul J. Catalano, Senior Lecturer on Biostatistics *(Public Health)*
Brent Andrew Coull, Associate Professor of Biostatistics *(Public Health)*



Francesca Dominici, Professor of Biostatistics *(Public Health)*
Dianne Madelyn Finkelstein, Professor in the Department of Biostatistics *(Public Health)*
Garrett M. Fitzmaurice, Professor in the Department of Biostatistics *(Public Health)*
Robert James Gray, Professor of Biostatistics *(Public Health)*
Sebastien Haneuse, Assistant Professor of Biostatistics *(Public Health)*
David P. Harrington, Professor of Statistics *(FAS)* and Professor of Biostatistics *(Public Health)*
Winston Hide, Associate Professor of Bioinformatics and Computational Biology *(Public Health)*
Michael David Hughes, Professor of Biostatistics *(Public Health)*
Curtis Huttenhower, Assistant Professor of Computational Biology and Bioinformatics *(Public Health)*
Peter Kraft, Associate Professor of Epidemiology *(Public Health)*
Nan Laird, Professor of Biostatistics *(Public Health)*
Christoph Lange, Associate Professor of Biostatistics *(Public Health)*
Cheng Li, Associate Professor of Biostatistics *(Public Health)*
Liming Liang, Assistant Professor of Statistical Genetics *(Public Health)*
Xihong Lin, Professor of Biostatistics *(Public Health)*
Xiaole Shirley Liu, Associate Professor of Biostatistics *(Public Health)*
Judith Lok, Assistant Professor of Biostatistics *(Public Health)*
Franziska L. Michor, Associate Professor of Computational Biology *(Public Health)*
Donna S. Neuberg, Senior Lecturer on Biostatistics *(Public Health)*
Sharon-Lise T. Normand, Professor of Health Care Policy (Biostatistics), Professor in the Department of Biostatistics *(Medical School, Public Health)*
Jukka-Pekka Onnela, Assistant Professor of Biostatistics *(Public Health)*
Endel J. Orav, Associate Professor in the Department of Biostatistics *(Public Health)*
Alexander Ozonoff, Lecturer on Pediatrics *(Medical School)*
Marcello Pagano, Professor of Statistical Computing *(Public Health)*
Alkes Price, Assistant Professor of Statistical Genetics *(Public Health)*
John Quackenbush, Professor of Computational Biology and Bioinformatics *(Public Health)*
James M. Robins, Mitchell L. and Robin LaFoley Dong Professor of Epidemiology *(Public Health)*
Bernard Rosner, Professor of Medicine (Biostatistics) *(Medical School)*
Andrea Gloria Rotnitzky, Adjunct Professor of Biostatistics *(Public Health)*
David A. Schoenfeld, Professor in the Department of Biostatistics *(Public Health)*
Donna Lynn Spiegelman, Professor of Epidemiologic Methods *(Public Health)*
Eric Tchetgen Tchetgen, Associate Professor of Epidemiology *(Public Health)*
Lorenzo Trippa, Assistant Professor of Biostatistics *(Public Health)*
Tyler J. VanderWeele, Associate Professor of Epidemiology *(Public Health)*
James H. Ware, Frederick Mosteller Professor of Biostatistics *(Public Health)*
Lee-Jen Wei, Professor of Biostatistics *(Public Health)*
Paige L. Williams, Senior Lecturer on Biostatistics *(Public Health)*
David Wypij, Senior Lecturer on Biostatistics *(Public Health) (Director of Graduate Studies)*
Guocheng Yuan, Assistant Professor of Computational Biology and Bioinformatics *(Public Health)*
Marvin Zelen, Lemuel Shattuck Research Professor of Statistical Science *(Public Health)*
Corwin Zigler, Assistant Professor of Biostatistics *(Public Health)*

Primarily for Graduates

Further details about the course descriptions below can be found in their entirety at www.biostat.harvard.edu/courses/course.html.

***Biostatistics 230. Probability Theory and Applications I**
Catalog Number: 6183
Christoph Lange (Public Health)
Half course (fall term). M., W., 1:30–3:20, and a weekly 90-minute lab.
Axiomatic foundations of probability, independence, conditional probability, joint distributions, transformations, moment generating functions, characteristic functions, moment inequalities, sampling distributions, modes of convergence and their interrelationships, laws of large numbers, central limit theorem, and stochastic processes.
Note: Offered jointly with the School of Public Health as BIO230.

***Biostatistics 231. Statistical Inference I**
Catalog Number: 8773
Rebecca A. Betensky (Public Health)
Half course (spring term). M., W., 10:30-12:20, and a weekly 90-minute lab.
Exponential families, sufficiency, ancillarity, completeness, method of moments, maximum likelihood, unbiased estimation, Rao-Blackwell and Lehmann-Scheffe theorems, information inequality, Neyman-Pearson theory, likelihood ratio, score and Wald tests, uniformly and locally most powerful tests, asymptotic relative efficiency.
Note: Offered jointly with the School of Public Health as BIO231.
Prerequisite: Biostatistics 230 or signature of instructor required.

***Biostatistics 232. Methods I**
Catalog Number: 0131
Eric Tchetgen Tchetgen (Public Health)
Half course (fall term). M., W., 10:30-12:20, and a weekly 90-minute lab.
Introductory course in the analysis of Gaussian and categorical data. The general linear regression model, ANOVA, robust alternatives based on permutations, model building, resampling methods (bootstrap and jackknife), contingency tables, exact methods, logistic regression.
Note: Offered jointly with the School of Public Health as BIO232.
Prerequisite: Signature of instructor required.

***Biostatistics 233. Methods II**
Catalog Number: 7804
Sebastien Haneuse (Public Health)
Half course (spring term). M., W., 8:30-10:20, and a weekly 90-minute lab.
Intermediate course in the analysis of Gaussian, categorical, and survival data. The generalized linear model, Poisson regression, random effects and mixed models, comparing survival distributions, proportional hazards regression, splines and smoothing, the generalized additive model.

Note: Offered jointly with the School of Public Health as BIO233.
Prerequisite: Biostatistics 232 or signature of instructor required.

***Biostatistics 235. Advanced Regression and Statistical Learning**
Catalog Number: 7549
Robert James Gray (Public Health)
Half course (fall term). M., W., 10:30–12:20, and a weekly 90-minute lab.
An advanced course in linear models, including both classical theory and methods for high dimensional data. Topics include theory of estimation and hypothesis testing, multiple testing problems and false discovery rates, cross validation and model selection, regularization and the LASSO, principal components and dimension reduction, and classification methods. Background in matrix algebra and linear regression required.
Note: Offered jointly with the School of Public Health as BIO235.
Prerequisite: Biostatistics 231 and Biostatistics 233. Background in matrix algebra and linear regression required.

Biostatistics 238. Principles and Advanced Topics in Clinical Trials
Catalog Number: 9623
Michael David Hughes (Public Health)
Half course (spring term). M., W., 1:30–3:20.
This course focuses on selected advanced topics in design, analysis, and interpretation of clinical trials, including study design; choice of endpoints (including surrogate endpoints); interim analyses and group sequential methods; subgroup analyses; and meta-analyses.
Note: Offered jointly with the School of Public Health as BIO 238.
Prerequisite: BIST 230, and BIST 231 (may be taken concurrently) or signature of instructor required.

Biostatistics 244. Analysis of Failure Time Data
Catalog Number: 2140
Judith Lok (Public Health)
Half course (spring term). M., W., 10:30–12:20, and a weekly 90-minute lab.
Discusses the theoretical basis of concepts and methodologies associated with survival data and censoring, nonparametric tests, and competing risk models. Much of the theory is developed using counting processes and martingale methods.
Note: Offered jointly with the School of Public Health as BIO244.
Prerequisite: Biostatistics 231, and Biostatistics 233, and Biostatistics 250, or signature of instructor required.

Biostatistics 245. Analysis of Multivariate and Longitudinal Data
Catalog Number: 3247
Xihong Lin (Public Health)
Half course (spring term). Tu., Th., 10:30–12:20, and a weekly 90-minute lab.
The multivariate normal distribution, Hotelling's T2, MANOVA, repeated measures, the multivariate linear model, random effects and growth curve models, generalized estimating equations, multivariate categorical outcomes, missing data, computational issues for traditional and new methodologies.

Note: Offered jointly with the School of Public Health as BIO245.
Prerequisite: Biostatistics 231 and Biostatistics 235.

***Biostatistics 249. Bayesian Methodology in Biostatistics**
Catalog Number: 0759
Corwin Zigler (Public Health)
Half course (fall term). Tu., Th., 10:30–12:20, and a weekly 90-minute lab.
General principles of the Bayesian approach, prior distributions, hierarchical models and modeling techniques, approximate inference, Markov chain Monte Carlo methods, model assessment and comparison. Bayesian approaches to GLMMs, multiple testing, nonparametrics, clinical trials, survival analysis.
Note: Offered jointly with the School of Public Health as BIO249.
Prerequisite: Biostatistics 231 and Biostatistics 232, or signature of instructor required.

***Biostatistics 250. Probability Theory and Applications II**
Catalog Number: 5076
Lorenzo Trippa (Public Health)
Half course (fall term). M., W., 1:30–3:20, and a weekly 90-minute lab.
A foundational course in measure theoretic probability. Topics include measure theory, Lebesgue integration, product measure and Fubini's Theorem, Radon-Nikodym derivatives, conditional probability, conditional expectation, limit theorems on sequences of random variables, stochastic processes, and weak convergence.
Note: Offered jointly with the School of Public Health as BIO250.
Prerequisite: Biostatistics 231, or permission of instructor required.

Biostatistics 251. Statistical Inference II
Catalog Number: 5280
Tianxi Cai (Public Health)
Half course (spring term). Tu., Th., 1:30–3:20, and a weekly 90-minute lab.
Advanced topics in statistical inference. Limit theorems, multivariate delta method, properties of maximum likelihood estimators, saddle point approximations, asymptotic relative efficiency, robust and rank-based procedures, resampling methods, nonparametric curve estimation.
Note: Offered jointly with the School of Public Health as BIO251.
Prerequisite: Biostatistics 250, or permission of instructor required.

[Biostatistics 291. Statistical Methods for Causality]
Catalog Number: 5654
Andrea Gloria Rotnitzky (Public Health)
Half course (spring term). Tu., Th., 3:30–5:20.
Theory of directed acyclic graph models. Identifiability of causal contrasts. Theory and applications of locally semiparametric efficient doubly-robust estimation in two models for counterfactual variables: marginal structural models and structural nested models.
Note: Expected to be given in 2014–15. Offered jointly with the School of Public Health as BIO 291.
Prerequisite: Biostatistics 231, or permission of instructor required.

Biostatistics 297. Genomic Data Manipulation
Catalog Number: 67195 Enrollment: This course is targeted at students in experimental biology programs with an interest in understanding how available genomic techniques and resources can be applied in their research.
Curtis Huttenhower (Public Health)
Half course (spring term). M., W., 3:30–5:20, and a weekly 90-minute lab.
Introduction to genomic data, computational methods for interpreting these data, and survey of current functional genomics research. Covers biological data processing, programming for large datasets, high-throughput data (sequencing, proteomics, expression, etc.), and related publications.
Note: Offered jointly with the School of Public Health as BIO508.

Biostatistics 298. Introduction to Computational Biology and Bioinformatics
Catalog Number: 15673 Enrollment: Good quantitative skills, strong interest in biology, willingness and diligence to learn programming.
Xiaole Shirley Liu (Public Health)
Half course (spring term). Tu., Th., 11:30–1, and a weekly 90-minute lab.
Basic problems, technology platforms, algorithms and data analysis approaches in computational biology. Algorithms covered include dynamic programming, hidden Markov model, Gibbs sampler, clustering and classification methods.
Note: Offered jointly with the School of Public Health as BIO512.
Prerequisite: STAT 110 or equivalent, CS 50 or equivalent, or Biostatistics major.

[Biostatistics 299. Advanced Computational Biology and Bioinformatics]
Catalog Number: 82302
Winston Hide (Public Health) and Guocheng Yuan (Public Health)
Half course (fall term). M., W., 3:30–5:20.
Students will explore current topics in computational biology in a seminar format with a focus on interpretation of ’omics data. They will develop skills necessary for independent research using computational biology.
Note: Expected to be given in 2014–15. Offered jointly with the School of Public Health as BIO513.
Prerequisite: Biostatistics 298 or permission of instructor required.

Graduate Courses of Reading and Research

***Biostatistics 350. Research**
Catalog Number: 0406
Members of the Department
For doctoral candidates who have passed their written qualifying examination and who are undertaking advanced work along the lines of fundamental or applied dissertation research in the department.

Business Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

PhD programs in Business Economics and Organizational Behavior are administered by the Standing Committee on Higher degrees in Business Studies. These programs are intended for students who wish to enter careers in scholarship and advanced research. For the latest Doctoral Program course offerings from the Harvard Business School, please visit www.hbs.edu/doctoral/registrar/course.html.

Faculty of the Committee on Higher Degrees in Business Studies

Kathleen Louise McGinn, Cahners-Rabb Professor of Business Administration *(Business School) (Chair)*
Teresa M. Amabile, Edsel Bryant Ford Professor of Business Administration *(Business School)*
Jason Beckfield, Professor of Sociology *(on leave fall term)*
Frank Dobbin, Professor of Sociology
Amy C. Edmondson, Novartis Professor of Leadership and Management *(Business School)*
Francesca Gino, Associate Professor *(Business School)*
Jerry R. Green, David A. Wells Professor of Political Economy, John Leverett Professor *(on leave fall term)*
Oliver S. Hart, Andrew E. Furer Professor of Economics
Joshua Lerner, Jacob H. Schiff Professor of Investment Banking *(Business School)*
Ariel Pakes, Thomas Professor of Economics
Jeffrey T. Polzer, UPS Foundation Professor of Human Resource Management *(Business School)*
David S. Scharfstein, Edmund Cogswell Converse Professor of Finance and Banking *(Business School)*
Michael Tushman, Paul R. Lawrence MBA Class of 1942 Professor of Business Administration *(Business School)*
Luis M. Viceira, George E. Bates Professor *(Business School)*
Christopher Winship, Diker-Tishman Professor of Sociology

The Standing Committee on Higher Degrees in Business Studies is a joint committee consisting of members from both the Harvard Business School (HBS) and the Faculty of Arts and Sciences (FAS). The Committee, chaired by Professor Kathleen McGinn (Business School), is composed of the following subcommittees:

Subcommittee on the Degree of Doctor of Philosophy in Business Economics

Jerry R. Green, David A. Wells Professor of Political Economy, John Leverett Professor *(Chair) (on leave fall term)*
Oliver S. Hart, Andrew E. Furer Professor of Economics

Joshua Lerner, Jacob H. Schiff Professor of Investment Banking *(Business School)*
Kathleen Louise McGinn, Cahners-Rabb Professor of Business Administration *(Business School) (ex officio)*
Ariel Pakes, Thomas Professor of Economics
David S. Scharfstein, Edmund Cogswell Converse Professor of Finance and Banking *(Business School)*
Luis M. Viceira, George E. Bates Professor *(Business School)*

Subcommittee on the Degree of Doctor of Philosophy in Organizational Behavior

Jeffrey T. Polzer, UPS Foundation Professor of Human Resource Management *(Business School) (Chair)*
Teresa M. Amabile, Edsel Bryant Ford Professor of Business Administration *(Business School)*
Jason Beckfield, Professor of Sociology *(spring term) (on leave fall term)*
Frank Dobbin, Professor of Sociology
Amy C. Edmondson, Novartis Professor of Leadership and Management *(Business School)*
Francesca Gino, Associate Professor *(Business School)*
Kathleen Louise McGinn, Cahners-Rabb Professor of Business Administration *(Business School) (ex officio)*
Michael Tushman, Paul R. Lawrence MBA Class of 1942 Professor of Business Administration *(Business School)*
Christopher Winship, Diker-Tishman Professor of Sociology

Subcommittee on the Degree of Doctor of Philosophy in Science, Technology, and Management

Kathleen Louise McGinn, Cahners-Rabb Professor of Business Administration *(Business School) (Chair)*

Cross-listed Courses

Applied Mathematics 221. Advanced Optimization
***Economics 2020a. Microeconomic Theory I**
***Economics 2020b. Microeconomic Theory II**
Economics 2040. Experimental Economics
[Economics 2041. Field Experiments]
[Economics 2056a. Market Design and Electronic Marketplaces]
Economics 2056b. Topics in Market Design
Economics 2390c. Development Economics II: Macroeconomic Issues
[Economics 2665. The Economics of Organizations Workshop]
[Economics 2670. Organizational Economics]
Economics 2723. Asset Pricing I
Economics 2725. Corporate Finance
Economics 2726. Theoretical and Empirical Perspective on Entrepreneurship: Economics and Finance

Economics 2727. Empirical Methods in Corporate Finance
***Economics 2770hf. Research in Financial Economics**
***Economics 3660hf. The Law, Economics, and Organizations Workshop**
***Psychology 2553r. Behavioral Insights Group Research Seminar**
***Psychology 2650. Behavioral Approaches to Decision Making and Negotiation**

Celtic Languages and Literatures

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Celtic Languages and Literatures

Catherine McKenna, Margaret Brooks Robinson Professor of Celtic Languages and Literatures *(Chair, and Director of Graduate Studies)*
William Gillies, Visiting Professor of Celtic Languages and Literatures
Simon R. Innes, Assistant Professor of Celtic Languages and Literatures
Tomás Ó Cathasaigh, Henry L. Shattuck Professor of Irish Studies *(Director of Graduate Studies)*
Patrick Wadden, Visiting Assistant Professor of Celtic Languages and Literatures

Other Faculty Offering Instruction in the Department of Celtic Languages and Literatures

Graduate students in the Faculty of Arts and Sciences may enroll in certain foreign language courses for the grade of Satisfactory/Unsatisfactory. Students should consult with course heads to determine if a course is offered on that basis.

Primarily for Undergraduates

***Celtic 91r. Supervised Reading and Research**
Catalog Number: 1323
Catherine McKenna and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Instruction and direction of reading on topics not treated in regular courses of instruction.

Celtic

For Undergraduates and Graduates

Celtic 101. The Hero of Irish Myth and Saga
Catalog Number: 7817
Tomás Ó Cathasaigh
Half course (spring term). M., W., (F.), at 1. EXAM GROUP: 6
A study of the ways in which the hero is represented in early Irish sources, especially in the saga literature. The texts reflect the ideology and concerns of a society which had been converted to Christianity, but continued to draw on its Indo-European and Celtic heritage. The biographies of the Ulster hero, Cú Chulainn, of his divine father, Lug, and of certain king-heroes are studied in depth. The wisdom literature, and archaeological and historical evidence will be taken into account.
Note: Expected to be omitted in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

Celtic 103. Celts: People or Myth?
Catalog Number: 51424
Catherine McKenna
Half course (fall term). Tu., Th., at 11. EXAM GROUP: 13
This course examines the ways that an elusive population group called "The Celts" has been constructed from antiquity to the present. We study the linguistic, archaeological, genetic, mythological, literary and institutional bases of "Celticity" in the light of recent critiques of the ways in which these different kinds of evidence have been asked to walk hand in hand with one another in the service of certainty about Celtic identity.
Note: Expected to be omitted in 2014–15. All texts are read in translation.

[Celtic 106. The Folklore of Gaelic Scotland]
Catalog Number: 85544
Instructor to be determined
Half course (spring term). M., W., (F.), at 2. EXAM GROUP: 7
An introduction to the oral traditions of Gaelic Scotland and Nova Scotia, including tales and song. The process of collecting is explored, and various folkloristic theories and approaches applied in order to gain a deeper understanding of the material.
Note: Expected to be given in 2014–15. No knowledge of Gaelic required.

[Celtic 109. The Finn Cycle]
Catalog Number: 77175
Instructor to be arranged
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
This course explores the ‘sprawling forest’ of Gaelic literature from Ireland and Scotland surrounding Finn mac Cumaill (otherwise known as Finn MacCool). Finn is variously portrayed as a hunter-warrior-seer and is the leader of the intrepid *fíana* war-band. We survey this Fenian literature as it is presented to us by medieval and early modern Gaelic manuscript tradition. We also engage with the rich modern Fenian folklore of Scotland, Ireland and Nova Scotia. This includes the study of important texts such as *Acallam na Senórach* (‘The Dialogue of the Ancients’) and *Tóraigheacht Dhiarmada agus Ghráinne* (‘The Pursuit of Diarmait and Gráinne’). We also consider the impact of this literature on the rest of Europe by examining the English-language-works published by James MacPherson in the 1760s and the ensuing Ossian

controversy.
Note: Expected to be given in 2014–15. All readings in English translation.

[Celtic 114. Early Irish Historical Tales]
Catalog Number: 0781
Tomás Ó Cathasaigh
Half course (spring term). M., W., (F.), at 1. EXAM GROUP: 6
Introduction to early Irish story-material about legendary and historical persons and events. Attitudes to kingship and views of history in the tales are explored.
Note: Expected to be given in 2014–15. All texts are read in English translation.

[Celtic 118. The Gaelic World: 12th Century to 17th Century]
Catalog Number: 34022
Instructor to be determined
Half course (fall term). M., W., (F.), at 11. EXAM GROUP: 4
An introduction to the history and culture of Gaelic Scotland and Ireland, with particular attention to contemporary sources, including Gaelic literary sources.
Note: Expected to be given in 2014–15. All readings in English translation.

[Celtic 119. The Gaelic World: 17th Century to the Present]
Catalog Number: 49129
Instructor to be determined
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
An introduction to the later history and culture of Gaelic Scotland and Ireland, with particular attention to Gaelic literary sources. Language decline and revitalization efforts are also explored.
Note: Expected to be given in 2014–15. All readings in English translation.

[Celtic 137. Celtic Mythology]
Catalog Number: 1300
Tomás Ó Cathasaigh
Half course (fall term). M., W., (F.), at 1. EXAM GROUP: 6
A survey of the sources for the study of Celtic mythology, with special attention to selected texts from early Ireland and Wales.
Note: Expected to be given in 2015–16. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A. All texts are read in English translation.

Celtic 138. Mabinogion: Narrative Traditions of Medieval Wales
Catalog Number: 6480
Catherine McKenna
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
An exploration of the Four Branches of the Mabinogi, Welsh Arthurian romances and tales, and the bardic lore associated with them, in the context of the literary culture of Wales in the twelfth through fourteenth centuries.
Note: Expected to be omitted in 2014–15. All texts are read in English translation.

[Celtic 151. The Literature of Medieval Celtic Christianity: The Hagiographical Tradition]
Catalog Number: 5560
Catherine McKenna
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
A study of selected texts associated with medieval saints' cults in Ireland, Wales, Brittany and Scotland, including saints' lives, voyage and vision narratives, hymns, prayers and poetry, in the context of the history of Christianity in the Celtic lands.
Note: Expected to be given in 2014–15. All texts are read in English translation.

Celtic 184. The *Táin*
Catalog Number: 2150
Tomás Ó Cathasaigh
Half course (fall term). M., W., (F.), at 1. EXAM GROUP: 6
A study of the exuberant Irish prose epic *Táin Bó Cúailnge* ('Cattle-Raid of Cooley').
Note: Expected to be omitted in 2014–15. Text read in English translation.

Celtic 188. Scottish Gaelic Poetry
Catalog Number: 97048
William Gillies
Half course (fall term). M., W., (F.), at 11. EXAM GROUP: 4
An exploration of the different types of vernacular Gaelic poetry composed in Scotland from the 16th to the 19th century, including personal lyrics and public praise-poetry, and an examination of the poets' responses to the transformation of Gaelic society from the 'clan' period to the Jacobite Risings, the Highland Clearances and the Gaelic revival at the time of the Land Wars. The course is built around the close study of a series of key texts to be read in English translation.
Note: Expected to be omitted in 2014–15.

[Celtic 194. Celtic Bards and Their Poems]
Catalog Number: 66531
Catherine McKenna
Half course (fall term). Tu., Th., at 11. EXAM GROUP: 13
This course explores the role of the bard in the Celtic-speaking societies of Wales, Ireland and Scotland. Through the study of narrative sources concerning the origin and nature of poets and poetry, theoretical and legal texts, and, most especially, bardic poems from the early Middle Ages through the eighteenth century, we examine the physical, public and political power of a medium-poetic verse-now associated with "power" in the private and emotional sense only. We study bardic poems in various modes - eulogistic, satiric, commemorative, prophetic - and we examine the circumstances that support the institution of bardic poetry and those that contribute to its decline. Among the issues to be considered are patronage, convention, the relationship of rhetoric and truth, and the functions of poetic form. All readings in English translation, but there will be some exposure to the forms of bardic poetry in the original languages.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A. All texts are read in English translation.

[Celtic 195. Modern Scottish Gaelic Literature]
Catalog Number: 64236
Instructor to be determined
Half course (fall term). M., W., (F.), at 12. EXAM GROUP: 5
This course explores the interplay between innovation and tradition in Scottish Gaelic literature, and in particular poetry, since the nineteenth century. Topics include poetry of place, war poetry and contemporary poetry. Students must have taken at least one year of Scottish Gaelic language or equivalent.
Note: Expected to be given in 2014–15.
Prerequisite: Scottish Gaelic 131r or permission of instructor.

Primarily for Graduates

[Celtic 222. The Gaelic Manuscript Tradition]
Catalog Number: 1040
Instructor to be determined
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
This course explores the central role of Gaelic manuscripts for Celtic Studies. We examine form, content and usage while also considering historical context. Practice with traditional and non-traditional Gaelic hands form an important part of this course. We cover a wide range of periods and Gaelic manuscript traditions; from the earliest Irish glosses to early modern Scottish and Irish manuscripts. Issues to be explored include: transmission, patronage, scribal practice and modern editorial methodology.
Note: Expected to be given in 2014–15.
Prerequisite: Some knowledge of either Irish or Scottish Gaelic (of any period). Students with a knowledge of Latin may be admitted in consultation with the course instructor.

Irish

For Undergraduates and Graduates

Irish 132. Introduction to Modern Irish
Catalog Number: 6725
Tomás Ó Cathasaigh and others
Half course (fall term). M. through W., F., at 12. EXAM GROUP: 5, 14
An introduction to Irish as it is spoken and written today. Class work is participatory, and includes conversational role play and games as well as grammar study and drills. Audio and audiovisual resources reinforce pronunciation and aural comprehension. Songs, proverbs, and poems are an integral part of the course, introducing students to the vibrant oral and literary tradition of Gaelic Ireland.
Note: The combination of Irish 132 and 133r satisfies the language requirement. It is recommended in any case that this course be followed by Irish 133r. May not be taken Pass/Fail. Not open to auditors.

Irish 133r. Intermediate Modern Irish
Catalog Number: 6689

Tomás Ó Cathasaigh and others
Half course (spring term). M. through W., F., at 12. EXAM GROUP: 5, 14
A continuation of Irish 132, developing students' fluency in spoken and written Irish. As our knowledge of the language expands, we venture into storytelling, journal writing and writing and performing short skits. Internet, audio and video resources complement the study of grammar and select prose texts.
Note: This course, when taken following Irish 132, satisfies the language requirement. May not be taken Pass/Fail. Not open to auditors.
Prerequisite: Irish 132 or permission of instructor.

[Irish 160. Advanced Modern Irish]
Catalog Number: 0704
Tomás Ó Cathasaigh and others
Half course (fall term). M. through W., F., at 12. EXAM GROUP: 5, 14
Geared to the interests and aptitudes of the participants, this course enhances students' confidence in using Irish as a medium of oral and written communication and introduces them to the Gaelic literary tradition.
Note: Expected to be given in 2014–15. It is suggested that this course be followed by Irish 161r.
Prerequisite: Irish 133r or permission of instructor.

[Irish 161r. Continuing Advanced Modern Irish]
Catalog Number: 4421
Tomás Ó Cathasaigh and others
Half course (spring term). M. through W., F., at 12. EXAM GROUP: 5
Continuation of the fall term course.
Note: Expected to be given in 2014–15.
Prerequisite: Irish 160 or permission of instructor.

Primarily for Graduates

Irish 200. Introduction to Old Irish
Catalog Number: 8266
Tomás Ó Cathasaigh
Half course (fall term). M., W., F., at 3. EXAM GROUP: 8
An introduction to the language of the eighth and ninth centuries, with elementary readings in prose texts.
Note: Expected to be omitted in 2014–15. It is suggested that this course be followed by Irish 201r.

Irish 201r. Continuing Old Irish
Catalog Number: 6073
Tomás Ó Cathasaigh
Half course (spring term). M., W., F., at 3. EXAM GROUP: 8
Further grammatical study, with continued reading of saga texts.
Note: Expected to be omitted in 2014–15.
Prerequisite: Irish 200 or permission of the instructor.

[Irish 204r. Readings in Early Irish Poetry]
Catalog Number: 8493
Tomás Ó Cathasaigh
Half course (spring term). M., W., (F.), at 3. EXAM GROUP: 8
Readings in selected texts.
Note: Expected to be given in 2014–15.
Prerequisite: Irish 200 or permission of the instructor.

[Irish 205r. Readings in Early Irish Prose]
Catalog Number: 2705
Tomás Ó Cathasaigh
Half course (spring term). M., W., (F.), at 3. EXAM GROUP: 8
Readings in selected texts.
Note: Expected to be given in 2014–15.
Prerequisite: Irish 200 or permission of the instructor.

Scottish Gaelic

For Undergraduates and Graduates

Scottish Gaelic 130. Introduction to Scottish Gaelic
Catalog Number: 1846
William Gillies
Half course (fall term). M. through W., F., at 9. EXAM GROUP: 2
An introduction to Gàidhlig (Scottish Gaelic) as it is spoken and written today. This course surveys the grammar while also emphasizing practice in speaking the language. This class is highly participatory; students are encouraged to take part in a range of communicative activities which enhance oral/aural ability. Translation exercises develop skills in the written language. A range of audio/ audiovisual materials and online resources is used to support student learning.
Note: Expected to be omitted in 2014–15. The combination of Scottish Gaelic 130 followed by Scottish Gaelic 131r satisfies the language requirement. It is recommended in any case that this course be followed by Scottish Gaelic 131r. May not be taken Pass/Fail. Not open to auditors.

[Scottish Gaelic 131r. Intermediate Scottish Gaelic]
Catalog Number: 4542
Instructor to be determined
Half course (spring term). M. through W., F., at 9.
Direct continuation of the fall term course Scottish Gaelic 130.
Note: Expected to be given in 2015–16. Expected to be given in 2015–16. This course, when taken following Scottish Gaelic 130, satisfies the language requirement. May not be taken Pass/Fail. Not open to auditors.
Prerequisite: Scottish Gaelic 130 or equivalent.

Welsh

For Undergraduates and Graduates

Welsh 128. Introduction to Modern Welsh
Catalog Number: 4148
Catherine McKenna and others
Half course (fall term). M. through W., F., at 10. EXAM GROUP: 3
Introduction to the Welsh language as spoken and written today, designed for those with little or no prior knowledge of this vibrant Celtic language. Intensive conversation practice is provided, and students learn to write fluently. Internet, audio and video exercises using dialogue, music and film augment a contextualized grammatical survey, and use of authentic literary texts increases as the course progresses.
Note: The combination of Welsh 128 followed by Welsh 129r satisfies the language requirement. It is recommended in any case that this course be followed by Welsh 129r. May not be taken Pass/Fail. Not open to auditors.

Welsh 129r. Intermediate Modern Welsh
Catalog Number: 4694
Catherine McKenna and others
Half course (spring term). M. through W., F., at 10. EXAM GROUP: 3
Direct continuation of Welsh 128, developing and deepening students' knowledge of, and skill in, the modern spoken and written language. By the end of the semester students will be able to converse, read and write in a number of registers of idiomatic Welsh (academic, literary, informal). Various media, featuring dialogue, music and film, augment the advanced grammatical survey. Central cultural and historical issues are discussed.
Note: This course, when taken following Welsh 128, satisfies the language requirement. May not be taken Pass/Fail. Not open to auditors.
Prerequisite: Welsh 128 or permission of instructor.

Primarily for Graduates

[Welsh 225a. Medieval Welsh Language and Literature]
Catalog Number: 3960
Catherine McKenna
Half course (fall term). Tu., Th., at 2. EXAM GROUP: 16
Introduction to the language and culture of medieval Wales, with particular attention to narrative prose literature and its Celtic, Welsh and Norman contexts. By the end of the term we will have read in the original one of the *Four Branches of the Mabinogi* and selections from other texts.
Note: Expected to be given in 2014–15. It is suggested that this course be followed by Welsh 225b.

[Welsh 225b. Medieval Welsh Poetry]
Catalog Number: 4167
Catherine McKenna
Half course (spring term). Tu., Th., at 2. EXAM GROUP: 16
Continued readings in medieval Welsh prose and an introduction to Welsh poetry down to 1400. Continued study of grammar and practice in translation, as well as an introduction to the manuscript sources of the poetry and their cultural contexts, and the intricacies of medieval Welsh poetics.

Note: Expected to be given in 2014–15.
Prerequisite: Welsh 225a or equivalent preparation in Middle Welsh.

Welsh 226r. Readings in Middle Welsh Prose
Catalog Number: 2796
Catherine McKenna
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
An exploration of the enormous variety of medieval Welsh prose literature: selections from tales and romances, chronicles, laws, and lore.
Note: Expected to be omitted in 2014–15.
Prerequisite: Welsh 225b or permission of the instructor.

Welsh 227. Seminar: Welsh Bardic Poetry
Catalog Number: 2580
Catherine McKenna
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Readings from the *hengerdd*, the *beirdd y tywysogion* and the *beirdd yr uchelwyr*; consideration of the social and political contexts of their poetry, its forms, and its relationship to other medieval European poetic traditions.
Note: Expected to be omitted in 2014–15.
Prerequisite: Knowledge of Welsh or permission of the instructor.

Cross-listed Courses

[Medieval Studies 201. The Auxiliary Disciplines of Medieval History: Proseminar]
[Scandinavian 160a. Old Norse Language, Literature, and Culture: The Viking Legacy]
[Scandinavian 160br. Old Norse Language, Literature, and Culture: Mythology]

Graduate Courses of Reading and Research

***Celtic 300. Reading and Research**
Catalog Number: 5614
William Gillies 6305 (fall term only), Catherine McKenna 5253, and Tomás Ó Cathasaigh 1224

***Celtic 305. Preparation of Doctoral Dissertation**
Catalog Number: 0375
Catherine McKenna 5253 and Tomás Ó Cathasaigh 1224

Chemical and Physical Biology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Degrees in Chemical and Physical Biology

Adam E. Cohen, Professor of Chemistry and Chemical Biology and of Physics *(Chair) (on leave fall term)*
Michael P. Brenner, Glover Professor of Applied Mathematics and Applied Physics and Professor of Physics, Harvard College Professor, Area Dean for Applied Mathematics
Philippe Cluzel, Professor of Molecular and Cellular Biology and Gordon McKay Professor of Applied Physics
Michael Manish Desai, Assistant Professor of Organismic and Evolutionary Biology and of Physics
Rachelle Gaudet, Professor of Molecular and Cellular Biology
Stephen C. Harrison, Giovanni Armenise - Harvard Professor of Basic Biomedical Science, Professor of Pediatrics *(Medical School)*
Andres Leschziner, Associate Professor of Molecular and Cellular Biology *(Head Tutor)*
Andrew W. Murray, Herchel Smith Professor of Molecular Genetics
Daniel Joseph Needleman, Associate Professor of Applied Physics and of Molecular and Cellular Biology
Sharad Ramanathan, Professor of Molecular and Cellular Biology and Gordon McKay Professor of Applied Physics
Pardis Sabeti, Associate Professor of Organismic and Evolutionary Biology
Alan Saghatelian, Associate Professor of Chemistry and Chemical Biology
Gregory C. Tucci, Senior Lecturer on Chemistry and Chemical Biology

Other Faculty Offering Instruction in Chemical and Physical Biology

A. Thomas Torello, Lecturer on Molecular and Cellular Biology

The Chemical and Physical Biology (CPB) concentration provides students with a broad foundation in the physical and life sciences. This concentration is designed for students interested in applying quantitative tools, physical concepts, and chemical principles to the study of biology. Students who are interested in understanding living systems in detail will require considerable proficiency in mathematics and physics as well as a broad background in both chemistry and biology. In its emphasis on quantitative, physical, and chemical tools, this concentration represents a significant departure from traditional undergraduate programs of study in the biological and life sciences. Our goal is to provide the next generation of life scientists with the background needed to make new advances in the quantitative understanding of living systems. The CPB concentration is intended primarily for students considering careers in research. The concentration is administered by the Department of Molecular and Cellular Biology and overseen by a Standing Committee, which includes representatives from several departments of the Faculty of Arts and Sciences and from other schools as appropriate to ensure the required breadth of the program. For more information about the Chemical and Physical Biology Concentration, please visit the CPB Life Sciences Page.

Primarily for Undergraduates

***Chemical and Physical Biology 91r. Introduction to Research**
Catalog Number: 9168
A. Thomas Torello
Half course (fall term; repeated spring term). Hours to be arranged.
Laboratory research in topics related to the CPB concentration under the direction of, or approved by, members of the Board of Tutors in CPB. A paper must be submitted to the laboratory sponsor and to the CPB Student Affairs Office for review by the Head Tutor and Course Director.
Note: Limited to CPB concentrators; written permission of both the tutor and laboratory sponsor must be submitted to the CPB Concentration Office prior to enrolling in the course. Ordinarily may not be taken as a fifth course.

***Chemical and Physical Biology 99. Laboratory Research for Honors Thesis**
Catalog Number: 7918
A. Thomas Torello
Full course (indivisible). Hours to be arranged.
For honors candidates writing a thesis in CPB. Indivisible for students enrolling in the fall term. Students intending to enroll in the fall are required to submit a written proposal to the Course Director. Students may enter the course at midyear only with the permission of the Course Director. The thesis proposal must be approved by the Course Director and Head Tutors prior to enrolling in CPB 99. Ordinarily may not be taken as a fifth course.

Chemical Biology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Chemical Biology

Daniel E. Kahne, Professor of Chemistry and Chemical Biology, Harvard College Professor *(Co-Chair)*
Suzanne Walker, Professor of Microbiology and Immunobiology *(Medical School) (Co-Chair)*
Rachelle Gaudet, Professor of Molecular and Cellular Biology
David R. Liu, Professor of Chemistry and Chemical Biology, Harvard College Professor
Timothy J. Mitchison, Hasib Sabbagh Professor of Systems Biology *(Medical School)*
Stuart L. Schreiber, Morris Loeb Professor of Chemistry

Primarily for Graduates

Chemical Biology 207. Molecular Approaches to Drug Action, Discovery, and Design
Catalog Number: 4030 Enrollment: May be limited.

Donald M. Coen (Medical School), Nathanael Gray (Medical School), Suzanne Walker (Medical School), Timothy J. Mitchison (Medical School) and members of the Committee
Half course (spring term). Tu., Th., 3:30–5:30.
Application of molecular, systems, and structural biology, genetics, genomics, enzymology, and chemistry to drug action and development of new therapies. Analyzes molecular underpinnings of pharmacological principles. Examples drawn from diseases including cancer and AIDS.

***Chemical Biology 2200. Introduction to Chemical Biology**
Catalog Number: 3459 Enrollment: Limited to 15.
James Elliott Bradner (Medical School) and Ralph Mazitschek (Medical School)
Half course (spring term). M., through F., 9am - 5pm (January 7-18, 2013).
This course will provide a survey of major topics, technologies, and themes in Chemical Biology, with hands-on exposure to a variety of experimental approaches.
Note: Intended for first-year graduate students in the Chemical Biology Program; permission of the instructor required for all others.

Cross-listed Courses

BCMP 200. Molecular Biology
BCMP 201. Biological Macromolecules: Structure, Function and Pathways
BCMP 230. Principles and Practice of Drug Development
Cell Biology 201. Molecular Biology of the Cell
***Chemistry 106. Advanced Organic Chemistry**
***Chemistry 115. Advanced Organic Chemistry: Synthesis of Complex Molecules**
Chemistry 135. Experimental Synthetic Chemistry
Chemistry 163. Frontiers in Biophysics
[*Chemistry 170. Chemical Biology]
Genetics 201. Principles of Genetics
Neurobiology 200. Neurobiology
[*SCRB 185. Human Disease]
Virology 201. Virology

Graduate Courses of Reading and Research

***Chemical Biology 300hf. Introduction to Chemical Biology Research**
Catalog Number: 95622 Enrollment: This course is limited to first year students in the Chemical Biology Program.
Suzanne Walker (Medical School) 5087 and members of the Committee
Half course (throughout the year). Spring: W., 4:30–6.
Lectures introduce the research areas of current program faculty in Chemical Biology.

***Chemical Biology 350. Chemical Biology Research**
Catalog Number: 9668
Members of the Committee
Upper level Chemical Biology students register for this course when they permanently join a lab. Students should register under the supervising PI.

***Chemical Biology 370. Advanced Topics in Chemical Biology**
Catalog Number: 74314
Daniel E. Kahne 5065 and Suzanne Walker (Medical School) 5087
A series of reading and discussion seminars, each running for a half term (7 weeks). Two seminars, which can be taken in different terms, are required for credit.

***Chemical Biology 399. Introduction to Laboratory Research**
Catalog Number: 1888
Daniel E. Kahne 5065, Suzanne Walker (Medical School) 5087, and Matthew D. Shair 2280 (on leave 2014-15) (spring term only)
This course is intended for Chemical Biology lab rotations.

Chemical Physics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on the Degree of Doctor of Philosophy in Chemical Physics
Eric J. Heller, Abbott and James Lawrence Professor of Chemistry and Professor of Physics *(Chair)*
Alán Aspuru-Guzik, Professor of Chemistry and Chemical Biology
Adam E. Cohen, Professor of Chemistry and Chemical Biology and of Physics
John M. Doyle, Professor of Physics
Roy G. Gordon, Thomas Dudley Cabot Professor of Chemistry and Professor of Materials Science
Mikhail D. Lukin, Professor of Physics *(on leave spring term)*
David R. Nelson, Arthur K. Solomon Professor of Biophysics and Professor of Physics and Applied Physics
Kang-Kuen Ni, Assistant Professor of Chemistry and Chemical Biology
Eugene I. Shakhnovich, Professor of Chemistry and Chemical Biology
Xiaoliang Sunney Xie, Mallinckrodt Professor of Chemistry and Chemical Biology
Xiaowei Zhuang, David B. Arnold, Jr. Professor of Science

The degree of doctor of philosophy in chemical physics was established to meet the needs of students wishing to prepare themselves for the study of chemical problems by the methods and theories of modern physics. The Committee on the Degree of Doctor of Philosophy in Chemical Physics is composed of members of the Departments of Chemistry and Chemical Biology, Physics, and Astronomy, and of the School of Engineering and Applied Sciences, with special interests in the field commonly known as chemical physics. The program of study includes courses in these subjects, and research on an appropriate problem under the direction of a member of one of these departments.

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Chemistry and Chemical Biology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Chemistry and Chemical Biology

Eric N. Jacobsen, Sheldon Emery Professor of Chemistry *(Chair)*
Joanna Aizenberg, Amy Smith Berylson Professor of Materials Science
James G. Anderson, Philip S. Weld Professor of Atmospheric Chemistry
Alán Aspuru-Guzik, Professor of Chemistry and Chemical Biology
Emily Patricia Balskus, Assistant Professor of Chemistry and Chemical Biology
Theodore A. Betley, Thomas D. Cabot Associate Professor of Chemistry and Chemical Biology
Adam E. Cohen, Professor of Chemistry and Chemical Biology and of Physics *(on leave fall term)*
Cynthia M. Friend, Theodore William Richards Professor of Chemistry and Professor of Materials Science
Roy G. Gordon, Thomas Dudley Cabot Professor of Chemistry and Professor of Materials Science *(on leave 2013-14)*
Eric J. Heller, Abbott and James Lawrence Professor of Chemistry and Professor of Physics
Lindsay M. Hinkle, Preceptor in Chemistry and Chemical Biology
Daniel E. Kahne, Professor of Chemistry and Chemical Biology, Harvard College Professor *(Director of Undergraduate Studies)*
Eugene Elliott Kwan, Lecturer on Chemistry and Chemical Biology
Charles M. Lieber, Mark Hyman, Jr. Professor of Chemistry
David R. Liu, Professor of Chemistry and Chemical Biology, Harvard College Professor
Julie C. Schlenker Murthy, Lecturer on Chemistry and Chemical Biology
Andrew G. Myers, Amory Houghton Professor of Chemistry and Chemical Biology
Kang-Kuen Ni, Assistant Professor of Chemistry and Chemical Biology
Daniel Nocera, Patterson Rockwood Professor of Energy
Erin K. O'Shea, Paul C. Mangelsdorf Professor of Molecular and Cellular Biology and of Chemistry and Chemical Biology
Hongkun Park, Professor of Chemistry and Chemical Biology and of Physics *(on leave spring term)*
Tobias Ritter, Professor of Chemistry and Chemical Biology
Alan Saghatelian, Associate Professor of Chemistry and Chemical Biology
Austin Bennett Scharf, Preceptor in Chemistry and Chemical Biology
Stuart L. Schreiber, Morris Loeb Professor of Chemistry *(on leave 2013-14)*
Matthew D. Shair, Professor of Chemistry and Chemical Biology *(Director of Graduate Studies)*
Eugene I. Shakhnovich, Professor of Chemistry and Chemical Biology
Ryan M. Spoering, Lecturer on Chemistry and Chemical Biology
Marie Colleen Spong, Preceptor in Chemistry and Chemical Biology
Jack Szostak, Professor of Chemistry and Chemical Biology; Professor of Genetics *(Medical School)*
Gregory C. Tucci, Senior Lecturer on Chemistry and Chemical Biology
Gregory L. Verdine, Erving Professor of Chemistry in the Departments of Stem Cell and Regenerative Biology and of Chemistry and Chemical Biology *(on leave 2013-14)*

Lu Wang, Preceptor in Chemistry and Chemical Biology
George M. Whitesides, Woodford L. and Ann A. Flowers University Professor
Xiaoliang Sunney Xie, Mallinckrodt Professor of Chemistry and Chemical Biology
Xiaowei Zhuang, Professor of Chemistry and Chemical Biology and of Physics

Other Faculty Offering Instruction in the Department of Chemistry and Chemical Biology

Tamara J. Brenner, Lecturer on Molecular and Cellular Biology, Associate Director of Life Sciences Education
Conor L. Evans, Assistant Professor of Dermatology *(Medical School)*
David A. Evans, Abbott and James Lawrence Professor of Chemistry, Emeritus
Dudley R. Herschbach, Frank B. Baird, Jr. Professor of Science, Emeritus
Jacob M. Hooker, Assistant Professor of Radiology *(Medical School)*
Richard M. Losick, Maria Moors Cabot Professor of Biology
Robert A. Lue, Professor of the Practice of Molecular and Cellular Biology
Gavin MacBeath, Lecturer on Systems Biology *(Medical School)*
Sirinya Matchacheep, Lecturer on Chemistry and Chemical Biology
Logan S. McCarty, Lecturer on Physics, Lecturer on Chemistry and Chemical Biology
David J. Morin, Lecturer on Physics
Christopher Stubbs, Samuel C. Moncher Professor of Physics and of Astronomy, Harvard College Professor
Shao-Liang Zheng, Lecturer on Chemistry and Chemical Biology

Affiliates of the Department of Chemistry and Chemical Biology

Jon Clardy, Hsien Wu and Daisy Yen Wu Professor of Biological Chemistry and Molecular Pharmacology, *(Medical School)*
Suzanne Walker, Professor of Microbiology and Immunobiology *(Medical School)*
Efthimios Kaxiras, John Hasbrouck Van Vleck Professor of Pure and Applied Physics
Christopher T. Walsh, Hamilton Kuhn Distinguished Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*

Incoming students should take advantage of Harvard's Chemistry and Life Sciences Placement Test, as well as the science advising available in the Science Center the week before classes begin. Members of the Life and Physical Sciences departments will be available during this period to advise students. The Harvard Chemistry and Life Sciences Placement Test results recommend the appropriate starting level course for students interested in chemistry: Life and Physical Sciences A, Life Sciences 1a and/or Physical Sciences 10, or Chemistry 17/20.

Certain courses in biochemistry and biophysics are listed under Molecular and Cellular Biology or Biophysics (see cross-listings at end of middle group course section.). The School of Engineering and Applied Sciences, the Department of Physics, and the Department of Earth and Planetary Sciences also list a number of courses of interest to chemists.

Primarily for Undergraduates

Because of the sequence of prerequisites for chemistry courses, the Department strongly recommends some work in mathematics as well as chemistry in the first year. Freshmen contemplating this program should consult a member of the Chemistry Department in planning their first year. Advice may be obtained in the Co-Director of Undergraduate Studies' Office, Science Center 114.

Life and Physical Sciences

Life and Physical Sciences A. Foundational Chemistry and Biology
Catalog Number: 3956
Gregory C. Tucci and Tamara J. Brenner
Half course (fall term). M., W., F., at 9, and a weekly one-hour of discussion section, three-hour lab, and one-hour of review session. EXAM GROUP: 2
This course introduces fundamental concepts in chemistry and biology. Topics in chemistry include stoichiometry, acids and bases, aqueous solutions, gases, thermochemistry, electrons in atoms, and chemical bonding. Topics in biology include the transfer of information from DNA to RNA to protein, genetic inheritance, mitosis and meiosis, and cell structure.
Note: Students should use their scores on the Chemistry and Biology Placement Tests to determine whether to enroll in Life and Physical Sciences A or Life Sciences 1a. This course assumes fluency with high school algebra. Students who have completed Life Sciences 1a, Physical Sciences 1, Chemistry 17 or Chemistry 20 may not take Life and Physical Sciences A for credit. This course, when taken for a letter grade, meets the General Education Requirement for Science of Living Systems. This course, when taken for a letter grade, meets the Core area requirement for either Science A or Science B, but not both.

Life Sciences 1a. An Integrated Introduction to the Life Sciences: Chemistry, Molecular Biology, and Cell Biology
Catalog Number: 2137
Robert A. Lue, Daniel E. Kahne, and Richard M. Losick
Half course (fall term). Tu., Th., 1–2:30;. EXAM GROUP: 15, 16
What are the fundamental features of living systems? What are the molecules imparting them and how do their chemical properties explain their biological roles? The answers form a basis for understanding the molecules of life, the cell, diseases, and medicines. In contrast with traditional presentations of relevant scientific disciplines in separate courses, we take an integrated approach, presenting chemistry, molecular biology, biochemistry, and cell biology framed within central problems such as the biology of HIV and cancer.
Note: For more information about the assignment process, please see the course website in the fall. This course, in combination with Life Sciences 1b, constitutes an integrated introduction to the Life Sciences. This course, when taken for a letter grade, meets the General Education requirement in Science of Living Systems or the Core area requirement for Science A.

Physical Sciences 1. Chemical Bonding, Energy, and Reactivity: An Introduction to the Physical Sciences
Catalog Number: 2225
Alán Aspuru-Guzik
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
This course covers the chemistry and physics underlying molecular phenomena in the world around you. Starting from a single electron, we will build up to atoms, molecules, and materials.

We will study interactions of molecules through thermochemistry, equilibria, entropy and free energy, acids and bases, electrochemistry, and kinetics. We will apply these concepts to (1) world energy demands and global climate change (2) application of physical principles in biology, and (3) modern materials and technology.
Note: This course is part of an integrated introduction to the physical science intended for students who plan to pursue a concentration in the physical or life sciences and/or satisfy pre-medical requirements in Chemistry. May not be counted toward a degree in addition to the former Chemistry 7. Students interested in Physical Sciences 1 should take the Chemistry Placement Exam. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. NOTE: Physical Sciences 1 and Physical Sciences 11 cannot both be taken for credit.
Prerequisite: A few operations of calculus are developed and used. Fluency in pre-calculus secondary school mathematics is assumed. Students are expected to have AP or honors level high school chemistry, or have completed Life and Physical Sciences A (LPS A) with a satisfactory grade.

Physical Sciences 2. Mechanics, Elasticity, Fluids, and Diffusion
Catalog Number: 6053
Logan S. McCarty and David J. Morin
Half course (fall term). Tu., Th., 9:30-11, and a weekly section and lab to be arranged. EXAM GROUP: 11, 12
An introduction to classical mechanics, with special emphasis on the motion of organisms in fluids. Topics covered include: kinematics, Newton's laws of motion, oscillations, elasticity, random walks, diffusion, and fluids. Examples and problem set questions will be drawn from the life sciences and medicine.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Physical Sciences 1 (or Chemistry 7), Mathematics 1b, or the equivalent.

Physical Sciences 3. Electromagnetism, Circuits, Waves, Optics, and Imaging
Catalog Number: 5262
Logan S. McCarty
Half course (spring term). Tu., Th., 9:30-11, and a weekly section and lab to be arranged. EXAM GROUP: 11, 12
This course is an introduction to electromagnetism, digital information, waves, optics and sound. Topics covered include: electric and magnetic fields, electrical potential, circuits, simple digital circuits, wave propagation in various media, microscopy, sound and hearing. The course will draw upon a variety of applications to the biological sciences and will use real-world examples to illustrate many of the physical principles described. There are six laboratories.
Note: This course is part of an integrated introduction to the physical sciences intended for students who plan to pursue a concentration in the life sciences and/or satisfy pre-medical requirements in Physics. May not ordinarily be taken for credit in addition to Physics 1b, 11b, or 15b. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This

course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Physical Sciences 2 (or Physics 1a or 11a), Mathematics 1b, or equivalent.

Physical Sciences 10. Quantum and Statistical Foundations of Chemistry
Catalog Number: 75544
Logan S. McCarty
Half course (fall term). M., W., F., at 10 and a weekly section and lab to be arranged. EXAM GROUP: 3
An introduction to the fundamental theories of quantum mechanics and statistical mechanics and their role in governing the behavior of matter. The course begins with the quantum behavior of a single electron and develops the elements of the periodic table, the nature of the chemical bond, and the bulk properties of materials. Applications include semiconductor electronics, solar energy conversion, medical imaging, and the stability and dynamism of living systems. Calculus will be used extensively.
Note: Physical Sciences 10 and Physical Sciences 11 may be taken in any order. The general chemistry requirement for medical school can be satisfied with any two of the following courses: Life and Physical Sciences A, Life Sciences 1a, Physical Sciences 1, Physical Sciences 10, or Physical Sciences 11. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A.
Prerequisite: A strong background in chemistry (Chemistry AP score of 5, or Physical Sciences 1, or equivalent preparation), mathematics at the level of Mathematics 1b (may be taken concurrently), and some familiarity with physics (force, energy, work, and electric charge).

Physical Sciences 11. Foundations and Frontiers of Modern Chemistry: A Molecular and Global Perspective
Catalog Number: 24022
James G. Anderson, Sirinya Matchacheep, and Gregory C. Tucci
Half course (spring term). M., W., F., at 10 and a weekly section and lab to be arranged.
The Physical Sciences hold the key to solving unprecedented problems at the intersection of science, technology, and an array of rapidly emerging global scale challenges. The course emphasizes a molecular scale understanding of energy and entropy; free energy in equilibria, acid/base reactivity, and electrochemistry; molecular bonding and kinetics; catalysis in organic and inorganic systems; the union of quantum mechanics, nanostructures, and photovoltaics; and the analysis of nuclear energy. Case studies are used both to develop quantitative reasoning and to directly link these principles to global strategies.
Note: Physical Sciences 10 and Physical Sciences 11 may be taken in any order. The general chemistry requirement for medical students can be satisfied with any two of the following courses: Life and Physical Sciences A, Life Sciences 1a, Physical Sciences 1, Physical Sciences 10, or Physical Sciences 11. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. NOTE: Physical Sciences 1 and Physical Sciences 11 cannot both be taken for credit.
Prerequisite: A strong background in chemistry. Students are expected to have had Honors or AP-level high school chemistry preparation or a placement score of 650 or better on the Harvard Chemistry Placement exam. A few operations of calculus are developed and used. Fluency in pre-calculus secondary school mathematics is assumed.

Physical Sciences 12a. Mechanics from an Analytic, Numerical and Experimental Perspective
Catalog Number: 43244
Christopher Stubbs
Half course (spring term). Tu., Th., 9:30–11. EXAM GROUP: 11, 12
This is the first term of a two-semester introductory physical science and engineering course sequence. The focus is on quantitative scientific reasoning, with the first term's exploration framed in the context of basic mechanics. Students will gain competence in both analytic (using pencil, paper and single-variable calculus) and numerical (using computer modeling) approaches to modeling simple physical systems and for the analysis of experimental data. Topics include kinematics, linear and rotational motion, forces, energy, collisions, gravitation, simple fluids and a brief introduction to waves. Examples are drawn from across the physical sciences and engineering. The course is aimed at first year students who have an interest in pursuing a concentration in the sciences and/or engineering. The course structure includes lecture, discussion and laboratory components.
Note: Physical Sciences 12a may not be taken for credit by students who have passed Physics 11a, 15a or 16. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A or Quantitative Reasoning, but not both.

Primarily for Undergraduates

Because of the sequence of prerequisites for chemistry courses, the Department strongly recommends some work in mathematics as well as chemistry in the first year. Freshmen contemplating this program are urged to consult a member of the Chemistry Department in planning their work for the first year. Advice may be obtained in the Associate Director of Undergraduate Studies' Office, Science Center 114.

Chemistry 17. Principles of Organic Chemistry
Catalog Number: 5085
Eric N. Jacobsen
Half course (fall term). M., W., (F.), 2:30–4; and a weekly, ninety-minute section to be arranged. EXAM GROUP: 7, 8
An introduction to organic chemistry, with an emphasis on structure and bonding, reaction mechanisms, and chemical reactivity.
Note: The Chemistry 17/27 sequence is intended primarily for students in the life sciences, who have completed LS1a and one of the PS courses (PS1, PS10, PS11). The Chemistry 20/30 sequence is intended primarily for students planning a concentration in Chemistry or the physical sciences. Either sequence satisfies the organic chemistry requirement for medical school. Students may not count both Chemistry 17 and Chemistry 20 for degree credit. On the other hand, Chemistry 27 and Chemistry 30 cover different material, so students may choose to take both courses for degree credit; students should ordinarily take the third half course only after completing either the 17/27 or 20/30 sequence. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Open to freshmen with a score of 750 or higher in the College Boards or the

Chemistry Placement Examination; to students who scored 4 or 5 on the Chemistry Advanced Placement Examination; and to students who achieved a grade of B or higher in either Physical Sciences 1, 10, 11, or another college-level introductory chemistry course. Others may enter only by permission of the instructor.

Chemistry 20. Organic Chemistry
Catalog Number: 0876
Ryan M. Spoering
Half course (spring term). M., W., F., at 9; weekly lecture review F. 2-3:30; one-hour weekly discussion section; five lab experiments each consisting of a lab-oriented lecture and 5 hours hands-on. EXAM GROUP: 2
An introduction to structure and bonding in organic molecules; mechanisms of organic reactions; chemical transformations of the functional groups of organic chemistry; synthesis; determination of chemical structures by infrared and NMR spectroscopy.
Note: Chemistry 20/30 is an integrated two-semester sequence that prepares students to study chemistry and other physical sciences, whereas the Chemistry 17/27 sequence focuses on application of organic chemistry concepts to the life sciences. Either sequence satisfies the organic chemistry requirement for medical school and the chemistry concentration. The content of Chemistry 17 is accelerated and overlaps with topics from both Chemistry 20 and 30. Students may not count both Chemistry 17 and 20 toward the degree. However, Chemistry 27 and Chemistry 20/30 cover different material, so students may choose to take Chemistry 27 after completing the 20/30 sequence.
Prerequisite: Open to students who scored 4 or 5 on the Chemistry Advanced Placement Examination, or who successfully completed Life Sciences 1A or Life and Physical Sciences A. Others should contact the instructor to discuss their preparation.

Chemistry 27. Organic Chemistry of Life
Catalog Number: 5978
Emily Patricia Balskus
Half course (spring term). M., W. , 2:30-4, and a weekly section and five-hour laboratory to be arranged. EXAM GROUP: 7, 8
Chemical principles that govern the processes driving living systems are illustrated with examples drawn from biochemistry, cell biology, and medicine. The course deals with organic chemical reactivity (reaction mechanisms, structure-reactivity relationships), with matters specifically relevant to the life sciences (chemistry of proteins, nucleic acids, drugs, natural products, cofactors, signal transduction), and with applications of chemical biology to medicine and biotechnology. An understanding of organic reactions and their "arrow" pushing mechanisms is required.
Note: Chemistry 27 and 30 may both be taken for degree credit. See note for Chemistry 17. This course, when taken for a letter grade, meets the General Education requirement for Science of Living Systems or the Core area requirement for Science A.
Prerequisite: Chemistry 17 or Chemistry 30 or Chemistry 20 with permission of the instructor.

Chemistry 30. Organic Chemistry
Catalog Number: 6587
Tobias Ritter

Half course (fall term). Lectures M., W., F., at 11, and laboratory, four to six hours a week, to be arranged. EXAM GROUP: 4
Continuation of Chemistry 20. Fundamental principles and advanced topics in organic chemistry. Carbonyl chemistry and pericyclic reactions are covered in particular detail, using principles of stereochemistry, stereoelectronic theory, and molecular orbital theory as a foundation. Students learn about strategies in multi-step organic synthesis and are given an introduction into organometallic chemistry. Laboratory: an introduction to organic chemistry laboratory techniques and experimental organic synthesis.
Note: Chemistry 27 and 30 may both be taken for degree credit. See note for Chemistry 17. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Chemistry 20 or equivalent.

Chemistry 40. Inorganic Chemistry
Catalog Number: 8201
Theodore A. Betley
Half course (spring term). M., W., F., at 9. EXAM GROUP: 2
An introduction to basic concepts of inorganic chemistry. Develops principles of chemical bonding and molecular structure on a basis of symmetry, applying these concepts to coordination chemistry (highlighting synthesis), organometallic chemistry (applications to catalysis), materials synthesis, and bioinorganic processes.
Prerequisite: Chemistry 17 or 20.

[Chemistry 60. Foundations of Physical Chemistry]
Catalog Number: 5181
Roy G. Gordon
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
A compact introduction to major principles of physical chemistry (statistical mechanics, thermodynamics, and chemical kinetics), concurrently providing mathematical and physical foundations for these subjects and preparation for Chemistry 160 and 161.
Note: Expected to be given in 2014–15.
Prerequisite: Physical Sciences 1 or equivalent; completion or concurrent enrollment in Mathematics 21a or Applied Mathematics 21a; completion or concurrent enrollment in Physics 11a or equivalent.

***Chemistry 91r. Introduction to Research**
Catalog Number: 4366
Gregory C. Tucci and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Reading and/or laboratory work related to one of the research projects under way in the department.
Note: Open to a limited number of chemistry concentrators who are accepted as research students without having taken Chemistry 98. Written permission of the sponsor must be filed at the Office of the Associate Director of Undergraduate Studies in Chemistry. Any student enrolling in this course must register the name of his or her research mentor with the course head whose signature must appear on each student's study card. Must be taken Sat/Unsat.

***Chemistry 98r. Introduction to Research—Junior Year**
Catalog Number: 3124
Gregory C. Tucci and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged; Spring: Tu., Th., at 1. EXAM GROUP: Spring: 15
Research under the direction of, or approved by, a member of the faculty of the Department of Chemistry.
Note: Open with permission of the instructor to junior chemistry majors who have satisfactorily completed the non-credit Introduction to Research Tutorial in the spring term of the sophomore year. In that non-credit spring term tutorial, taught Tu., Th., 1-2:30, students will attend introductory lectures and research seminars in order to acquaint themselves with departmental research programs. In the junior year, students who complete the non-credit tutorial and obtain placement in a research laboratory will undertake research as Chemistry 98r. Written permission of the research adviser must be filed at the office of the Associate Director of Undergraduate Studies in Chemistry. Any student enrolling in this course must register the name of his or her research mentor with the course head whose signature must appear on each student's study card.

***Chemistry 99r. Tutorial—Senior Year**
Catalog Number: 4508
Gregory C. Tucci and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Research under the direction of, or approved by, a member of the faculty of the Department of Chemistry.
Note: Open to seniors accredited by the Department as honors candidates. Students enrolled in Chemistry 99r have the option of writing a thesis. Written permission of the research adviser must be filed at the office of the Associate Director of Undergraduate Studies in Chemistry. Any student enrolling in this course must register the name of his or her research mentor with the course head whose signature must appear on each student's study card.

Cross-listed Courses

Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
MCB 52. Molecular Biology

For Undergraduates and Graduates

***Chemistry 100r. Experimental Chemistry and Chemical Biology**
Catalog Number: 7796
Ryan M. Spoering
Half course (fall term; repeated spring term). M., 4, and two five-hour labs each week. EXAM GROUP: 9
A laboratory course where students carry out research. Projects will be drawn directly from faculty covering a range of methodologies in chemistry and chemical biology. Students will discuss their progress and write formal reports.
Note: Open to freshmen, sophomores, juniors, and seniors, regardless of concentration, and

suitable for students either with or without extensive laboratory experience.
Prerequisite: Chemistry 30 or Chemistry 27, and permission of the instructor.

[Chemistry 101 (formerly Chemistry 201). Organic Synthesis Towards a Genomic Medicine]
Catalog Number: 7505
Matthew D. Shair
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Organic Synthesis Towards a Genomic Medicine teaches advanced students in chemistry and chemical biology: 1) the principles that underlie modern organic synthesis, chemical biology and genome biology, and 2) the resulting development of a new interdisciplinary field -- genomic medicine. Genomic medicine aims to understand human biology and to transform human health by using small molecules that target the root causes of disease. For example, the course will explore how organic synthesis is enabling patient-based drug discovery, where genetic signatures of disease are related to drug sensitivity in the context of cancer, diabetes, infectious disease and psychiatric disease, among others.
Note: Expected to be given in 2014–15.
Prerequisite: Chemistry 17/27, Chemistry 20/30, or the equivalent

***Chemistry 106 (formerly *Chemistry 206). Advanced Organic Chemistry**
Catalog Number: 1063
Eugene Elliott Kwan
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
This course will survey modern organic chemistry from a fundamental perspective. The foundations of structure and bonding, donor-acceptor interactions, and conformational analysis will be considered in the context of pericyclic reactions and cyclic and acyclic stereocontrol. The behavior of reactive intermediates, the basis for enantioselective catalysis, and patterns in functional group reactivity will also be discussed.
Prerequisite: Chemistry 30 or permission of instructor.

Chemistry 110. Small Molecules and Biological Processes - *(New Course)*
Catalog Number: 49486
Matthew D. Shair
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Small molecules are extraordinarily useful tools to investigate biological processes, perturb cell states and treat human diseases. They are complementary to many biological techniques (e.g. expression of mutant proteins, RNAi, genome editing and antibodies) in that they are fast-acting, typically cell permeable, easily reversible, and they can engage multiple targets simultaneously. In this course, we will discuss how these useful small molecules are discovered, how they have revealed deep insights into biological processes, and how they are employed as therapeutics.

***Chemistry 115. Advanced Organic Chemistry: Synthesis of Complex Molecules**
Catalog Number: 0480
Andrew G. Myers
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
An integrated course in complex synthetic problem solving that focuses on the development of

principles and strategies for synthesis design with a concurrent, comprehensive review of modern synthetic transformations.
Prerequisite: A grade of A in Chemistry 30.

[Chemistry 117 (formerly Chemistry 217). Practical NMR Spectroscopy]
Catalog Number: 1061
Eugene Elliott Kwan
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
This course examines the application of modern NMR spectroscopic techniques to the structural elucidation of small molecules. Both the practical and theoretical aspects of 1D and 2D NMR experiments will be explored. Topics include: the chemical shift; coupling constants; the nuclear Overhauser effect and relaxation; chemical exchange; 2D homonuclear and heteronuclear correlation; analysis of complex molecules with overlapping signals and data tabulation; analysis of reactive intermediates; kinetics by NMR; the Fourier transform; quadrature detection; phase-sensitive detection; the vector model; the density matrix and the product operator formalism; pulsed field gradients; and spectrometer instrumentation.
Note: Expected to be given in 2014–15.
Prerequisite: Chemistry 17/27 or 20/30 or equivalent. The course is designed for organic chemists who do not have an extensive math or physics background. In fact, no prior knowledge of NMR spectroscopy is assumed. It is suitable for both undergraduate and graduate students.

***Chemistry 135. Experimental Synthetic Chemistry**
Catalog Number: 3406
Eugene Elliott Kwan
Half course (spring term). Lecture: M., 1–3. Lab -- 8-16 hours per week: Tu., W., or Th., 12-8, or Sat., 10-8, beginning fourth week of the term. EXAM GROUP: 6, 7
An introduction to experimental problems encountered in the synthesis, isolation, purification, characterization, and identification of inorganic and organic compounds. Student work on projects in chemical synthesis, encouraging technical proficiency and simulating actual research.
Note: Preference given to concentrators in Chemistry. Recommended as an efficient preparation for research in experimental inorganic and organic chemistry and related sciences such as biochemistry and pharmacology. Normally follows Chemistry 27 or 30 and is strongly recommended as preparation for Chemistry 98r and 99r.

Chemistry 145. Experimental Inorganic Chemistry
Catalog Number: 79903 Enrollment: Limited to 6.
Theodore A. Betley and Austin Bennett Scharf
Half course (fall term). One 90 minute lecture per week, time TBD; Labs Tuesday & Thursday 1:00 pm - 6:00 pm. EXAM GROUP: 16, 17, 18
An introduction to experimental problems encountered in the synthesis, isolation, purification, characterization, and identification of inorganic compounds, with an emphasis in air-free synthetic techniques and spectroscopic characterization methods specifically applicable to complexes containing transition metals.
Prerequisite: Chemistry 40 and either Chemistry 27 or 30, or permission of the instructor.

[Chemistry 153. Organotransition Metal Chemistry]
Catalog Number: 27616
Tobias Ritter
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17, 18
An introduction to transition metal-mediated chemistry. Topics include organometallic reaction mechanisms and transition metal catalysis in synthesis. Design, development, and presentation of research ideas, relevant to contemporary catalysis and the current literature will be taught as part of the course.
Note: Expected to be given in 2014–15. Primarily for graduate students and advanced undergraduates in chemistry.
Prerequisite: The course requires knowledge in synthetic organic chemistry (Chemistry 30 or equivalent).

Chemistry 154 (formerly Chemistry 254). Advanced Inorganic Chemistry
Catalog Number: 32665
Daniel Nocera
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
The physical inorganic chemistry of transition elements will be discussed. The course will emphasize group theoretical methods of analysis and attendant spectroscopic methods (e.g., electronic, vibrational, EPR, magnetic) derived therefrom. Connections between molecular structure and electronic structure and how that parlays into the properties of complexes and their reactivity will be illustrated throughout various modules, which will touch on advanced problems of interest in the subjects of catalytic, organometallic, coordination, solid state and bioinorganic chemistries.

Chemistry 156. Chemistry of Positron Emission Tomography
Catalog Number: 14862
Jacob M. Hooker (Medical School)
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
This course will provide exposure to translational imaging from a unique chemical perspective. The focus of the course will be radiotracer chemistry but additional topics such as imaging physics, imaging equipment, and probe design based on biology, pharmacokinetics, and image analysis will be covered. Students will leave the course with working knowledge of radiotracer design and human translational imaging.
Note: Laboratory sessions may be arranged.
Prerequisite: One year of Organic Chemistry.

Chemistry 158. Nanoscience and Nanotechnology
Catalog Number: 7504
Charles M. Lieber
Half course (spring term). M., W., 11:30–1. EXAM GROUP: 4, 5
A survey of nanoscience and nanotechnology. Topics include: bottom-up versus top-down paradigms; synthesis and fabrication of zero-, one-and two-dimensional materials; physical properties of nanostructures, including electronic and optical properties; hierarchical organization in two and three dimensions; functional devices circuits and nanosystems; applications with emphasis on nano-bio interface and electronics.

Note: For advanced undergraduate and graduate students.
Prerequisite: Chemistry 40, or equivalent.

Chemistry 160. Quantum Chemistry
Catalog Number: 3420
Cynthia M. Friend
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An introduction to the quantum theory of structure of matter and the tools of computational chemistry. The course topics include the principles of quantum mechanics, the electronic structure of atoms and molecules, and the theory of atomic and molecular spectra. Methods of computational chemistry are introduced and applied throughout the course.
Prerequisite: Applied Mathematics 21a and 21b, Mathematics 21a and 21b, or equivalent preparation in calculus and differential equations; Physical Sciences 1 or equivalent preparation in chemical bonding and fundamental principles; Physical Sciences 2 or Physics 11a, and Physical Sciences 3 or Physics 11b.

Chemistry 161. Statistical Thermodynamics
Catalog Number: 3575
Xiaowei Zhuang
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An introduction to statistical mechanics, thermodynamics, and chemical kinetics with applications to problems in chemistry and biology.
Prerequisite: Chemistry 160 or Physics 143a, or equivalent. Math 21a, or equivalent.

Chemistry 163. Frontiers in Biophysics
Catalog Number: 3635
Xiaoliang Sunney Xie
Half course (fall term). W., F., 1–2:30. EXAM GROUP: 6, 7
This course introduces the physical chemistry underpinnings of life processes, including thermodynamics, equilibrium and nonequilibrium statistical mechanics and chemical kinetics. These principles will be illustrated in the context of recent experimental advances, in particular single-molecule enzymology, molecular motors, live cell imaging, and stochastic gene expression. Statistical analyses and numerical simulations of important biological processes will be covered throughout the course.
Note: Primarily for advanced undergraduate students and graduate students with either biological or physical backgrounds.
Prerequisite: Chemistry 160, Chemistry 161, or permission of the instructor.

***Chemistry 165. Experimental Physical Chemistry**
Catalog Number: 0667
Conor L. Evans (Medical School)
Half course (spring term). Tu., 3-4, and sections on Th., 1-5, or 6-10 pm. EXAM GROUP: 17
Hands-on introduction to physical methods and techniques used widely in chemistry and chemical physics research laboratories. Computer-based methods of data acquisition and analysis are used throughout.
Note: Recommended as an efficient preparation for research in experimental chemistry, chemical

physics, engineering sciences, and related disciplines.
Prerequisite: Chemistry 7, or Physical Sciences 1, or equivalent; Applied Mathematics 21a or Mathematics 21a; one full course in physics or equivalent. Recommended: Chemistry 160, Physics 143a or similar, a course in Quantum Mechanics.

***Chemistry 170 (formerly *Chemistry 270). Chemical Biology**
Catalog Number: 7754
Alan Saghatelian
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Applying chemical approaches to problems in biology. Topics include: protein engineering and directed evolution; RNA catalysis and gene regulation; chemical genetics, genomics, and proteomics; drug action and resistance; rational and combinatorial approaches to drug discovery; metabolic engineering.
Prerequisite: A strong background in organic chemistry and biochemistry.

[Chemistry 171. Biological Synthesis]
Catalog Number: 49031
Emily Patricia Balskus
Half course (spring term). Hours to be arranged.
This course will examine synthesis from a biological perspective, focusing on how organisms construct and manipulate metabolites, as well as how biological catalysts and systems can be used for small molecule production. Topics to be covered include mechanistic enzymology, biosynthetic pathways and logic, biocatalysis, protein engineering, and synthetic biology.
Note: Expected to be given in 2014–15.

Chemistry 190. Statistical Mechanics in Chemistry and Biology
Catalog Number: 45125
Eugene I. Shakhnovich
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
This course will cover interdisciplinary aspects of Chemistry and Biology where Statistical Mechanics played a pivotal role. Topics include: Polymers in solution and condensed phases, equilibrium and dynamics of self-assembly -layers and micelles, protein folding, structure and bioinformatics, reaction dynamics on complex energy landscapes, dynamic and evolution of complex networks.

[*SCRB 185. Human Disease]
Catalog Number: 4005
Gregory L. Verdine
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This course will address both the molecular basis of human disease, and the biological and chemical foundation of therapeutic intervention. The course will include lectures by prominent experts, and analysis of the primary literature.
Note: Expected to be given in 2014–15. May not be taken concurrently with MCB 185. May not be taken for credit if MCB 185 or Chemistry 285 has already been taken. Credit cannot also be received for MCB 185.
Prerequisite: Chemistry 20/30 or 17/27, Life Sciences 52 or their equivalents.



Cross-listed Courses

Earth and Planetary Sciences 133. Atmospheric Chemistry
Earth and Planetary Sciences 135. Physics and Chemistry: In the Context of Energy and Climate at the Global and Molecular Level
[Earth and Planetary Sciences 187. Low Temperature Geochemistry II: Modern and ancient biogeochemical processes]
[MCB 176. Biochemistry of Membranes]
[MCB 199. Statistical Thermodynamics and Quantitative Biology]
[*SCRB 185. Human Disease]

Primarily for Graduates

[Chemistry 205. Advanced Physical Organic Chemistry]
Catalog Number: 6636
Eric N. Jacobsen
Half course (spring term). Hours to be arranged.
An in-depth perspective on mechanistic organic chemistry, with analysis of fundamental organic and organotransition metal reaction mechanisms, reactive intermediates, catalysis, stereochemistry, non-covalent interactions, and molecular recognition. Classical and modern tools of physical-organic chemistry, including reaction kinetics, computer modeling, isotope effects, and linear free-energy relationships will be evaluated in the context of literature case studies.
Note: Expected to be given in 2014–15.
Prerequisite: Chemistry 206 or an equivalent upper-level course in organic chemistry, and Chemistry 160/161 or an equivalent sequence in physical chemistry; or permission of the instructor.

[Chemistry 207. Advanced Organic Synthesis and Reactions]
Catalog Number: 86638
Matthew D. Shair
Half course (fall term). Hours to be arranged.
This course presents reactivity principles of organic molecules. Topics include frontier molecular orbital theory, stereoelectronic effects, conformational analysis, cationic, anionic, radical, and carbene intermediates. These reactivity principles are used in a presentation of target-oriented synthesis. Strategies and tactics for assembling complex organic molecules are presented.
Note: Expected to be given in 2014–15.
Prerequisite: Undergraduates must take Chemistry 30 as a prerequisite.

[*Chemistry 240. Statistical Thermodynamics]
Catalog Number: 5215
Eugene I. Shakhnovich
Half course (fall term). Hours to be arranged.
An introduction to statistical mechanics, thermodynamics, and chemical kinetics with strong emphasis on applications to problems in chemistry and biology. Topics include: thermodynamics and statistical properties of gases, liquids and crystals, critical phenomena, elements of non-

equilibrium statistical mechanics with applications to Chemistry and Biophysics such as theories for biopolymers and chemical reactions.
Note: Expected to be given in 2014–15.
Prerequisite: Chemistry 160 and Chemistry 161, or permission of instructor.

***Chemistry 242. Quantum Mechanics for Physical Chemistry**
Catalog Number: 2971
Kang-Kuen Ni
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course describes the quantum mechanics of molecules and their chemical reactions. We review fundamental principles: Hilbert spaces, operator algebra, Schrodinger,Heisenberg and interaction pictures. Quantum mechanics applied to the understanding of molecular structure, spectra, chemical bonds, and chemical reaction dynamics. Moderntechniques for the manipulation of molecular internal and external quantum states.
Prerequisite: Chemistry 160 or Physics 143, Physics 11 or 12, and Applied Mathematics 105a and 105b, or Mathematics 21, or equivalent.

[*Chemistry 243. Applied Quantum Mechanics]
Catalog Number: 3622
Hongkun Park
Half course (spring term). Hours to be arranged.
The course will cover the application of quantum mechanical principles to contemporary problems in chemistry and physics. The topics covered in the course will include: chemical bonding and the Born-Oppenheimer Approximation, atom/molecule-photon interaction (including second quantization and the dressed-state approach), Quantum Optics, and solid-state and nano-science (band theory, Fermi liquid theory, and electron transport).
Note: Expected to be given in 2014–15. Intended for graduate and advanced undergraduate students in chemistry, physics, and applied physics.
Prerequisite: Two semesters of quantum mechanics (Chemistry 160 / Chemistry 242, or Physics 143a / 143b, or equivalent).

Chemistry 245. Classical, Quantum, and Semiclassical Dynamics and Scattering
Catalog Number: 76413
Eric J. Heller
Half course (fall term). M., W., 11–12:30. EXAM GROUP: 4, 5
Topics taken from advanced classical mechanics which specifically tie into a better understanding of quantum mechanics, including quantum and semiclassical scattering theory, and quantum and semiclassical dynamics, semiclassical propagators, Feynman path intergral, chaos and quantum chaos, underpinnings of statistical mechanics, quantum tunneling and decoherence, semiclassical theory of spectroscopy, plus topics by agreement with the class.
Note: Take Home exams.

[Chemistry 253. Modeling Matter at Nanoscale: An Introduction to Theoretical and Computational Approaches]
Catalog Number: 93647
Luis Alberto Montero Cabrera

Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Essentials of modeling the structure of matter at the nanoscale. Material properties and connections to the mesocale. Intended for advanced undergraduate students or beginning graduate students in Chemistry, Physics, Applied Physics and the Life Sciences.
Note: Expected to be given in 2014–15.
Prerequisite: Applied Mathematics 21a and 21b; Mathematics 21a and 21b, or equivalent preparation in calculus and differential equations; Physical Sciences 1 or equivalent preparation in chemical bonding and fundamental principles; Physical Sciences 2 or Physics 11a, and Physical Sciences 3 or Physics 11b.

Chemistry 255. Practical Crystallography in Chemistry and Materials Science
Catalog Number: 79245 Enrollment: Limited to 10.
Shao-Liang Zheng
Half course (spring term). Tu., Th., 2–3:30. EXAM GROUP: 16, 17
Due to great technical advances, crystal structure analysis plays an increasingly important role in the structure determination of complex solids. This course involves the basic principles of crystallography and covers advanced aspects of practical crystal structure refinement. Topics include crystal symmetry, space groups, geometry of diffraction, structure factors, and structure refinement. Students will gain a working knowledge of x-ray crystallographic techniques, including how to: grow quality crystals, collect data, reduce data, determine a structure, visualize structure, utilize structural databases, publish crystallographic results.
Prerequisite: Chemistry 40 or equivalent.

[Chemistry 267. Surface and Interfacial Phenomena]
Catalog Number: 0571
Cynthia M. Friend
Half course (spring term). Hours to be arranged.
General principles governing surface and interfacial phenomena are developed using treatment of surface electronic and geometric structure as a foundation. The course will treat both theoretical and experimental tools for the investigation of surface structure. Selected spectroscopic techniques will also be treated, with emphasis on surface phenomena. The latter part of the course will develop principles of absorption, reaction, and growth phenomena illustrated through current literature topics.
Note: Expected to be given in 2014–15. Recommended for graduate and advanced undergraduate students in Chemistry, Applied Physics, and related areas with interest in Materials Chemistry and Engineering, Surface Chemistry, Applied Physics, and other areas dependent on properties and behavior of interfaces.
Prerequisite: Chemistry 160 and 161 or equivalent; Applied Mathematics 21a or Mathematics 21a; one full course in physics or equivalent.

Cross-listed Courses

[Applied Physics 235. Chemistry in Materials Science and Engineering]
Applied Physics 291. Electron Microscopy Laboratory
Biophysics 242r. Special Topics in Biophysics
Earth and Planetary Sciences 200. Atmospheric Chemistry and Physics

[Engineering Sciences 228. Biomaterials]
[Engineering Sciences 268. Chemical Kinetics]
Systems Biology 204. Biomolecular Engineering and Synthetic Biology

Graduate Courses of Reading and Research

A student intending to elect one of the following research courses should consult the instructor as far in advance as possible.

***Chemistry 300. Research and Reading**
Catalog Number: 6307
Members of the Department
Individual work under the supervision of members of the Department.

***Chemistry 301hf. Scientific Teaching and Communications: Practicum**
Catalog Number: 9903
Gregory C. Tucci 5020, Matthew D. Shair 2280, Ryan M. Spoering 5625, and Marie Colleen Spong 7483
Half course (throughout the year). Tu., 4–6.
This course will teach graduate students how to communicate scientific concepts in the classroom. Students will focus on becoming effective teachers in discussion sections and in the laboratory. The course will emphasize hands-on experience in teaching and explaining scientific concepts.
Note: Required of all first-year graduate students in the Department of Chemistry and Chemical Biology.

***Chemistry 302. Organometallic Chemistry**
Catalog Number: 1413
Eric N. Jacobsen 1040

***Chemistry 303. Organic Chemistry**
Catalog Number: 1043
David A. Evans 7774

***Chemistry 304. Theoretical Atomic, Molecular, and Chemical Physics**
Catalog Number: 0532
Eric J. Heller 1074

***Chemistry 305qc. Responsible Conduct of Research (RCR)**
Catalog Number: 63731
Logan S. McCarty 5929
Quarter course (fall term; repeated spring term). Spring term: M., W., F., 9 am - 12 pm; see dates below.
Chemistry 305qc uses case studies to examine basic ethical and regulatory requirements for conducting research, and fulfills the National Science Foundation (NSF) and National Institutes of Health (NIH) requirements for formal Responsible Conduct of Research (RCR) instruction.

Topics covered include: research and professional conduct; responsible authorship and publication; mentor-mentee relationships; conflicts of interest; peer review; grant writing and budgeting; intellectual property; data acquisition and management; ownership of data and biological samples; and research involving human and animal subjects. Students are required to attend all lectures, participate in class discussions, and complete a final course evaluation. A certificate will be issued upon successful completion of the course.
Note: This January course meets January 13, 15, and 17, 2014, in Pierce Hall 301 (Stephanie F. Connaughton Room) from 9 am - 12 pm. For registration information and additional course details see http://bit.ly/harvardrcr.

***Chemistry 311. Physical Chemistry**
Catalog Number: 2640
Charles M. Lieber 3102

***Chemistry 315. Photochemistry and Kinetics**
Catalog Number: 5964
James G. Anderson 6057

***Chemistry 318. Organic Chemistry**
Catalog Number: 4295
George M. Whitesides 7447

***Chemistry 320. Chemical Biology**
Catalog Number: 64138
Emily Patricia Balskus 6962

***Chemistry 323. Organic Chemistry**
Catalog Number: 2477
Stuart L. Schreiber 2166 (on leave 2013-14)

***Chemistry 325. Physical Chemistry**
Catalog Number: 8530
Cynthia M. Friend 7446

Chemistry 326. Physical Chemistry and Atomic Physics - *(New Course)
Catalog Number: 42512
Kang-Kuen Ni 7345

***Chemistry 330. Physical Chemistry**
Catalog Number: 1454
Adam E. Cohen 5761 (on leave fall term)

***Chemistry 331. Approaches Toward Understanding and Treating Human Disease**
Catalog Number: 1408
Gregory L. Verdine 1980 (on leave 2013-14)

***Chemistry 336. Physical and Inorganic Chemistry and Materials Science**
Catalog Number: 5266
Roy G. Gordon 1353 (on leave 2013-14)

***Chemistry 340. Inorganic Chemistry**
Catalog Number: 7987
Theodore A. Betley 5760

***Chemistry 342. Inorganic Chemistry**
Catalog Number: 58419
Daniel Nocera 7071

***Chemistry 350. Theoretical Physical Chemistry**
Catalog Number: 8285
Eugene I. Shakhnovich 3147

***Chemistry 386. Theoretical Chemistry**
Catalog Number: 5300
Alán Aspuru-Guzik 5539

***Chemistry 387. Organic Chemistry**
Catalog Number: 4674
Matthew D. Shair 2280

***Chemistry 388. Organic Chemistry**
Catalog Number: 1979
Andrew G. Myers 8278

***Chemistry 389. Physical Chemistry**
Catalog Number: 5111
Xiaoliang Sunney Xie 2290

***Chemistry 390. Organic Chemistry and Chemical Biology**
Catalog Number: 7469
David R. Liu 2717

***Chemistry 391. Physical Chemistry**
Catalog Number: 9897
Hongkun Park 2485 (on leave spring term)

***Chemistry 393. Physical Chemistry**
Catalog Number: 1273
Xiaowei Zhuang 3991

***Chemistry 396. Organic Chemistry**
Catalog Number: 2293
Daniel E. Kahne 5065

***Chemistry 397. Organic Chemistry**
Catalog Number: 3972
Suzanne Walker (Medical School) 5087

***Chemistry 398. Organic and Organometallic Chemistry**
Catalog Number: 1013
Tobias Ritter 5540

***Chemistry 399. Biochemistry and Chemical Biology**
Catalog Number: 4050
Alan Saghatelian 5541

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

The Classics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of the Classics

Mark Schiefsky, Professor of the Classics *(Chair)*
Kathleen M. Coleman, James Loeb Professor of the Classics *(on leave 2013-14)*
Emma Dench, Professor of the Classics and of History, Harvard College Professor *(Director of Graduate Studies)*
David F. Elmer, Associate Professor of the Classics *(Director of Undergraduate Studies)*
Albert Henrichs, Eliot Professor of Greek Literature
Albertus G.A. Horsting, College Fellow in the Department of the Classics
Paul Joseph Kosmin, Assistant Professor of the Classics
Florin Leonte, College Fellow in the Department of the Classics
Ivy Livingston, Preceptor in the Classics
Gregory Nagy, Francis Jones Professor of Classical Greek Literature and Professor of Comparative Literature
Vassiliki Rapti, Preceptor in Modern Greek
Jeremy Rau, Professor of Linguistics and of the Classics
Panagiotis Roilos, George Seferis Professor of Modern Greek Studies and of Comparative Literature
Adrian Staehli, Professor of Classical Archaeology *(on leave spring term)*
R. J. Tarrant, Pope Professor of the Latin Language and Literature
Richard F. Thomas, George Martin Lane Professor of the Classics, Harvard College Professor
Yvona K. Trnka-Amrhein, College Fellow in the Department of the Classics
Andreas Thomas Zanker, Lecturer on the Classics
Jan Ziolkowski, Arthur Kingsley Porter Professor of Medieval Latin

Other Faculty Offering Instruction in the Department of the Classics

Gojko Barjamovic, Lecturer on Near Eastern Languages and Civilizations
Shaye J.D. Cohen, Nathan Littauer Professor of Hebrew Literature and Philosophy
Charles Donahue, Jr., Paul A. Freund Professor of Law *(Law School)*
John Duffy, Dumbarton Oaks Professor of Byzantine Philology and Literature, Emeritus
Andreas Gruner, Visiting Lecturer on History of Art and Architecture
John T. Hamilton, Professor of Comparative Literature and of Germanic Languages and Literatures
James Hankins, Professor of History *(on leave spring term)*
Christopher P. Jones, George Martin Lane Professor of the Classics and of History, Emeritus
Peter Machinist, Hancock Professor of Hebrew and Other Oriental Languages *(on leave 2013-14)*
Michael McCormick, Francis Goelet Professor of Medieval History
Gisela Striker, Walter C. Klein Professor of Philosophy and of the Classics, Emerita

Affiliates of the Department of the Classics

Ruth Bielfeldt, Associate Professor of History of Art and Architecture *(on leave fall term)*
Leah Jane Whittington, Assistant Professor of English *(on leave spring term)*

Information about requirements for undergraduate and graduate degrees, honors, prizes, and scholarships may be obtained at the office of the Department, Boylston Hall 204. Graduate students in the Faculty of Arts and Sciences may enroll in certain foreign language courses for the grade of Satisfactory/Unsatisfactory. Students should consult with course heads or the department's website (www.fas.harvard.edu/~classics) to determine if a course is offered on that basis.

Classical Archaeology

Primarily for Undergraduates

Cross-listed Courses

[History of Art and Architecture 13x. Introduction to Greek and Roman Sculpture]

For Undergraduates and Graduates

[Classical Archaeology 100. Greek Antiquity]
Catalog Number: 3132
Adrian Staehli
Half course (fall term). Hours to be arranged.
The course provides a broad overview of the development of Greek art, architecture, and material culture from the end of the "Dark Ages" through the Archaic and Classical periods to the Hellenistic age. It offers basic knowledge about core categories of archaeological artifacts and remains within their topographical setting and the context of Greek culture and society, and includes issues of archaeological method and problems of current research.
Note: Expected to be given in 2014–15.

Classical Archaeology 101. Roman Antiquity
Catalog Number: 50105
Adrian Staehli
Half course (fall term). W., F., at 11.
The course provides a broad overview of the development of Roman art, architecture, and material culture from the time of the Republic through the Imperial period, to the age of Constantine. It offers basic knowledge about core categories of archaeological artifacts and remains within their topographical setting and within the context of Greek culture and society; it also includes issues of archaeological methods and problems of current research.

Cross-listed Courses

[History of Art and Architecture 132e. The Ideal of the Everyday in Greek Art]
History of Art and Architecture 135v. Designing the Metropolis: Architectural Concepts in Imperial Rome - *(New Course)*
[History of Art and Architecture 139j. Greek Myths on Roman Sarcophagi]

Primarily for Graduates

Classical Archaeology 240. "Reading" Visual Media: Mythological Images in Greek Vase Painting - *(New Course)*
Catalog Number: 42062
Adrian Staehli
Half course (fall term). M., 4–6. EXAM GROUP: 9
This seminar explores the visual "language" and narrativity of mythological images in ancient Greek vase painting, with particular attention to the social practices, rituals, and contexts which framed the consumption of images on vases.

Cross-listed Courses

[*History of Art and Architecture 240r. Topics in Byzantine Art : Illustrating the Word: manuscripts and their images from the Byzantine religious and secular world]

Classical Studies (Courses in Translation)

Primarily for Undergraduates

***Classical Studies 97a. Greek Culture and Civilization**
Catalog Number: 3965
Paul Joseph Kosmin and assistant
Half course (fall term). M., W., at 10; weekly section F., at 10. EXAM GROUP: 3
This course will cover the history of ancient Greece from the Bronze Age Minoan and Mycenaean palace civilizations to the Roman conquest of the East Mediterranean. Attention will be paid to the major political, social, economic, and cultural transformations. Students will explore the wide variety of textual sources (in translation) and archaeological evidence out of which historians seek to understand ancient Greece.

Classical Studies 97b. Roman Culture and Civilization
Catalog Number: 4090
Yvona K. Trnka-Amrhein
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
This course has three components: a chronological survey of Roman history from the beginnings to Constantine; exploration of key features of Roman culture (e.g., economy, education, housing, slavery); and an introduction to the tools and methods available for research on ancient Rome. Students are taught how to work with the Roman collections at Harvard (brick-stamps, coins, manuscripts, maps, papyri, pottery, sculpture, etc.). Each student receives guidance in the planning and execution of a research paper.

Note: Concentrators are required to take either one or two semesters of Classical Studies 97, depending on their concentration track.

Cross-listed Courses

[Aesthetic and Interpretive Understanding 21. Virgil: Poetry and Reception]
Aesthetic and Interpretive Understanding 33. Ancient Fictions: The Ancient Novel in Context
[Culture and Belief 17. Institutional Violence and Public Spectacle: The Case of the Roman Games]
Culture and Belief 22. Concepts of the Hero in Classical Greek Civilization
Culture and Belief 35. Classical Mythology
Culture and Belief 59. Athens, Rome, and Us: Questions of Identity - *(New Course)*
Freshman Seminar 31k. Dreams and Literature from Antiquity to Modernity - *(New Course)
***Freshman Seminar 32t. Poetic Translation**
***Freshman Seminar 37w. The Worlds of Alexander the Great**
***History 70j. Changing Landscapes in the Eastern Mediterranean: Byzantium between the Crusades and the Islamic World, c.1100-c.1450**
***History 80a. Roman Imperialism**
[*History 80g. Travelers to Byzantium]
[Philosophy 7. Introduction to Ancient Philosophy]
Societies of the World 53 (formerly History 1040). The Fall of the Roman Empire

For Undergraduates and Graduates

Classical Studies 128. Friendship in Byzantium and the West - *(New Course)*
Catalog Number: 94872
Florin Leonte
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
The course will look at the institution of friendship in Byzantium and the western Middle Ages within a comparative framework. The aim here will be to analyze personal relations which went beyond the context of family and kinship and which were central for the inner workings of pre-modern societies. The course will cover several topics current in the study of Byzantine and medieval friendship: social practices and the vocabulary of friendship; the economic component of friendly ties; gender related aspects; friendship as the driving force of formations of power; patronage and friendship in Byzantium and the Medieval west. In order to gain a better understanding of the different types of friendship and their relations to particular political cultures, the course will also deal with the major social structures and the institutions in Byzantium and the Medieval West. Students will read sources in translation as well as secondary literature.

Classical Studies 129. Christianity and Classical Culture - *(New Course)*
Catalog Number: 61507
Albertus G.A. Horsting
Half course (spring term). Tu., Th., at 12. EXAM GROUP: 14

A study of the varieties of perception and interaction between Christianity and the Roman empire. We will explore moments of rejection, appropriation, and synthesis in the literary, philosophical, and artistic world of Late Antiquity.

[Classical Studies 135. To the Ends of the Earth: Geography, Ethnography, and Exploration in the Ancient World]
Catalog Number: 28924
Paul Joseph Kosmin
Half course (spring term). Hours to be arranged.
This course will investigate how ancient populations conceptualized the world in which they lived and the foreign peoples who inhabited it. We will explore the interactions of geography and exploration with myth, trade, philosophy, empire, and historiography.
Note: Expected to be given in 2014–15.

Classical Studies 149. The Idea of Egypt in Greek Literature - *(New Course)*
Catalog Number: 52181
Yvona K. Trnka-Amrhein
Half course (fall term). Tu., Th., at 10. EXAM GROUP: 12
To the Greek imagination, Egypt was a land of wealth, antiquity, and arcane knowledge. It was also a foreign and exotic world where everything was reversed. The contradictions and complexities of the Greek view of Egypt provide rich material for exploring the Hellenic response to foreign culture. This class will consider this material with particular attention to questions of how different ideas of Egypt developed and functioned in the Greek imagination, why this was so, and what this reveals about Greek culture and literature. It will explore texts from different genres and periods of Greek literature which present different views of Egypt. When possible, the historical and social situation, Greek material culture, and Egyptian evidence will be drawn in as important context. In studying these texts, we will especially consider how much their treatments of Egypt were conditioned by literary needs and/or how much they reflect real knowledge of Egyptian culture and history. By engaging with the theoretical literature on Greeks and the foreign, we will reevaluate the position of Egypt as an "other," a mirror, or an object of fascination.

Classical Studies 158. Alexander to Caesar: The Transformation of the Hellenistic World - *(New Course)*
Catalog Number: 30077
Paul Joseph Kosmin
Half course (spring term). M., 3–5. EXAM GROUP: 8, 9

Classical Studies 165. Medicine in the Greco-Roman World
Catalog Number: 2851
Mark Schiefsky and assistants
Half course (spring term). Tu., Th., at 12, and a weekly section, to be arranged. EXAM GROUP: 14
Theories and practices of health and healing in the ancient Greco-Roman world, with special emphasis on the relationship of learned medicine to philosophy and other healing traditions.
Note: This course, when taken for a letter grade, meets the General Education requirement for

Culture and Belief or the Core area requirement for Historical Study B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

Classical Studies 171. What is a Greek God? - *(New Course)*
Catalog Number: 23242
Albert Henrichs
Half course (fall term). M., 2–4.
An exploration of essential Greek concepts of divinity and their representation in literature, art, and worship from Homer to Julian. Topics for discussion include anthropomorphism and epiphany; the power and immortality of the gods; their lifestyles and moods; divine names and ethnicity; the interplay of polytheistic and monotheistic tendencies; interactions between immortals and mortals; gods and rituals; deification of mortals; and 'the god in us.'

Cross-listed Courses

Ancient Near East 103. Ancient Lives - *(New Course)*
English 111. Epic: From Homer to Star Wars
[History 1011. The World of the Roman Empire]
History 1035. Byzantine Civilization
History 1300. Western Intellectual History: Greco-Roman Antiquity
[History of Science 106. History of Ancient Science]
[Jewish Studies 136. Jews and Greeks, Judaism and Hellenism]
[Literature 152. Epic and Opera]
[Literature 162. Theory and Methods in Comparative Oral Traditions: Seminar]
***Literature 187r. Selected Topics in Poetics and Rhetoric: Seminar**
[Philosophy 102. Aristotle]
Religion 1310. Ancient Greek Sanctuaries: Oracles - *(New Course)*

Primarily for Graduates

Classical Studies 222. Sicily - *(New Course)
Catalog Number: 68089
Emma Dench and Paul Joseph Kosmin
Half course (spring term). Tu., 2–4.
An in-depth exploration of the cultural history of Sicily between the Bronze Age and the Norman conquest combined with designing an undergraduate course and individual research proposals.

Cross-listed Courses

Comparative Literature 266. Irony
[Comparative Literature 288. The Ancients and the Moderns: Modern Critical Theory and the Classics]
Government 2026. Ancient Greek Political Thought - *(New Course)*
[*History of Science 206r. Physical Atomism in Antiquity: Epicurus and Lucretius: Seminar]

[*Medieval Studies 280 (formerly *Comparative Literature 280). Literary Theory and Criticism in the Middle Ages: Seminar]

Classical Philology

For Undergraduates and Graduates

Cross-listed Courses

[Literature 152. Epic and Opera]
[Literature 162. Theory and Methods in Comparative Oral Traditions: Seminar]
***Literature 187r. Selected Topics in Poetics and Rhetoric: Seminar**

Primarily for Graduates

Classical Philology 217. Aristotle's *Poetics* in Greek and Arabic - *(New Course)*
Catalog Number: 90387
Mark Schiefsky
Half course (fall term). W., 2–4.
A study of Aristotle's *Poetics* in Greek and in Arabic translation, with an emphasis on linguistic, conceptual, and cultural issues. Participants will gain experience in the use of new digital methods of textual analysis. Prerequisites: some knowledge of either Greek or Arabic.

Classical Philology 223. Heroic Fragilities: The Flaws of Tragedy
Catalog Number: 96272
David F. Elmer and Albert Henrichs
Half course (spring term). W., 2–4.
Consideration of Athenian tragedy through the lens of the Aristotelian notion of *hamartia*. What constitutes a tragic hero? How well does Aristotle's theory capture the distinctiveness of specifically tragic heroism (as opposed to that of epic or romance)? Primary texts: Aiskhylos' *Agamemnon*, Sophokles' *Philoktetes*, Euripides' *Iphigeneia in Tauris*.

Classical Philology 256. Ancient Biography - *(New Course)*
Catalog Number: 31798
Yvona K. Trnka-Amrhein
Half course (fall term). Th., 2–4.
This class will investigate a variety of biographical texts in Greek and Latin. It will cover literary biographies (Xenophon's *Cyropaideia* and select lives by Suetonius and Plutarch), "folk" biographies (*The Alexander Romance*, *The Life of Aesop*, and select saints' lives), texts with distinctly biographical elements (e.g. Lucian's "Peregrinus" and "Alexander or the False Prophet"), and biographical expressions from daily life (e.g. biographical inscriptions). We will consider ancient biography from the perspective of genre and explore its connections to other literary forms including history, scholarship, rhetoric, and philosophy. We will particularly investigate who became the subject of biography and what role "a written life" played in Greek and Roman culture and society from politics to education to religious proselytizing.

Classical Philology 276. Aesthetics in Hellenistic and Augustan Poetry: Seminar
Catalog Number: 70388
Richard F. Thomas
Half course (spring term). W., 4–6.
Theories of the aesthetic from Plato to Kant and beyond, with practical enquiry on Callimachus, Apollonius, Theocritus; Virgil, Horace, Propertius, Tibullus, Ovid. Emphasis on philology, metrics, intertextuality, with exploration of aesthetic aspects of reception, including translation.

Classical Philology 277. Latin Palaeography
Catalog Number: 61297
R. J. Tarrant
Half course (fall term). W., 2–4.
The evolution of Latin script from antiquity to the rise of print, with emphasis on periods and types of script important for the transmission of classical Latin literature.

Courses of Reading and Research

Primarily for Undergraduates

***Classics 93r. Advanced Tutorial for Credit**
Catalog Number: 0511
David F. Elmer
Half course (fall term; repeated spring term). Hours to be arranged.
Tutorial instruction for course credit open to candidates for honors who are qualified to do special reading projects in Greek and/or Latin.
Note: May be counted for concentration.

Classics 98. Tutorial - Junior Year
Catalog Number: 31083
David F. Elmer and assistants
Half course (fall term; repeated spring term). Fall: Tu., 2–4 or W., 1–3; Spring: M., 2-4 or W., 2-4.
Close study of a topic in Greco-Roman civilization and/or literature, culminating in the preparation of a substantial research paper (ca. 20 pages).
Note: Required of all concentrators in the junior year.

***Classics 99. Tutorial — Senior Year**
Catalog Number: 2350
David F. Elmer and assistants
Full course. Hours to be arranged.
Tutorial instruction for course credit (in addition to ordinary tutorial instruction) is open only to candidates for honors writing a thesis in their senior year whose applications for such instruction have been approved by the Director of Undergraduate Studies.
Note: May be counted for concentration. Divisible only with permission of the Director of Undergraduate Studies.

Primarily for Graduates

***Classics 300. Direction of Doctoral Dissertations**
Catalog Number: 4543
Kathleen M. Coleman 2289 (on leave 2013-14), Emma Dench 5243, John Duffy 1352, Susanne Ebbinghaus 5184, David F. Elmer 5574, Albert Henrichs 4085, Christopher P. Jones 3204, Paul Joseph Kosmin 6927, Gregory Nagy 1423, Jeremy Rau 4657, Panagiotis Roilos 1982, Mark Schiefsky 2354, Adrian Staehli 6796 (on leave spring term), R. J. Tarrant 7503, Richard F. Thomas 1630, and Jan Ziolkowski 7275

***Classics 301. Reading or Topics Course**
Catalog Number: 3457
Kathleen M. Coleman 2289 (on leave 2013-14), Emma Dench 5243, John Duffy 1352, David F. Elmer 5574, Albert Henrichs 4085, Christopher P. Jones 3204, Paul Joseph Kosmin 6927, Gregory Nagy 1423, Jeremy Rau 4657, Panagiotis Roilos 1982, Mark Schiefsky 2354, Adrian Staehli 6796 (on leave spring term), Gisela Striker 2271, R. J. Tarrant 7503, Richard F. Thomas 1630, Andreas Thomas Zanker 6743, and Jan Ziolkowski 7275
Note: For graduate students whose individual needs are not met by the formal courses offered.

***Classics 302. Special Examinations Direction**
Catalog Number: 2686
Gojko Barjamovic 7344 (spring term only), Timothy Gordon Barnes 6344 (spring term only), Ruth Bielfeldt 5682 (on leave fall term), Shaye J.D. Cohen 4180, Kathleen M. Coleman 2289 (on leave 2013-14), Emma Dench 5243, Charles Donahue, Jr. (Law School) 2650, John Duffy 1352, Susanne Ebbinghaus 5184, David F. Elmer 5574, Andreas Gruner 7494 (spring term only), John T. Hamilton 3977, James Hankins 1239 (on leave spring term), Albert Henrichs 4085, Paul Joseph Kosmin 6927, Peter Machinist 2812 (on leave 2013-14), Michael McCormick 2849, Gregory Nagy 1423, Jeremy Rau 4657, Panagiotis Roilos 1982, Mark Schiefsky 2354, Adrian Staehli 6796 (on leave spring term), Gisela Striker 2271, R. J. Tarrant 7503, Richard F. Thomas 1630, and Jan Ziolkowski 7275

***Classics 350. Classics Proseminar**
Catalog Number: 4026
Emma Dench 5243
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
Designed to introduce graduate students in the Department of the Classics to the essential fields, tools, and methodologies of the discipline.
Note: For first-year students working toward the PhD in the Department of the Classics. Open to other students by permission of instructor.

***Classics 360. Teaching Colloquium**
Catalog Number: 88102
Ivy Livingston 2293
Half course (fall term). F., 2–4.
A practicum course in the craft of teaching. Topics include designing syllabi and assessments, responding to student writing, and guiding classroom discussion. Strategies will be applicable to

courses working entirely in English as well as to those in the languages.
Note: This course must be taken Sat/Unsat. Not repeatable for credit. No auditors.

Greek

Students who have studied classical Greek previously should register at the FAS Exams Office (Office of the Registrar, 20 Garden Street) to take the Harvard placement test in Greek during Freshman Week. Further information on placement in Greek and on the language requirement is available from the Language Preceptor (Boylston Hall 225).

Primarily for Undergraduates

Greek Aa. Beginning Greek
Catalog Number: 0129
Ivy Livingston and assistant
Half course (fall term). M., W. through F., at 9. EXAM GROUP: 2, 11
For students with very little or no previous instruction in Greek. Introduction to Greek grammar and reading of sentences and short passages.
Note: No auditors. May be taken pass/fail. Students with more than one year of formal instruction should take the Harvard placement test in Greek during Freshman Week and consult with the Course Head before enrolling.

[Greek Aab. Beginning Greek (Intensive)]
Catalog Number: 0714
Ivy Livingston and assistants
Full course (spring term). M. through F., at 9, M., at 1. EXAM GROUP: 2, 6, 11
For students with little or no previous instruction in Greek who are seriously interested in making very rapid progress. All basic grammar of the normal first-year sequence (Greek Aa and Ab) and practice in reading prose. Students are prepared for Greek Ba or Bb.
Note: Expected to be given in 2014–15. No auditors. May be taken pass/fail. Students with more than one year of formal instruction should take the Harvard placement test in Greek during Freshman Week and consult with the Course Head before enrolling.

Greek Ab. Beginning Greek
Catalog Number: 0457
Ivy Livingston and assistant
Half course (spring term). M., W., Th., F., at 9. EXAM GROUP: 2, 11
Continuation of Greek Aa. Completion of basic grammar and reading of longer passages.
Note: No auditors. May be taken pass/fail.
Prerequisite: Greek Aa or equivalent.

Greek Ac. Review and Reading
Catalog Number: 8283
Ivy Livingston and assistant
Half course (fall term). M., W., Th., F., at 9. EXAM GROUP: 2, 11
For students with more than one year of formal training in Greek who do not place into Greek

Ba. The course will combine a review of morphology and syntax with readings from prose authors. Students are prepared for Greek Bb or Ba.
Note: No auditors. May be taken Pass/Fail.

Greek Ba. Introduction to Attic Prose
Catalog Number: 4696
Ivy Livingston and assistant
Half course (fall term). M., W., F., at 12. EXAM GROUP: 5
A bridge between the study of Greek grammar and the reading of prose authors; intended to develop reading and translation skills and introduce prose styles.
Prerequisite: Greek Ab, Aab, Ac, or equivalent.

Greek Bb. Selections from Homer's *Iliad*
Catalog Number: 3361
Ivy Livingston and assistant
Half course (spring term). M., W., F., at 12. EXAM GROUP: 5
An introduction to Homeric poetry: language, meter, formulae, and type scenes.
Prerequisite: Greek Ab, Aab, Ac, or equivalent.

For Undergraduates and Graduates

Greek H. Introductory Greek Prose Composition
Catalog Number: 6323
Ivy Livingston and assistant
Half course (spring term). M., W., F., at 9. EXAM GROUP: 5
Practice in the translation of sentences and connected prose passages into Attic Greek; review of forms and syntax; readings of selections from prose authors.
Prerequisite: Greek Ba or equivalent.

[Greek K. Advanced Greek Prose Composition]
Catalog Number: 4171
---------- *and assistant*
Half course (spring term). Hours to be arranged.
Composition in the prose style of various authors and genres, with selected readings representing the development of Greek prose and its analysis by scholars, ancient and modern.
Note: Expected to be given in 2014–15.
Prerequisite: Greek H or equivalent.

Greek 106. Greek Tragedy
Catalog Number: 6274
Albert Henrichs
Half course (fall term). M., W., F., at 12. EXAM GROUP: 5
Close readings of Sophokles' *Antigone* and Euripides' *Medea*, with attention to tragic diction, dramatic convention, and the poetic construction of gender.

Greek 109. The Literature of Affliction - *(New Course)*
Catalog Number: 73139
David F. Elmer
Half course (fall term). M., W., (F.), at 10. EXAM GROUP: 3
An examination of literary representations of illness across three genres: tragedy (Sophocles' *Philoctetes*), historiography (Thucydides' account of the Athenian plague), and medical writing (selections from the Hippocratic corpus). Supplementing these readings with essays by contemporary critics and theorists, we will consider questions such as: Can suffering be verbally expressed and communicated? How is the physical body connected to the body politic? What is the role of narrative in medical models of disease?
Prerequisite: Greek Bb or equivalent.

Greek 110r. Plato's *Symposium*
Catalog Number: 6229
Albert Henrichs
Half course (spring term). M., W., F., at 10.
Simultaneously playful and profound, the *Symposium* ranks as Plato's literary masterpiece. The dialogue extols the power of Eros from different viewpoints and in a variety of styles. This course combines a close reading of the "rhetoric of love" with a thorough review of Attic morphology and syntax.
Note: Greek Bb or equivalent.
Prerequisite: Greek Bb or equivalent.

[Greek 112a. History of Greek Literature I]
Catalog Number: 3052
---------- *and assistant*
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
A survey of early Greek poetry and prose, with readings from Homer, Hesiod, the Homeric Hymns, lyric poetry, and Herodotus. Discussions of genre in relation to performance, historical contexts, thematic (dis)continuities, oral tradition.
Note: Expected to be given in 2014–15.

[Greek 112b. History of Greek Literature II]
Catalog Number: 6889
Instructor to be determined, and assistant
Half course (fall term). Hours to be arranged.
A survey of Greek literature of the Classical and Hellenistic periods. Reading of extended selections from Attic drama, historiography, philosophical writers, and Hellenistic poets, with discussion of social context, literary history, and interpretive issues.
Note: Expected to be given in 2014–15.

Greek 116r. Greek Lyric Poetry
Catalog Number: 4575
Jeremy Rau
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13

Selections from elegiac, iambic, and lyric poets with attention to issues of performance, social and political context, genre, and poetic technique.

Greek 134. The Language of Homer
Catalog Number: 5139
Jeremy Rau
Half course (fall term). M., W., (F.), at 1. EXAM GROUP: 6
Essentials of Greek comparative and historical grammar, and a close reading of *Iliad* 1 and 3. Diachronic aspects of Homeric grammar and diction.

Cross-listed Courses

Ancient Near East 131. Readings in the Septuagint

Primarily for Graduates

***Greek 201. Reading Greek**
Catalog Number: 1968
Gregory Nagy
Half course (spring term). M., W., at 11. EXAM GROUP: 4
Readings of Greek prose and poetry ranging from archaic to imperial, with emphasis on quick comprehension of syntactic, stylistic, and generic features.
Note: Intended for graduate students in Classical Philology as preparation for the general examinations. Texts to be selected from the reading list by participants.

Latin

Students who have studied Latin previously and have not taken the Advanced placement test or SAT II should contact the FAS Exams Office (Office of the Registrar, 20 Garden Street) to take the Harvard placement test during Freshman Week. No one who has studied one year or more of Latin will be admitted to Latin Aa without taking the placement test. Further information on placement in Latin and the language requirement is available from the Language Preceptor (Boylston Hall 225), or the Freshman Dean's Office.

Primarily for Undergraduates

Latin Aa. Beginning Latin
Catalog Number: 4759
Ivy Livingston and assistants
Half course (fall term). Section I: M., W. through F., at 9; Section II: M., W. through F., at 10. EXAM GROUP: 2, 11
For students with very little or no previous instruction in Latin. Introduction to Latin grammar and reading of sentences and short passages.
Note: No auditors. May be taken pass/fail. Students with more than one year of formal instruction should take the Harvard placement test in Latin during Freshman Week and consult with the Course Head before enrolling.

Latin Aab. Beginning Latin (Intensive)
Catalog Number: 7111
Ivy Livingston and assistants
Full course (spring term). M. through F., at 9, M., at 1. EXAM GROUP: 2, 11
For students with little or no previous instruction in Latin who are seriously interested in making very rapid progress. All basic grammar of the normal first-year sequence (Latin Aa and Ab) and practice in reading prose. Students are prepared for Latin Ba, Bb, Bam, or Bbm.
Note: No auditors. May be taken pass/fail. Students with more than one year of formal instruction should take the Harvard placement test in Latin.

Latin Ab. Beginning Latin
Catalog Number: 2101
Ivy Livingston and assistants
Half course (spring term). Section I: M., W., Th., F., at 9; Section II: M., W., Th., F., at 10. EXAM GROUP: 2, 11
Continuation of Latin Aa. Completion of basic grammar and reading of longer passages.
Note: No auditors. May be taken Pass/Fail.
Prerequisite: Latin Aa or equivalent.

Latin Ac. Review and Reading
Catalog Number: 7033
Ivy Livingston and assistant
Half course (fall term). M., W., Th., F., at 9. EXAM GROUP: 2, 11
For students with more than one year of formal training in Latin who do not place into Latin Ba. The course will combine a review of morphology and syntax with readings from prose authors. Students are prepared for Latin Ba or Bb.
Note: No auditors. May be taken Pass/Fail.

Latin Ba. Latin Prose Selections (Classical)
Catalog Number: 2344
Ivy Livingston and assistant
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
A bridge between the study of Latin grammar and the reading of prose authors; intended to develop reading and translation skills and introduce prose styles. The readings are short selections from a variety of genres by authors such as Cicero, Pliny, Nepos, Sallust, and Petronius.
Prerequisite: Latin Ab, Aab, Ac, or equivalent.

Latin Bam. Latin Prose Selections (Late Antique and Medieval)
Catalog Number: 7123
Jan Ziolkowski and assistant
Half course (fall term). M., W., F., at 12. EXAM GROUP: 5
Provides a bridge between study of grammar and reading of prose. After review of fundamentals, studies short selections of post-classical texts and authors such as Vulgate Bible, Augustine, Anselm of Canterbury, Abelard, and Dante.
Prerequisite: Latin Ab, Aab, Ac, or equivalent.

Latin Bb. Introduction to Latin Poetry (Classical)
Catalog Number: 2488
Ivy Livingston and assistant
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Reading of selections of Latin poetry and introduction to meter.
Prerequisite: Latin Ab, Aab, Ac, or equivalent.

Latin Bbm. Introduction to Latin Poetry (Late Antique and Medieval)
Catalog Number: 2096
Jan Ziolkowski and assistant
Half course (spring term). M., W., F., at 1. EXAM GROUP: 6
Reading of selections of Medieval Latin poetry and introduction to quantitative meter and rhythmical poetry. Aims to facilitate the reading through study of short selections of post-classical poetry from authors such as Ambrose, Alcuin, Hrotsvit of Gandersheim, and Aquinas.
Prerequisite: Latin Ab, Aab, Ac, or equivalent.

For Undergraduates and Graduates

Latin H. Introductory Latin Prose Composition
Catalog Number: 3814
Ivy Livingston and assistant
Half course (fall term). M., W., F., at 9. EXAM GROUP: 2
Practice in the translation of sentences and connected prose passages from English into Latin, with review of Latin syntax.
Prerequisite: Latin Ba or equivalent.

Latin K. Advanced Latin Prose Composition: Seminar
Catalog Number: 5018
R. J. Tarrant and assistant
Half course (spring term). M., 2–4.
Exercise in the prose style of different authors and periods, working within various subject areas and genres. As a guide to composition, we will read and analyze illustrative passages from major authors, including Cato, Cicero, Sallust, Livy, Seneca, and Tacitus, as well as some distinctive styles in lesser-known authors.

Latin 112a. History of Latin Literature I
Catalog Number: 7099
Richard F. Thomas and assistant
Half course (fall term). M., W., F., at 11, and a weekly section, to be arranged. EXAM GROUP: 4
The literature of the Republic and early Augustan period. Reading of extensive selections from the major authors, with lectures and discussion on the evolution and development of Latin prose and poetry. The course focuses on a variety of issues: Latin individuality through manipulation of inherited Greek forms, metrical and stylistic developments, evolving poetics, intertextuality and genre renewal, dynamic effects of social and political contexts.

Latin 112b. History of Latin Literature II
Catalog Number: 7643
Andreas Thomas Zanker
Half course (spring term). M., W., F., at 1, and a weekly section to be arranged. EXAM GROUP: 6
The literature of the late Republic and Principate. We shall read extensive selections from major authors across a range of genres, considering their form and content against their historical contexts. Class will consist of a mixture of prepared translation from Latin and introductory lectures.

Latin 122. Horace, *Odes*
Catalog Number: 2163
R. J. Tarrant
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
A study of Lyric as a mode of poetic, political, and personal expression in Horace's *Odes*.

Latin 128. Caesar - *(New Course)*
Catalog Number: 61513
Andreas Thomas Zanker
Half course (fall term). Tu., Th., at 11. EXAM GROUP: 13

Latin 129. Senecan Tragedies
Catalog Number: 87712
R. J. Tarrant
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Reading and discussion of Seneca's *Troades*, *Medea*, and *Thyestes*, with attention to dramatic form, character portrayal and relation to predecessors, Greek and Roman.

[Latin 134. Archaic Latin]
Catalog Number: 1327
Jeremy Rau
Half course (fall term). M., W., (F.), at 11.
Essentials of Latin comparative and historical grammar, with readings of early Latin inscriptions, legal texts, and selections from Livius Andronicus, Plautus, Ennius, and Cato.
Note: Expected to be given in 2014–15.

Latin 137. Tacitus on the Principate - *(New Course)*
Catalog Number: 55346
Richard F. Thomas
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Lectures, discussion, translation, and student presentations on Tacitus, with consideration of his achievement within the Latin literary and historiographical traditions, and with a focus on language and style. Primary attention on Agricola and Annals, comprehensive for Agricola and Book 4 of the Annals, with selections from the other books of the latter, and reading of the entire work in translation.

Primarily for Graduates

***Latin 201. Reading Latin**
Catalog Number: 7642
Andreas Thomas Zanker
Half course (fall term). M., W., (F.), at 10. EXAM GROUP: 3
Readings of Latin prose and poetry ranging from archaic to imperial, with emphasis on variety, quantity, and quick comprehension of syntactic, stylistic, and generic features.
Note: Intended for graduate students in Classical Philology as preparation for the general examinations.

Cross-listed Courses

[Medieval Studies 201. The Auxiliary Disciplines of Medieval History: Proseminar]
***Medieval Studies 202. Latin Palaeography and Manuscript Culture: Seminar**
***Philosophy 320. Philosophy in Translation: Latin**

Medieval Greek

For Undergraduates and Graduates

Medieval Greek 115ar. Introduction to Byzantine Greek
Catalog Number: 7682
Florin Leonte
Half course (fall term). Tu., Th., at 10. EXAM GROUP: 12
Introduces students to medieval Greek language and literature and, through selected readings, to important elements of Byzantine culture and society. Texts will be selected to provide a diachronic survey of a variety of literary genres, to reflect the diversity of Byzantine life and letters. Topics will include: biography/hagiography, historiography, sacred and secular poetry, letters, the novel, homilies and rhetorical texts. Choice of texts will correspond in part to the specific needs and interests of participants.
Prerequisite: Greek Ba or equivalent.

Primarily for Graduates

Medieval Greek 275. Court Society and Imperial Representations in Byzantium - *(New Course)
Catalog Number: 45364
Florin Leonte
Half course (spring term). W., 12–2. EXAM GROUP: 5, 6
This course will look at the Byzantine court as the social and functional milieu of emperors, their dynastic families, and their servants. This household establishment which took care of the ruler's daily needs was shaped within a hierarchical framework and served as a central point around which other groups coagulated. The Constantinopolitan court represented a magnet for the elites and the major meeting place for different social groups, otherwise unconnected. While one of its major roles was to advertise the image of a divinely ordained rulership, the court also protected

rulers from popular attention and even against violent actions. We will look at the various approaches to the study of court societies in the pre-modern world, the Byzantine court space and ceremonial, the imperial ideology, the theatra as places of social performance, and the political elites. Particular attention will be given to the major sources for the study of the Byzantine court and its ceremonials: Philotheos' *Kletorologion* (9th c.), Constantine VII Porphyrogennnetos' *Book of Ceremonies* (10th c.), Pseudo-Kodinos' *Treaty on Offices* (14th c.) as well as other relevant texts.

Medieval Latin

Primarily for Undergraduates

Cross-listed Courses

Latin Bam. Latin Prose Selections (Late Antique and Medieval)
Latin Bbm. Introduction to Latin Poetry (Late Antique and Medieval)

For Undergraduates and Graduates

Medieval Latin 105 (formerly Medieval Latin 205). *The Waltharius*
Catalog Number: 9120
Jan Ziolkowski
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Studies a poem about an early Germanic hero, Walter of Aquitaine. Considers problems connected with the poem, from date and authorship to its essential meanings. Seeks to relate poem to both Germanic and Latin contexts, with attention to versions in other languages (in translation) and to sources and analogues in classical and Christian Latin literature.

Medieval Latin 118. Latin Letters at the End of Antiquity - *(New Course)*
Catalog Number: 62886
Albertus G.A. Horsting
Half course (fall term). Tu., Th., at 1.
A linguistic and literary examination of texts that stand at the threshold of the Middle Ages across a variety of registers (vulgar, classicizing, biblical) and genres (theological, legal, hagiographic, epistolary) in order to understand the the forces that led to the development of the manifold varieties of Medieval Latin.

Primarily for Graduates

Medieval Latin 206. Latin Biblical Epic - *(New Course)
Catalog Number: 71696
Albertus G.A. Horsting
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
An exploration of the major Latin biblical epics. We will seek to place the epics in their literary, historical, and religious contexts. The poems will be approached from a variety of critical

perspectives: as a reading of classical epic; the rhetorical paraphrase; didactic poetry and the poetry of edification, and so forth.

Cross-listed Courses

History 2055 (formerly History 2055hf). Early Medieval History, Archaeology and Archaeoscience: Seminar
[Medieval Studies 201. The Auxiliary Disciplines of Medieval History: Proseminar]
***Medieval Studies 202. Latin Palaeography and Manuscript Culture: Seminar**

Modern Greek

For Undergraduates and Graduates

Modern Greek A. Elementary Modern Greek
Catalog Number: 8604
Vassiliki Rapti and assistant
Full course. M., W., F., at 12, and a weekly hour for conversation to be arranged. EXAM GROUP: 5
For students with no knowledge of modern Greek. Basic oral expression, listening comprehension, grammar, reading, and writing. Language instruction is supplemented by reading of simple literary passages and other texts, as well as by online instruction.

Modern Greek B. Intermediate Modern Greek: Language and Civilization
Catalog Number: 8187
Vassiliki Rapti and assistant
Full course. M., W., F., at 11, and a weekly hour for conversation to be arranged. EXAM GROUP: 4
Aims at further development of skills in speaking, comprehension, reading, and writing. Selected readings in prose (literary and journalistic), poetry, folksongs, modern music, and theater serve as an introduction to aspects of modern Greek literature and culture. The course is conducted in Greek and focuses on topics selected by the instructor and the students in the first term. Grammar is reviewed in the context of readings. Instruction is supplemented by online instruction.
Prerequisite: An elementary knowledge of modern Greek (equivalent to that of Modern Greek A).

***Modern Greek 100. Advanced Modern Greek: Introduction to Modern Greek Literature**
Catalog Number: 8487
Vassiliki Rapti
Half course (fall term). Tu., 1–3, and a one-hour section, to be arranged. EXAM GROUP: 15
Special Topic: Introduction to the Poetry of Nobel Laureate George Seferis. Literary, sociocultural, and linguistic analysis of selected readings in prose, poetry, and literary criticism by George Seferis. Emphasis will also be given to the reception of the Nobel laureate Greek poet. Students will achieve linguistic and cultural competency while grasping a complete portrait of the poet and diplomat George Seferis within a broader historic and sociopolitical context of 20th-

century Greece.
Note: Conducted in Greek.
Prerequisite: Modern Greek B or equivalent and permission of instructor.

Modern Greek 104. Modern Greek Theatre
Catalog Number: 46277
Vassiliki Rapti
Half course (spring term). Th., 1–3.
This course examines Modern Greek theatre in its multiple aspects from its relation to Greek tragedy through the stage revival of ancient drama to its contemporary status. Through a variety of perspectives and methods, students will explore several seminal plays with a particular emphasis on contemporary playwrights and avant-garde stage directors. Course taught in English. No Final Exam.

[Modern Greek 113. Images of Greece in Modern Visual Cultures] - *(New Course)*
Catalog Number: 18669
Panagiotis Roilos
Half course (fall term). Hours to be arranged.
Note: Expected to be given in 2014–15.

Modern Greek 147. The Avant-Garde and Its "Margins"
Catalog Number: 11101
Panagiotis Roilos
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
This course explores the avant-garde's subversion of established aesthetic premises and of the very institution of art in different European contexts. Special emphasis is placed on Western European and Greek surrealism, its complex associations with Greek tradition (ancient and modern), and on its interaction with the newly founded disciplines of anthropology and psychoanalysis.
Note: All texts are available in English.

Primarily for Graduates

Modern Greek 206. Politics of Reception: Classical Antiquity in Modern Critical Theory and Literature
Catalog Number: 4112
Panagiotis Roilos
Half course (spring term). M., 4–6.
Explores the formation of classics as a discipline in the post-Enlightenment era and the ways in which antiquity and its study informed major manifestations of modern theoretical, philosophical, and literary discourses.
Note: All texts are available in English.

Cross-listed Courses

Comparative Literature 266. Irony
[Comparative Literature 288. The Ancients and the Moderns: Modern Critical Theory and the Classics]

Cross-listed Courses in Other Languages

[Comparative Literature 298. Allegory]
[Egyptian Aa. The Language of the Pharaohs: Introduction to Egyptian hieroglyphs I]
[Egyptian Ab. The Language of the Pharaohs: Introduction to Egyptian hieroglyphs II]
English 111. Epic: From Homer to Star Wars
[*History of Art and Architecture 240r. Topics in Byzantine Art : Illustrating the Word: manuscripts and their images from the Byzantine religious and secular world]
Irish 200. Introduction to Old Irish
Irish 201r. Continuing Old Irish
[Linguistics 225a. Introduction to Hittite]
[Philosophy 102. Aristotle]

Comparative Literature

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Comparative Literature

Karen Thornber, Professor of Comparative Literature *(Chair, and Director of Graduate Studies)*
Daniel Albright, Ernest Bernbaum Professor of Literature
Homi K. Bhabha, Anne F. Rothenberg Professor of the Humanities
Svetlana Boym, Curt Hugo Reisinger Professor of Slavic Languages and Literatures and Professor of Comparative Literature
Julie A. Buckler, Professor of Slavic Languages and Literatures and of Comparative Literature, Harvard College Professor, and Director of the Humanities Program
Verena A. Conley, Visiting Professor of Comparative Literature and of Romance Languages and Literatures
David Damrosch, Ernest Bernbaum Professor of Literature *(on leave spring term)*
James Engell, Gurney Professor of English Literature and Professor of Comparative Literature
Luis M. Girón Negrón, Professor of Romance Languages and Literatures and of Comparative Literature
Rita B. Goldberg, Lecturer on Literature
John T. Hamilton, Professor of Comparative Literature and of Germanic Languages and Literatures

Biodun Jeyifo, Professor of African and African American Studies and of Comparative Literature
Christine S. Lee, Lecturer on Comparative Literature
Christie McDonald, Smith Professor of French Language and Literature and of Comparative Literature
Sandra Naddaff, Senior Lecturer on Literature and Comparative Literature *(Director of Undergraduate Studies)*
Gregory Nagy, Francis Jones Professor of Classical Greek Literature and Professor of Comparative Literature
Stephen Owen, James Bryant Conant University Professor
Katharina Piechocki, Assistant Professor of Comparative Literature
Martin Puchner, Byron and Anita Wien Professor of Drama and of English and Comparative Literature *(on leave 2013-14)*
Panagiotis Roilos, George Seferis Professor of Modern Greek Studies and of Comparative Literature
Judith Ryan, Robert K. and Dale J. Weary Professor of German and Comparative Literature *(on leave fall term)*
Marc Shell, Irving Babbitt Professor of Comparative Literature and Professor of English
Werner Sollors, Henry B. and Anne M. Cabot Professor of English Literature and Professor of African and African American Studies *(on leave spring term)*
Diana Sorensen, James F. Rothenberg Professor of Romance Languages and Literatures and of Comparative Literature, and Dean of Arts and Humanities
Susan R. Suleiman, C. Douglas Dillon Professor of the Civilization of France and Professor of Comparative Literature *(on leave fall term)*
Christina Lynne Svendsen, Lecturer on Literature
Luke Taylor, Lecturer on Literature
William Mills Todd III, Harry Tuchman Levin Professor of Literature and Professor of Comparative Literature *(on leave spring term)*
Delia Ungureanu, Lecturer on Literature
Justin Weir, Professor of Slavic Languages and Literatures and of Comparative Literature
Ruth R. Wisse, Martin Peretz Professor of Yiddish Literature and Professor of Comparative Literature

Other Faculty Offering Instruction in the Department of Comparative Literature

Giuliana Bruno, Professor of Visual and Environmental Studies
Joaquim-Francisco Coelho, Nancy Clark Smith Professor of the Language and Literature of Portugal and Professor of Comparative Literature, Emeritus
William E. Granara, Professor of the Practice of Arabic on the Gordon Gray Endowment, and Director of the Center for Middle Eastern Studies
Jeffrey Schnapp, Professor of Romance Languages and Literatures

Primarily for Undergraduates

***Literature 91r. Supervised Reading and Research**
Catalog Number: 1074

Sandra Naddaff and members of the Committee and Tutorial Board
Half course (fall term; repeated spring term). Hours to be arranged.
A graded, supervised course of reading and research to be conducted by a person approved by the Committee.
Note: Permission of Director of Studies required.

[Literature 96. Introduction to Literary Studies (Formerly Literature 12)]
Catalog Number: 57859 Enrollment: Limited to 20.
Sandra Naddaff and members of the Committee and Tutorial Board
Half course (fall term). Hours to be arranged.
Introduces key questions, concepts and tools for the study of literature through a sustained reflection on the practice of reading. How and why do we read? How do we talk about what we read? How do literary texts represent, reflect on, inflect, or even resist reading? What can be revealed or achieved through critical reading and writing? Features a wide range of literary and theoretical texts including Goethe, Mary Shelley, Proust, Borges, and Anne Carson.
Note: Expected to be given in 2014–15.

***Literature 97. Tutorial — Sophomore Year**
Catalog Number: 4595
Sandra Naddaff and members of the Committee and Tutorial Board
Half course (spring term). Hours to be arranged.
Successful completion of Literature 97 is required of all concentrators in their sophomore year.

***Literature 98a. Tutorial — Junior Year**
Catalog Number: 3119
Sandra Naddaff and members of the Committee and Tutorial Board
Half course (fall term). Hours to be arranged.
Successful completion of one term of Literature 98a is required of all concentrators in their junior year.

***Literature 98b. Tutorial — Junior Year**
Catalog Number: 1528
Sandra Naddaff and members of the Committee and Tutorial Board
Half course (spring term). Hours to be arranged.
Successful completion of one term of Literature 98b is required of all concentrators in their junior year.

***Literature 99a. Tutorial — Senior Year**
Catalog Number: 4857
Sandra Naddaff and members of the Committee and Tutorial Board
Half course (fall term). Hours to be arranged.
Successful completion of one term of Literature 99a is required of all concentrators in their senior year.

***Literature 99b. Tutorial — Senior Year**
Catalog Number: 1290

Sandra Naddaff and members of the Committee and Tutorial Board
Half course (spring term). Hours to be arranged.
Successful completion of one term of Literature 99b is required of all concentrators in their senior year.

For Undergraduates and Graduates

[Literature 101. Writing Across Cultures: Literatures of the World (from 1750 to the present)]
Catalog Number: 4361
David Damrosch
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
An overview of world literature in the modern period through a series of international styles and literary ideological movements. In lectures, discussions, and close readings of theoretical and imaginative texts from around the world, we will examine "world literature" as an emerging concept in relation to such forces as censorship, propaganda, translation, centers, contact zones, and canon formation.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

Literature 103. Writing Across Cultures: Literatures of the World (to 1750)
Catalog Number: 9074
Stephen Owen
Half course (fall term). M., W., at 11. EXAM GROUP: 4
An overview of world literatures from the earliest texts to the Enlightenment, treating multi-ethnic classical literatures, the formation of ethnic vernacular literatures, and zones in which literary cultures met. Will examine how cultural identity has been constructed in literature.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[*Literature 104. On Theory]
Catalog Number: 8760 Enrollment: Limited to 20.
Verena A. Conley
Half course (fall term). Hours to be arranged.
What is theory? What is the difference between literary, critical and cultural theory? What is the relation between theory and reading? This course introduces students to various concepts of theory (Derrida, Deleuze, Foucault, Balibar, Adorno, Benjamin, Freud, Saussure, Cixous, Kristeva, Butler and others). Focuses on theoretical texts and will bring in literary texts where necessary.
Note: Expected to be given in 2014–15.

[*Literature 109. On Translation]
Catalog Number: 0594 Enrollment: Limited to 20.
Sandra Naddaff
Half course (fall term). Tu., 1–3.
Examines theories of translation from various periods (Dryden, Schopenhauer, Schleiermacher, Benjamin, de Man, among others). Also looks closely at specific translated texts (e.g., various English translations of *The Thousand and One Nights*), and considers such topics as the notion of "unequal languages," the problem of cultural translation, translation post-9/11, and the possibility of untranslatability. Final project involves an original translation and commentary.
Note: Expected to be given in 2014–15. Preference given to Literature concentrators.
Prerequisite: Reading knowledge of one foreign language.

[Literature 113. Existential Fictions: From Saint Augustine to Jean-Paul Sartre and Beyond]
Catalog Number: 3016
Verena A. Conley
Half course (fall term). M., W., at 12.
This course examines problems of existence in relation to self and other in the world from the early Christian era to our days. It shows how *existence* preoccupies major writers who have approached its implications (and the dilemmas it inspires) in different ways. At stake are the redemptive powers of religion, thoughts about the death of God, the limits of atheism, and philosophies of becoming. Texts by Saint Augustine, Montaigne, Pascal, Kierkegaard, Dostoyevsky, Nietzsche, Gide, Heidegger, Sartre, Camus, Simone de Beauvoir, and others.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Literature 117. Literature, Gender, and Revolution]
Catalog Number: 3626
Karen Thornber
Half course (spring term). Hours to be arranged.
Explores relationships among literature, gender, and revolution in China, Cuba, Iran, Japan, Korea, and Russia from the late 19th century to the present. Readings by Butler, Chukovskaya, Danishvar, de Beauvoir, Foucault, Mikiso Hane, Kim Ilyop, Loynaz, Marruz, Pleck, Qiu Jin, Scott, Tamura Toshiko among others.
Note: Expected to be given in 2014–15.

[*Literature 119. On Comparative Arts]
Catalog Number: 0078 Enrollment: Limited to 18.
Marc Shell and Daniel Albright
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
Is there one Art, or are there many arts? We will consider affinity and difference among literature, painting, music, and other arts. Student projects will investigate works of art that submit to or reject a particular material medium. Theory from Plato (Ion), Aristotle, Lessing, Burke, Diderot, Rousseau, Hegel, Pater, Greenberg, Heidegger; examples from Homer, Leonardo, Turner, Monet, Rossetti, Wagner, Richard Strauss, Apollinaire, Schoenberg--and

others.
Note: Expected to be given in 2014–15.

[*Literature 121. *1001 Nights*: Adaptations, Transformations and Translations]
Catalog Number: 5879 Enrollment: Limited to 15.
Sandra Naddaff
Half course (fall term). Hours to be arranged.
Examines how the *1001 Nights* is transformed and adapted for different media and genres. Focuses on a variety of films, (e.g., *The Thief of Baghdad, Chu Chin Chow, Aladdin*), illustrations/images (e.g., Doré, Chagall, Matisse), musical and balletic renditions (e.g., Rimsky-Korsakov, Fokine), translations (e.g., Galland, Lane, Burton, Haddawy), and re-tellings of stories (e.g., Poe, Barth, Mahfouz, Sebbar, Zimmerman). Also considers the role of the *1001 Nights* in contemporary popular culture.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[Literature 125. The Desire for Narrative: Across Cultures, Forms and Media]
Catalog Number: 70867
Biodun Jeyifo
Half course (fall term). Hours to be arranged.
An exploration of the cultural roots of the powerful human desire both to tell and be told stories, in full and not in fragments. We will range across diverse societies and cultural forms and media like fiction, drama, film, television and oral performances.
Note: Expected to be given in 2014–15.

[Literature 129. Reading the 18th Century Through 21st-Century Eyes]
Catalog Number: 8742
Christie McDonald
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
Why study the French Enlightenment today and how? How do discussions of principle play out in real-world events? Analysis of works from the eighteenth century juxtaposed with novels, plays, media events, operas, photography and films of the 20th-21st centuries; debates in literature, philosophy and the arts about cultural differences, universality, and the search for belief and confidence in a society undergoing dramatic change. Topics include the reworking of issues urgent then as now: equality, justice, freedom, tolerance, torture, human rights, the relation of the personal to the political, the role of opinion and the media in ethical interpretation.
Note: Expected to be given in 2014–15.

[Literature 130. European Romanticism]
Catalog Number: 92331
John T. Hamilton
Half course (spring term). Hours to be arranged.
A comparative study of German, French, and English projects of literary experimentation, philosophical reflection, and political critique grouped under the term Romanticism, with a dual focus on the original historical contexts around 1800 and subsequent theoretical accounts.
Note: Expected to be given in 2014–15.

Literature 131. The Arab-American Experience in Fiction, Film, and Popular Culture - *(New Course)
Catalog Number: 42752 Enrollment: Limited to 15.
Sandra Naddaff
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Since 9/11, there has been an explosion of work about the Arab-American experience. This course will explore that experience as expressed in various cultural forms-fiction, film, comedy acts, graphic novels, memoirs, art installations, and new media. We will pay particular attention to contemporary works, although we will also consider the work of early 20th-century Arab-American writers. Topics include mapping the exilic experience, translation and bilingualism, and the semiotics of food. No knowledge of Arabic is required.

Literature 132. Disability Studies - *(New Course)*
Catalog Number: 34028
Marc Shell
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
From stumbling Oedipus to stammering Moses and stuttering Edward the Sixth, we consider how bodily and verbal paralysis informs literary and philosophical texts. Attention to cinema, sign language, visual arts, and the rise of disability studies in the arts.

[Literature 133. Shakespeare Shakes the Globe]
Catalog Number: 37322
Karen Thornber
Half course (fall term). Hours to be arranged.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or Culture and Belief, but not both.

Literature 134. World Cinema - *(New Course)*
Catalog Number: 10086
Katharina Piechocki
Half course (fall term). W., 3–5; and a weekly film screening M., 6–9 p.m. EXAM GROUP: 8, 9
This course explores the development of world cinema from the silent era to the present. What is "world cinema"? How is "the world" created in cinema? How does cinema respond to global topics and debates? What contact zones exist between world cinema and world literature? What are the theoretical limits and practical challenges of "world cinema?" Can we "translate" films from one culture to another? This course includes films by Dziga Vertov, Man Ray, Maya Deren, Fritz Lang, Satyajit Ray, Jean-Luc Godard, Samira Makhmalbaf, Woody Allen, Sofia Coppola, Pedro Almodovar, Nadia Labaki, Zacharias Kunuk, and Deepak Rauniyar.

Literature 135. History of Drama - *(New Course)*
Catalog Number: 16926
Katharina Piechocki
Half course (spring term). W., 4–6. EXAM GROUP: 9
This course examines the history of drama in Europe, the Middle East, China, and the New World with a focus on early modernity. How can we approach dramatic texts? How does drama

relate to representation and performance? How is drama from past centuries translated and staged in a globalized world? We will explore genres such as comedy, tragedy, commedia dell'arte, opera, shadow and puppet theater. Authors include: Muhammad Ibn Daniyal, Gil Vicente, Fernando de Rojas, Machiavelli, Sperone Speroni, Valeria Miani, Monteverdi, Corneille, Racine, Cervantes, Calderón de la Barca, Sor Juana, Louise Geneviève Gillot de Sainctonge, Kong Shangren.

[Literature 136. The historical novel after modernism]
Catalog Number: 83405
David Damrosch
Half course (spring term). M., 4–6. EXAM GROUP: 9
Modernism emphasized ruptures with the past and the uncertainty of historical knowledge; one consequence of this emphasis was a general turning away from the historical novel, seen as the most deluded form of nineteenth-century realism. This situation began to change around the time of World War II, when a growing number of novelists schooled in modernism began to write serious historical fiction. This course will explore the motives for such writing and the strategies of research, structure, style, dialogue, and characterization that once again made historical fiction a compelling enterprise, on the far side of the modernist critique of history. Readings in Borges, Yourcenar, Tolkien, Rhys, Endo, Mishima, Morrison, Calvino, Pamuk, and the Tibetan postmodernist Jamyang Norbu.
Note: Expected to be given in 2014–15.

[Literature 140. Literature and Politics]
Catalog Number: 19169
Ruth R. Wisse
Half course (spring term). Hours to be arranged.
Studies interactions between literature and politics in psalms, poems, novels, polemics, etc. Using examples from the often contentious history of Jewish national sovereignty, investigates how variously literature advances and complicates political developments. Seminar format.
Note: Expected to be given in 2014–15.

Literature 141. Comparative Modern Anglophone Drama
Catalog Number: 40789
Biodun Jeyifo
Half course (spring term). W., 10–12. EXAM GROUP: 3, 4
The course will explore modern Anglophone dramas of major playwrights in diverse areas of the English-speaking world. Through an attention to both similar historical experiences under colonialism as well as differences of race, gender, ethnicity and culture, we will explore the works of leading Irish, African, Caribbean and U.S. playwrights like Brian Friel, Wole Soyinka, Athol Fugard, Derek Walcott and Ntozake Shange. The seminar will be organized around two principal issues: the use of music, dance, ritual, carnival and other popular performance idioms to transform the received genre of Western literary drama; themes of empire, colony and postcolony in the making of the modern world. This course seeks to open a window to the most exciting and engaging developments in English-language theatre in the contemporary world.

Literature 142. Narrative Theories of Prose and Film - *(New Course)*
Catalog Number: 63943
Justin Weir
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
An introduction to foundational narrative theories of fiction and cinema focuses on how those theories evolved from the 20th to the 21st century. Topics include the boundary between narrative and non-narrative, film adaptation, and the rise and fall of semiotics in narrative theory.
Note: All texts will be available in English translation.

[*Literature 146. Space and Place in Postmodern Culture]
Catalog Number: 8228 Enrollment: Limited to 20.
Verena A. Conley
Half course (spring term). Tu., 11:30–1, and a weekly film screening to be arranged. EXAM GROUP: 6, 7
Focuses on renewed awareness of space in contemporary theory, literature and film. Examines notions of space and place under the impact of consumerism and electronic technologies in a global world. Texts and films include Lefebvre, Godard, de Certeau, Wenders, Baudrillard, Perec, Tati, Augé, Deleuze and Guattari, Virilio and Verhoeven.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

Literature 150. Colonial and Post-Colonial Spaces: France-North Africa
Catalog Number: 89597
Verena A. Conley
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
This course focuses on transformations of colonial and post-colonial spaces in North Africa that include Morocco, Tunisia and Algeria by way of fiction, film, critical and cultural theory. Explores shifting relations between North Africa and France but also Italy and Spain with special attention to concepts of nation, community, migration, transnationalism and translation. Readings and viewings of works by Bowles, Camus, Choukri, Cixous, Djebar, Genet, Lakous, Maalouf, Memmi, Taia and others.

Literature 151. The Poetics of Dreams - *(New Course)*
Catalog Number: 68486
Delia Ungureanu
Half course (spring term). Tu., 3–5. EXAM GROUP: 17, 18
This course will look into the oneiric literature, ranging from Apuleius and Shakespeare to Cao Xueqin, Marcel Proust, and Virginia Woolf, exploring these works through different dream theories, from the Romantics to Freud to the Surrealists and beyond. We will examine how dreams differ in time and space in different cultures to reveal shifting relations between dreams, memory, visions, reveries, magic, games, and theatre.

[Literature 152. Epic and Opera]
Catalog Number: 52781
Gregory Nagy
Half course (spring term). M., W., at 11. EXAM GROUP: 4

Comparisons in form and content, allowing for a wide variety of interpretations and methods. Composers to be studied range from Homer and Virgil to Mozart and Monteverdi to Wagner and Borodin. Special topics include romantic heroism, from Achilles in the ancient Greek "Song of the Ethiopians" to Violetta in Verdi's "La Traviata". Besides pre-set readings and audio/video assignments, students will be encouraged to develop their own material for study and their own comparisons. No prerequisites in language or music skills. Relevant points of interest include genres that transcend classical notions of epic or opera, such as Korean "p'ansori" and medieval French "chantefable".
Note: Expected to be given in 2014–15.

[Literature 153. Saul Bellow and the New York Intellectuals]
Catalog Number: 2506
Ruth R. Wisse
Half course (spring term). Th., 1-3, and a weekly section to be arranged.
Studies Bellow's major works in the context of the intellectual and literary community that constituted America's first European style "intelligentsia." Considers work of Isaac Rosenfeld, Delmore Schwartz, Lionel Trilling, Irving Howe, writers of *Partisan Review* and *Commentary*.
Note: Expected to be given in 2014–15. Class is conducted in a modified seminar format.

[Literature 154. Music, Literature, and the Voice]
Catalog Number: 65838
John T. Hamilton
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
A comparative examination of literary, philosophical and theoretical works that deal with music and the phenomenon of the voice. Topics include: the role of the voice in myth; verbal and musical form; musical meaning and expression; reading, hearing and listening; music and psychoanalysis; evanescence and silence; narrative voice and responsibility.
Note: Expected to be given in 2014–15.

Literature 155 (formerly Literature 110). Furor Poeticus: Madness, Inspiration, Genius
Catalog Number: 7758
John T. Hamilton
Half course (fall term). Th., 3-5. EXAM GROUP: 17, 18
Considers the classical conception of mania as a divine source of prophecy, ecstasy, poetic creation, and erotic desire; and traces how this madness unfolds in ancient tragedy and modern literature, philosophy and psychoanalysis.

Literature 157. From Type to Self in the Middle Ages
Catalog Number: 9245
Luis M. Girón Negrón
Half course (spring term). M., W., at 12. EXAM GROUP: 5
It has been argued that the poetic "I" in premodern literatures is not a vehicle for self-representation, but an archetype of the human. The course will examine this thesis against the rise of autobiographical writing in medieval and early modern Europe. Readings include spiritual autobiographies (Augustine, Kempe, Teresa of Ávila), letter collections, *maqama* literature, troubadour lyric, Hispano-Jewish poetry, pilgrimage narratives, medieval allegories, Dante and

the picaresque novel. Theoretical perspectives by Spitzer, Lejeune, Zumthor and DeCerteau.
Note: Offered jointly with the Divinity School as 3723.

[Literature 160. Literary Forgeries and Mystifications]
Catalog Number: 3614
George G. Grabowicz
Half course (spring term). Hours to be arranged.
Examines literary forgeries and mystifications from the late 18th century to the present, focusing on their poetics, their ideological motivation and their role in modern political mythmaking (some texts considered: Ossian, The Igor Tale, the Czech manuscripts, the Protocols of the Elders of Zion, Ern Malley). Also considers the psychology and esthetics of simulation and mystification as reflected in the works of Gide, Borges, Nabokov, Pavic, Eco, and Calvino.
Note: Expected to be given in 2014–15. All readings in English.

[Literature 162. Theory and Methods in Comparative Oral Traditions: Seminar]
Catalog Number: 7426
Gregory Nagy
Half course (spring term). Hours to be arranged.
Genres, forms, and themes of oral traditions in poetry and prose. Theories of performance and composition. Comparative metrical and formulaic analysis.
Note: Expected to be given in 2014–15. Knowledge of Greek not required.

[Literature 163. Jewish Languages and Literature]
Catalog Number: 8627
Marc Shell and Members of the Department
Half course (spring term). Tu., 1-3, plus an additional hour to be arranged. EXAM GROUP: 15, 16
What is a Jewish language? What is Jewish literature? General topics are alphabetization, translation, oral tradition and diaspora. Languages worldwide include Hebrew as well as Judeo-Spanish, -Aramaic, -Arabic, -French, -Greek, -Italian, -Persian, -Spanish, -Malayalam, Yiddish, and other secular Jewish languages. Readings usually include love stories, medical and philosophic texts, and writings on science, travel, and music. Guest scholars visit most weeks. No language requirement.
Note: Expected to be given in 2014–15. Language credit can be arranged.

Literature 165. Trauma and Representation: The Holocaust in Literature, Memorials, and Film
Catalog Number: 55916
Susan R. Suleiman
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
Can the story of the Holocaust be told? Is there such a thing as "the story" of the Holocaust? Who is authorized to tell it, and how? Do aesthetic categories apply to Holocaust art? Are some representations unacceptable? We explore these and other questions raised by a wide range of works (oral and written testimonies, novels, essays, comic strips, films, poetry, monuments) produced from 1945 to the present in Europe, Israel, and the US.

Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

[Literature 166. The Comic Tradition in Jewish Culture]
Catalog Number: 3418
Ruth R. Wisse
Half course (spring term). Hours to be arranged.
Jews are probably best known in America today for their roles in the Holocaust and in Humor. What, if anything, is the relation between these spheres? Does Jewish humor make fun of the Jews, or does it make fun of those who make fun of the Jews? Studies some of the theories and uses of Jewish humor, some of its leading practitioners and outstanding works. Invites comparison with other comic traditions and investigation of "national" humor.
Note: Expected to be given in 2014–15. Readers of Yiddish may take this course as Yiddish 200. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Literature 173. Politics of Aesthetics: Worlds, Objects, Matter, Sensation
Catalog Number: 16366
Verena A. Conley
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
Examines and compares the relation between politics and aesthetics in major texts by: Rancière, Balibar, Nancy, Latour, Harman, Badiou, Meillassoux, Jane Bennett, Tim Morton and others. Focuses on politics of aesthetics in critical texts of the last two decades that link a politics of aesthetics to the reassessment of world(s), objects, sensation, matter while looking for a new type of realism. Deleuze, Rancière, Nancy, Cixous, Latour, Stengers, Bennett, Graham, Badiou, Meillassoux, Morton will be paired with film, fiction, painting.

[Literature 174. Realism, Fantasy, and the Grotesque: Hoffmann and Balzac]
Catalog Number: 14316
John T. Hamilton
Half course (spring term). Hours to be arranged.
A close reading of select works by E.T.A. Hoffmann and his reception in the work of Balzac focuses on Realism's indebtedness to the imaginative realms of the fantastic and the grotesque. Topics: music and inspiration; societal decadence and caricature; magic and the uncanny; experience, observation and expression.
Note: Expected to be given in 2014–15. Texts may be read in English translation.

Literature 184. Imagining the City: Literature, Film, and the Arts
Catalog Number: 2332
Svetlana Boym and Giuliana Bruno
Half course (fall term). Th., 11:30-1, and a weekly film screening Wed. 7-9pm. EXAM GROUP: 13, 14
How do visual representation and narrative figuration contribute to construct urban identity? Explores the urban imagination in different artforms: architecture, cinema, literature, photography, and painting. Topics to be mapped out include: cities and modernity, metrophilia and metrophobia, the museum and cultural archaeology, the ruin and the construction site,

interior space and public sphere, technology and virtual cities. We will focus on the European city, as we travel through Paris, Berlin, St. Petersburg, Moscow, Naples, and Rome
Note: Students who have taken VES 184 previously may not take this course for credit. Cannot be taken concurrently with VES 184. Offered jointly with the Graduate School of Design as 4353. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

***Literature 187r. Selected Topics in Poetics and Rhetoric: Seminar**
Catalog Number: 7999
Gregory Nagy
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
Comparative approaches to poetics and rhetoric. All readings for this course will be in English translations. Special arrangements for those who opt to read in the original languages. Selected texts include Aristotle's *Poetics* and *Rhetoric*.
Note: Knowledge of Greek not required.

[Literature 193. "What's Love Got to Do With It"; Love Poetry of the Middle Ages and Early Modernity]
Catalog Number: 60925
Luis M. Girón Negrón
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
Does love have a history? The course explores the literary history of love poetry in Europe and the Middle East from the Middle Ages through the 17th century. Reading selections from Latin and Romance love lyric (Provençal, Galician-Portuguese, French, Catalan, Spanish, the 'jarchas'), Arabic and Hebrew muwashshahat, the Italian dolce stil novo, Sufi and Christian mystical poetry, the Petrarchan sonnet and its heirs (Portugal, England, Spain), Dante's Vita nuova and erotic narrative verse (Juan Ruiz, Ibn Hazm, 'Roman de la Rose'). Discussions framed by overview of premodern theories of love and recent scholarly debates on the origins of amour courtois.
Note: Expected to be given in 2014–15.

Cross-listed Courses

Aesthetic and Interpretive Understanding 14. Putting Modernism Together
Aesthetic and Interpretive Understanding 15. Elements of Rhetoric
Aesthetic and Interpretive Understanding 23. Interracial Literature
Aesthetic and Interpretive Understanding 29. Modern Jewish Literature
Aesthetic and Interpretive Understanding 38. The English Language as Literature
[Aesthetic and Interpretive Understanding 50 (formerly Literature 128). Literature and Medicine]
Aesthetic and Interpretive Understanding 60 (formerly Literature 164 and Slavic 190). Literature and Art in an Era of Crisis and Oppression: Modernism in Eastern Europe
[African and African American Studies 111. Spectral Fictions, Savage Phantasms: Race and Gender in Anti-Racist South African and African American Drama, Fiction and Film]
African and African American Studies 137. Literature and Its Cultural 'Others' - America, Africa and the Caribbean, 1950s-80s

Culture and Belief 22. Concepts of the Hero in Classical Greek Civilization
[Culture and Belief 53. Sacred and Secular Poetry]
[Culture and Belief 55. Enlightenment Creations of the Self, Society, and Institutions]
[Culture and Belief 56 (formerly English 193a). The Culture of Capitalism]
Culture and Belief 58. Case Studies in the Medical Humanities: Interdisciplinary Perspectives on the Experience of Illness and Healing - *(New Course)*
Ethical Reasoning 31. The Philosopher and the Tyrant
[Ethical Reasoning 32. Security: Carefree or Careless]
French 139b. The 18th Century: Ethical Dilemmas - *(New Course)*
[French 165. Marcel Proust]
Freshman Seminar 31k. Dreams and Literature from Antiquity to Modernity - *(New Course)
German 185. German Lyric Poetry: Tradition and Innovation
Humanities 11b. Frameworks: The Art of Listening - *(New Course)*
Modern Greek 147. The Avant-Garde and Its "Margins"
Music 175r. Special Topics
[Slavic 143. Russian Formalism]
[Slavic 151. Experiments in Reading: Chekhov and Nabokov]
[Slavic 157. Some Versions of Russian Pastoral]
Slavic 192. Literature as Institutions: Conference Course
Yiddish 130. Three Centers of Yiddish Culture - *(New Course)*

Primarily for Graduates

Comparative Literature 211. Mysticism and Literature
Catalog Number: 3867
Luis M. Girón Negrón
Half course (fall term). Th., 3–5, and a weekly section to be arranged. EXAM GROUP: 17, 18
Trends and debates in the comparative study of mystical literature. Primary works by Jewish, Christian, and Muslim authors from the Middle Ages through the 16th century. Also modern authors (Borges, Eliot) and literary theorists (DeCerteau).
Note: Offered jointly with the Divinity School as 3802.

Comparative Literature 214. Islands and the World
Catalog Number: 49949
Marc Shell
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
Islands, both a part of and apart from the main, offer ready-made laboratories for linguistic, biological and political investigation; islandness as such encourages national literature, philosophy, and vacation. Our seminar focuses on fictional islands as well as Canadian ice floes, Hormuz (Persia), Maine islets, and urban Venice. Aristotle, Plato, Darwin, Melville, Hesiod, Homer, Rabelais, More, Shakespeare, and Flaherty (director).

[Comparative Literature 225. Literature of War and Peace: Imagining and Representing the End of World War II in Europe]
Catalog Number: 32059

Werner Sollors
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
How were the last phase of the war and the beginning of the postwar era represented in novels, films, letters, diaries, reportage, wire recordings, and research notes by scholars from 1945 to 1955? How do later popular images of the period differ? This course examines such questions with a focus on the American occupation of West Germany.
Note: Expected to be given in 2014–15.

[Comparative Literature 227. Comparative Modernism]
Catalog Number: 37313
David Damrosch
Half course (spring term). Hours to be arranged.
A survey of major works of modernist fiction in global context, going from early and 'high' modernism to late modernism and its aftermath, together with critical and theoretical readings on modernism and modernity. Readings in Baudelaire, Rilke, Lu Xun, Bely, Proust, Barnes, Kafka, Asturias, Zhang Ailing, Yourcenar, and Mishima.
Note: Expected to be given in 2014–15.

[Comparative Literature 230. The Poetics of Empire: Colonization, Translation, and Literary Rewriting]
Catalog Number: 0694
Karen Thornber
Half course (fall term). W., 5–7 p.m.
Explores how (post)colonial writers from Asia, Africa, Latin America and the Middle East and writers from (former) imperial powers have reconfigured one another's literatures. Rethinks concepts of world literature and cultural negotiation.
Note: Expected to be given in 2014–15.

[Comparative Literature 242 (formerly Literature 242). Text, Image, Public Sphere]
Catalog Number: 34276
Svetlana Boym
Half course (spring term). Hours to be arranged.
The course examines relationship between verbal and visual communication in public realm through the analysis of literature, film, photography, architecture and public art. Focus on the new public media and on aesthetic and politics of the visual culture.
Note: Expected to be given in 2014–15. Open to qualified undergraduates and GSD students

Comparative Literature 243hf. Professing Literature - *(New Course)*
Catalog Number: 12775
Karen Thornber
Half course (throughout the year). Tu., 6–8 p.m. EXAM GROUP: 18
This course focuses on professional development and preparation for academic careers teaching literature, as well as a variety of non-academic careers. It is open to all Harvard graduate students specializing in literature and is required of all first-year students in the Comparative Literature PhD program.

[Comparative Literature 245. Intertextuality]
Catalog Number: 19804
Judith Ryan
Half course (spring term). Hours to be arranged.
Explores theories of intertextuality developed by Kristeva, Jauss, Bloom, Gilbert and Gubar, Genette, and others, and asks why the debates they have provoked have had such resonance in contemporary literary studies. A series of literary texts ranging from classical antiquity to the present will provide test cases for the various theories. Attention to such questions as influence, imitation, allusion, quotation, and plagiarism.
Note: Expected to be given in 2014–15.

[Comparative Literature 246. The Critic in Culture]
Catalog Number: 3141
David Damrosch
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
This class will examine the interplay of scholarly analysis and cultural critique in a range of major modern critics and theorists, exploring their stylistic and essayistic strategies as they seek to find - or create - an audience for their ideas. Readings in Nietzsche, Foucault, Benjamin, Kobayashi, Woolf, Adorno, Barthes, Cixous, Said, Miyoshi, Minh-ha, Anzaldúa, Penley, and Agamben.
Note: Expected to be given in 2014–15.

[Comparative Literature 248. American Multilingual Literature in a Transnational Context]
Catalog Number: 32792
Werner Sollors
Half course (spring term). Hours to be arranged.
This Longfellow Institute seminar works with original source materials in several different languages. Special focus is on the historiographic and critical treatment of non-Anglophone texts, on general and theoretical problems of an ongoing multilingual American tradition, on the recuperation and editing of texts, and on issues of translation.
Note: Expected to be given in 2014–15.

Comparative Literature 249. Renaissance Cartography
Catalog Number: 37587
Katharina Piechocki
Half course (fall term). M., 4–6. EXAM GROUP: 9
This course explores the emergence of new cartographies, maps, and itineraries in a period of increased interest in world travels, "discoveries," philology, and translation. How does the production of European maps relate to non-European cartographies? How can the "spatial turn" and the visualization of knowledge, key to digital humanities today, help deepen our understanding of early modernity? We will discuss European, Arab, and Chinese maps and texts such as Columbus' Voyages, Aztec poems, Waldseemuller's and Ringmann's Universalis Cosmographia, Fracastoro's Syphilis, Ibn Battuta's Travels, Garcilaso's Royal Commentaries and Florida, Marguerite de Navarre's Heptameron, Montaigne's selected Essays, and Sor Juana's Divino Narciso.

[Comparative Literature 250. Theories of Security]
Catalog Number: 80818
John T. Hamilton
Half course (fall term). Hours to be arranged.
Investigates the broader significance of the term "security" that has coursed through philosophical, literary and artistic productions across various historical and cultural traditions. Discussions address that which remains implicit, latent, or unthought in current political and governmental issues of security and biopolitics. Readings include: Sophocles, Plato, Seneca, Machiavelli, Hobbes, Leibniz, Nietzsche, Freud, Kafka, Heidegger, Schmitt, Arendt, Foucault, Agamben, and Virilio.
Note: Expected to be given in 2014–15.

[Comparative Literature 251. Literary Criticism and Theory: Antiquity to the Renaissance]
Catalog Number: 29296
John T. Hamilton
Half course (spring term). Hours to be arranged.
An historical and critical examination of key issues and debates in poetic theory, rhetoric, and literary interpretation. Topics include mimesis, catharsis, expression, performance, allegoresis, typology, semiotics, hermeneutics, verisimilitude, genre, decorum, and the sublime.
Note: Expected to be given in 2014–15.

[Comparative Literature 252. The Literatures of Medieval Iberia: Approaches and Debates in their Comparative Study]
Catalog Number: 38202
Luis M. Girón Negrón
Half course (fall term). W., 4–6. EXAM GROUP: 9
The cultural interactions in premodern Spain between Muslims, Christians and Jews shaped the literary history of Arabic, Hebrew and the Ibero-Romance vernaculars. Our seminar examines selected scholarly debates on the comparative study of these literatures.
Note: Expected to be given in 2014–15.

Comparative Literature 253. Literature, Art and Exile
Catalog Number: 85798
Svetlana Boym
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Does exile enable or stifle artistic creativity? How does the experience of exile shape the attitude towards local and global culture? The course examines forms of diasporic conscience in literature and visual arts focusing on the issues of estrangement and nostalgia, comparative modernities and exilic devices, nationalism and cosmopolitanism, immigrant aesthetic and conceptions of freedom. Special topic include America through the eyes of exile, text and image in the writing of the diaspora, reconsideration of the critical theory from the perspective of exile. Works by Nabokov, Brodsky, Cortazar, Borges, Arendt, Pamuk, Rushdie, Kis, Kafka.
Note: All texts are available in English but reading in the original languages is encouraged.

Comparative Literature 254. Modernist Polemics
Catalog Number: 89724
Daniel Albright
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
Modernism's theories of itself - manifestos, polemics, strident declarations, urbane repudiations of the old-fashioned-tested against Modernist practice, in literature, music, and painting. I welcome students from disparate graduate programs in the university.

Comparative Literature 255. Dysfunctional Family as National Allegory in the Middle Eastern Novel - *(New Course)*
Catalog Number: 83732
William E. Granara
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
The radical changes following the emergence of the modern nation state in the Middle East have been most graphically illustrated in the novel. This course examines the trope of the family in flux in narrating the destabilization of traditional social structures, shifting loyalties, and conflicting articulations of identity. The course interrogates the F. Jameson and A. Ahmad debates on 'thirdworld' and 'national allegory' in reading selected novels of the post WWII period to the present, from Turkey, Iran, Israel, and the Arab World. Authors include Naguib Mahfuz, Mohamed Shukri, Hanan Shaykh, Sahar Khalifa, Amos Oz, Elif Shafak, and Mahmoud Dowlatabadi.
Note: All readings in English translation, but students are encouraged to read in the original. Course will count for NELC concentration and citation in Modern Middle Eastern Studies. Open to Undergraduates.

[Comparative Literature 256. Archeology of Modernity and Visual Culture]
Catalog Number: 74617 Enrollment: Limited to 15. The course will include a creative experiments in photography, writing and digital media as well as analytic assignments. VES and GSD students welcome.
Svetlana Boym
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Explores contradictions of the modern experience in literature, philosophy, arts and architecture. Topics for 2010: nostalgia and modernization, public freedom and cross-cultural memory, archeology and the creative mapping of the urban space, culture and politics. Special attention to the relationship between critical theory and creative practice. Reading from Benjamin, Simmel, Shklovsky, Nabokov, Kafka, Arendt, Certeau, Lyotard, Derrida.
Note: Expected to be given in 2014–15.

[*Comparative Literature 257. Trauma, Memory, and Creativity]
Catalog Number: 7853
Susan R. Suleiman
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
We will examine classic and contemporary theories of psychic trauma in individual and collective contexts and explore the relations between trauma, resilience, play, and artistic innovation with special attention to modern literary autobiography; fiction; some attention to film and visual narrative.

Note: Expected to be given in 2014–15. Open to qualified juniors and seniors with permission of the instructor.
Prerequisite: Good reading knowledge of at least one non-English language.

[Comparative Literature 261. Fragments of a Material History of Literature]
Catalog Number: 6923
Jeffrey Schnapp
Half course (spring term). Hours to be arranged.
Literary studies studied from the perspective of the practices that have shaped ideas concerning literature, writing, speech, and communication: from scrolls and codices to the rise of printing and typewriting to digital writing.
Note: Expected to be given in 2014–15.

[Comparative Literature 263. Journey, Exile, and Displacement in Modern Arabic Literature]
Catalog Number: 3125
William E. Granara
Half course (fall term). M., 4–6.
The course examines narratives of journey, exile, and displacement in modern Arabic literature that trespass geographical, political and linguistic boundaries, and create new literary spaces that define and reshape modern Arab identities. Theoretical readings will include Pratt, Said, Rushdie and Kaplan.
Note: Expected to be given in 2014–15. Arabic helpful but not required. Undergraduates welcome.

[Comparative Literature 264. Thinking and Writing Transculturally]
Catalog Number: 6133
Karen Thornber
Half course (spring term). Hours to be arranged.
Explores approaches to transculturation in the production and evaluation of literature in light of new understandings of human and textual border-crossings. Topics include the ethics of dividing cultural products along ethnic, linguistic, and national lines on the one hand and classifying phenomena as global on the other, and the ramifications of cross-cultural comparison. We also examine the relationship between creative production and such topics as empire, travel/diaspora, translingualism, and literary reconfiguration.
Note: Expected to be given in 2014–15.

Comparative Literature 266. Irony
Catalog Number: 9984
Panagiotis Roilos
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Explores major European philosophical and aesthetic discourses on irony as well as literary manipulations of the trope from Greek antiquity to postmodernism.

[Comparative Literature 269. Broken English: English Language Literature in a Postmodern, Postcolonial Frame]

Catalog Number: 91999
Biodun Jeyifo
Half course (fall term). W., 2-4. EXAM GROUP: 7, 8
An exploration of a range of experimental writings in the English Language predicated on the varieties of "englishes" spoken and used as idioms of writing and performance around the world. Special attention will be paid to theoretical and critical attempts to both assimilate these currents of expression into recognizable patterns and to create new categories of analysis, appropriation and legitimation.
Note: Expected to be given in 2014–15. This course is also listed as English 266, with catalog number 18837.

[Comparative Literature 273. Approaches to Modernity: The Metropolis]
Catalog Number: 2521
Svetlana Boym
Half course (fall term). W., 2-4; W., at 4.
Examines the relationship between urban experience and debates on modernity/postmodernity in art, architecture and social theory. Topics: nostalgia and modernization, cultural archeology and architecture of transition, memorial, museum and public art, national identity and cosmopolitan imagination, metropolis and megapolis.
Note: Expected to be given in 2014–15. Students in this class will be encouraged to attend lectures and screenings for VES 184 and develop individual research and/or creative projects.

[Comparative Literature 275. Theory of Narrative: Conference Course]
Catalog Number: 3105 Enrollment: Limited to 15.
William Mills Todd III
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
Studies of selected narratives (fictional, psychoanalytic, historical, sacred) as semiotic structures, representations, rhetorical gambits, and cultural phenomena. Readings by Jakobson, Barthes, Bakhtin, Iser, Lukács, Foucault and others.
Note: Expected to be given in 2014–15. Open to advanced undergraduates and graduates. Recommended for potential teaching fellows.

[Comparative Literature 277. Literature and Diaspora]
Catalog Number: 6042
Karen Thornber
Half course (fall term). W., 5–7 p.m. EXAM GROUP: 9
Examines creative and critical discourse from and about the African, Chinese, Indian, Japanese, Jewish, and Korean diasporas. Explores the relationship between diaspora and constructions of artistic and cultural identities, transculturation, translation, and multilingualism.
Note: Expected to be given in 2014–15.

Comparative Literature 278. Failure and Change (Graduate Seminar in General Education)
Catalog Number: 41112
Christie McDonald
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16

Analysis of the failure of models and testing of limits in reflection about change, as well as the dialogue among literary, theological, socio-political, artistic, and philosophical discourses. Topics include authority, freedom, equality, sentiment, reason, fanaticism, tolerance. Readings include works from St. Augustine, Rousseau, Diderot, Kant, Proust, Koselleck, Rorty, Beauvoir, Sartre, Kofman, Beckett. The seminar will design and develop a General Education course on these themes for undergraduates; it will also contain an arts component.

Comparative Literature 281. Rhetoric, Imitation, Translation: Comparative Literature from Antiquity to Early Modernity - *(New Course)*
Catalog Number: 79933
Katharina Piechocki
Half course (spring term). W., 12–2. EXAM GROUP: 5, 6
How can we think of comparative literature prior to the rise of aesthetics and "Weltliteratur" in the eighteenth century? From antiquity to early modernity, literary traditions were shaped by the rules of rhetoric, imitation, emulation, and translation. We will discuss works from Greek and Latin antiquity; the Latin, Hebrew, Arab, Persian, and Byzantine Middle Ages; and the revival of rhetoric, imitation, and translation in early modernity. Authors include Sappho, Aristotle, Cicero, Lucretius, Hermogenes, St. Jerome, Martianus Capella, Al-Farabi, Averroes, Leonardo Bruni, Isotta Nogarola, Hélisenne de Crenne, Joachim Du Bellay, Gaspara Stampa, Jan Kochanowski.

[Comparative Literature 283. Language Differences]
Catalog Number: 7468
Marc Shell
Half course (fall term). Hours to be arranged.
Considers language difference both as a literary theme and as a potent cause of war in the political arena. Historical foci include Europe, the Middle East, North America, and Africa. Literary issues include translation, heteroglossia, cinematography, and multilingualism. Works of literature include Sophocles, Shakespeare, Goethe, and Dove.
Note: Expected to be given in 2014–15.

[Comparative Literature 288. The Ancients and the Moderns: Modern Critical Theory and the Classics]
Catalog Number: 7557
Panagiotis Roilos
Half course (spring term). M., 4–6. EXAM GROUP: 9
Explores the impact of classical literature and culture on the formation of modern critical theory. Topics include: construction of power; trafficability of art; ritual theory; sexuality; gender studies; irony; orality and literacy.
Note: Expected to be given in 2014–15.

[Comparative Literature 294. Teaching World Literature World Literature in Theory and Practice]
Catalog Number: 45818
David Damrosch
Half course (spring term). M., 3–5. EXAM GROUP: 8, 9
The study of world literature has achieved new prominence in recent years, and has fueled

sometimes sharp debate in the process. What are the politics of teaching world literature today? With what relation to postcolonial studies, to globalization, world systems theory, translation theory, and classic comparative literature? This course will examine the uses and abuses of world literature in current teaching and scholarship, with theoretical and methodological readings in Moretti, Casanova, Spivak, Apter, Kadir, and others, paired with case studies from the modern era, from Molière and Chikamatsu Monzaemon to Derek Walcott and Bei Dao.
Note: Expected to be given in 2014–15.

[Comparative Literature 295. Frameworks in the Humanities: The Art of Listening]
Catalog Number: 15604
John T. Hamilton and Alexander Rehding
Half course (spring term). F., 1–3. EXAM GROUP: 6, 7
How do humanists across disciplines engage pertinent works in order to hone analytical and interpretive skills? This course will focus on "The Art of Listening," by addressing questions such as the distinction between hearing and listening and, ultimately, between sense and sensibility.
Note: Expected to be given in 2014–15. The seminar will design and develop a General Education course on these themes for undergraduates.

[Comparative Literature 298. Allegory]
Catalog Number: 28338
Panagiotis Roilos
Half course (spring term). M., 5–7 p.m. EXAM GROUP: 9
It investigates major landmarks in the development of allegorization and allegorical literary composition in European tradition. Starting with pseudo-Herakleitos and his allegorical hermeneutics of the Homeric epics, this seminar will study different theoretical explorations and literary manifestations of allegorical discourse from antiquity to modernity—from ancient Greek rhetoric to Prudentius to Byzantine literature to Dante to the Romantics to C. P. Cavafy to Benjamin and de Man. Topics to be addressed include: personification, ambiguity, hermeneutic double-tonguedness (amphoteroglosia), the interplay between allegory and other tropes and discursive modes (metaphor, metonymy, symbol, parody, satire).
Note: Expected to be given in 2014–15.

***Comparative Literature 299ar. Theory and Comparative Literature: Proseminar**
Catalog Number: 2431
David Damrosch and Karen Thornber
Half course (fall term). W., 12–2. EXAM GROUP: 5, 6
An investigation into current trends in comparative literature, literary history and comparative philology, with an emphasis on methodology and theory. Note: Required of first-year graduate students in Comparative Literature; others may be admitted by permission of the instructor.
Note: Required of first-year graduate students in Comparative Literature; others may be admitted by permission of the instructor.

Cross-listed Courses

French 268. "Foreigners" in French, from Beckett to Littell
[French 270. War and Memory: Representations of World War II and the Occupation in Postwar French Literature, History, and Film]
[French 271. Legacies of Post-structuralism: Politics, Ethics and Aesthetics]
German 251. Kafka in Context - *(New Course)*
Modern Greek 206. Politics of Reception: Classical Antiquity in Modern Critical Theory and Literature
Romance Studies 201. Questions of Theory
[*Romance Studies 219. Digital Humanities 2.0: a metaLAB(at)Harvard seminar]
[Romance Studies 220. Fragments of a Material History of Literature]
***Visual and Environmental Studies 283. Screens: Media Archaeology and Visual Arts Seminar**

Graduate Courses of Reading and Research

***Comparative Literature 396. Preparation for the General Examinations**
Catalog Number: 4570
Daniel Albright 4615, Svetlana Boym 1926, Joaquim-Francisco Coelho 7715, Verena A. Conley 2250, David Damrosch 5998 (on leave spring term), James Engell 8076, Luis M. Girón Negrón 3060, John T. Hamilton 3977, Biodun Jeyifo 1001, Christie McDonald 1160, Gregory Nagy 1423, Stephen Owen 7418, Martin Puchner 5842 (on leave 2013-14), Panagiotis Roilos 1982, Judith Ryan 1135 (on leave fall term), Marc Shell 3176, Werner Sollors 7424 (on leave spring term), Diana Sorensen 4214, Susan R. Suleiman 7234 (on leave fall term), Karen Thornber 5764, William Mills Todd III 1634 (on leave spring term), and Ruth R. Wisse 3177

***Comparative Literature 397. Direction of Doctoral Dissertations**
Catalog Number: 0320
Daniel Albright 4615, Svetlana Boym 1926, Joaquim-Francisco Coelho 7715, Verena A. Conley 2250, David Damrosch 5998 (on leave spring term), James Engell 8076, Luis M. Girón Negrón 3060, William E. Granara 1054, John T. Hamilton 3977, Biodun Jeyifo 1001, Christie McDonald 1160, Sandra Naddaff 7779, Gregory Nagy 1423, Stephen Owen 7418, Martin Puchner 5842 (on leave 2013-14), Panagiotis Roilos 1982, Judith Ryan 1135 (on leave fall term), Marc Shell 3176, Werner Sollors 7424 (on leave spring term), Diana Sorensen 4214, Susan R. Suleiman 7234 (on leave fall term), Karen Thornber 5764, William Mills Todd III 1634 (on leave spring term), and Ruth R. Wisse 3177

***Comparative Literature 399. Reading and Research**
Catalog Number: 2893
Daniel Albright 4615, Svetlana Boym 1926, Joaquim-Francisco Coelho 7715, Verena A. Conley 2250, David Damrosch 5998 (on leave spring term), James Engell 8076, Luis M. Girón Negrón 3060, John T. Hamilton 3977, Biodun Jeyifo 1001, Christie McDonald 1160, Sandra Naddaff 7779, Gregory Nagy 1423, Stephen Owen 7418, Martin Puchner 5842 (on leave 2013-14), Panagiotis Roilos 1982, Judith Ryan 1135 (on leave fall term), Jeffrey Schnapp 6277 (spring term only), Marc Shell 3176, Werner Sollors 7424 (on leave spring term), Diana Sorensen 4214, Susan R. Suleiman 7234 (on leave fall term), Karen Thornber 5764, William Mills Todd III 1634 (on leave spring term), and Ruth R. Wisse 3177

Candidates for the doctoral degree in Comparative Literature may pursue advanced studies under the individual supervision of these instructors.
Note: Permission of the instructor and the Chairman of the Department required.

Cross-listed Courses

***African and African American Studies 301. Graduate Proseminar**

Computer Science

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the School of Engineering and Applied Sciences Offering Instruction in Computer Science

Ryan Prescott Adams, Assistant Professor of Computer Science
David M. Brooks, Gordon McKay Professor of Computer Science *(on leave spring term)*
Cristopher R. Cecka, Lecturer on Computational Science
Yiling Chen, Associate Professor of Computer Science *(on leave fall term)*
Stephen N. Chong, Associate Professor of Computer Science
David Cox, Assistant Professor of Molecular and Cellular Biology and of Computer Science
Krzysztof Z. Gajos, Associate Professor of Computer Science
John Andrew Girash, Lecturer on Engineering and Applied Sciences
Steven J. Gortler, Robert I. Goldman Professor of Computer Science
Barbara J. Grosz, Higgins Professor of Natural Sciences
Nicole Immorlica, Visiting Assistant Professor in Computer Science
Edward W. Kohler, Associate Professor of Computer Science
H. T. Kung, William H. Gates Professor of Computer Science and Electrical Engineering *(on leave fall term)*
Henry H. Leitner, Senior Lecturer on Computer Science
Harry R. Lewis, Gordon McKay Professor of Computer Science *(Director of Undergraduate Studies in Computer Science)*
David J. Malan, Senior Lecturer on Computer Science
Michael D. Mitzenmacher, Thomas J. Watson, Sr. Professor of Computer Science *(on leave 2013-14)*
John G. Morrisett, Allen B. Cutting Professor of Computer Science *(on leave spring term)*
Cherry Murray, John A. and Elizabeth S. Armstrong Professor of Engineering and Applied Sciences, Professor of Physics, and Dean of the School of Engineering and Applied Sciences

Radhika Nagpal, Fred Kavli Professor of Computer Science
Jelani Nelson, Assistant Professor of Computer Science
David C. Parkes, George F. Colony Professor of Computer Science, Harvard College Professor, Area Dean for Computer Science
Hanspeter Pfister, An Wang Professor of Computer Science
Margo I. Seltzer, Herchel Smith Professor of Computer Science
Stuart M. Shieber, James O. Welch, Jr. and Virginia B. Welch Professor of Computer Science *(on leave 2013-14)*
Yaron Singer, Assistant Professor of Computer Science
Michael D. Smith, John H. Finley, Jr. Professor of Engineering and Applied Sciences, and Dean of the Faculty of Arts and Sciences
Jesse Adam Tov, Lecturer on Computer Science
Salil P. Vadhan, Vicky Joseph Professor of Computer Science and Applied Mathematics
Leslie G. Valiant, T. Jefferson Coolidge Professor of Computer Science and Applied Mathematics
James H. Waldo, Gordon McKay Professor of the Practice of Computer Science
Gu-Yeon Wei, Gordon McKay Professor of Electrical Engineering and Computer Science
Woodward Yang, Gordon McKay Professor of Electrical Engineering and Computer Science
Stratos Idreos, Assistant Professor of Computer Science
Todd Zickler, William and Ami Kuan Danoff Professor of Electrical Engineering and Computer Science
Jonathan L. Zittrain, Professor of Computer Science

Other Faculty Offering Instruction in Computer Science

Joseph K. Blitzstein, Professor of the Practice in Statistics
Lawrence Lessig, Roy L. Furman Professor of Law *(Law School)*
Michael O. Rabin, Thomas J. Watson, Sr. Professor of Computer Science, Emeritus

The School of Engineering and Applied Sciences *(www.seas.harvard.edu)* offers undergraduate and graduate courses in Applied Mathematics, Applied Physics, Computer Science, Earth and Planetary Sciences, and Engineering Sciences. Engineering and Applied Sciences faculty also offer several courses in the section entitled Freshman Seminars, Extra-Departmental Courses, and House Seminars.

Primarily for Undergraduates

For information concerning concentration in Computer Science please consult the Director of Undergraduate Studies or the Office of Student Affairs, School of Engineering and Applied Sciences, Pierce Hall 110. The Applied Mathematics and Engineering Sciences sections of the catalog should be consulted for additional courses relevant to computer science.

Computer Science 1. Great Ideas in Computer Science
Catalog Number: 6903
Henry H. Leitner
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13

An introduction to the most important discoveries and intellectual paradigms in computer science, designed for students with little or no previous background. Explores problem-solving using high and low-level programming languages; presents an integrated view of computer systems, from switching circuits up through compilers and GUI design. Examines theoretical and practical limitations related to unsolvable and intractable computational problems, and the social and ethical dilemmas presented by such issues as software unreliability and invasions of privacy. *Note:* May not be taken for credit after completing Computer Science 50. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.

Computer Science 2. Digital Platforms - *(New Course)
Catalog Number: 31335 Enrollment: Limited to 5.
Lawrence Lessig (Law) and Jonathan L. Zittrain
Half course (spring term). Th., 5–7 p.m. EXAM GROUP: 18
The Internet operates in layers, and so does much of the technology that hooks up to it: PCs, mobile phones, tablets. Nearly two decades ago those platforms were conceptually simple: a "generative" base offered by one manufacturer, on which any third party could build. (Think: Windows and the programs that run on it.) Some efforts by platform makers to tip the scales in their favor in the layer above resulted in extended controversy and regulatory efforts, such as over Windows coming bundled with Internet Explorer. Today platforms are just as vital but far more complex. We have hybrids like the iOS and Android operating systems or the Facebook and Twitter platforms, where the platform makers offer their systems as services rather than products, influencing and sometimes outright limiting connection between users and independent developers for those platforms. How should we think about these new platforms? What counts as a "level playing field," and what responsibility, if any, is there for public authorities to enforce it? What lessons, if any, do the prior tangles offer for today?
Note: This course is jointly-offered with the Kennedy School as DPI-668 and with the Law School as 2601.

Computer Science 20. Discrete Mathematics for Computer Science
Catalog Number: 22235
Harry R. Lewis
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
Widely applicable mathematical tools for computer science, including topics from logic, set theory, combinatorics, number theory, probability theory, and graph theory. Practice in reasoning formally and proving theorems.
Note: Covers material used in Computer Science 121 and Computer Science 124. Students planning to take one of these computer science theory courses in the academic year 2013-2014 should consider taking Computer Science 20 in the spring of 2013. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.

[*Computer Science 42. Controlling Cyberspace]
Catalog Number: 37293 Enrollment: Limited to 10. Course application due December 9, 2011.
Instructor to be determined
Half course (spring term). M., 5:30–7:30 p.m. EXAM GROUP: 9

Why does the Internet environment exist in the form it does today? What does its future, and the future of online life in general, look like? To what extent is this future malleable? Governments, corporate intermediaries, and hackers are empowered to different degrees by the space, and their interests and strengths are often in tension. This class uses academic as well as non-traditional texts to engender a broader understanding of Internet culture and technology, with an eye towards mapping informed choices about the future.
Note: Permission of instructor required after submission of an application form. Offered jointly with the Law School as LAW 2433.

Computer Science 50 (SAT/UNS). Introduction to Computer Science I
Catalog Number: 43861
David J. Malan
Half course (fall term). M., W., at 1-2:30, and a weekly section. EXAM GROUP: 6, 7
Introduction to the intellectual enterprises of computer science and the art of programming. This course teaches students how to think algorithmically and solve problems efficiently. Topics include abstraction, algorithms, data structures, encapsulation, resource management, security, software engineering, and web development. Languages include C, PHP, and JavaScript plus SQL, CSS, and HTML. Problem sets inspired by real-world domains of biology, cryptography, finance, forensics, and gaming. Designed for concentrators and non-concentrators alike, with or without prior programming experience.
Note: Undergraduates, GSAS students, and cross-registered students may take CS50 either Satisfactory/Unsatisfactory (SAT/UNS) or for a letter grade. To take CS50 SAT/UNS, register for catalog number 43861. To take CS50 for a letter grade, register for catalog number 4949. When taken for a letter grade, this course meets the General Education requirement for undergraduates for Empirical and Mathematical Reasoning. See course's website for FAQs. This course will also meet on Fri 9/6 and Fri 10/18. Students with conflicts may watch those lectures online.

Computer Science 50 (Letter Grade). Introduction to Computer Science I
Catalog Number: 4949
David J. Malan
Half course (fall term). M., W., 1-2:30, and a weekly section. EXAM GROUP: 6, 7
Introduction to the intellectual enterprises of computer science and the art of programming. This course teaches students how to think algorithmically and solve problems efficiently. Topics include abstraction, algorithms, data structures, encapsulation, resource management, security, software engineering, and web development. Languages include C, PHP, and JavaScript plus SQL, CSS, and HTML. Problem sets inspired by real-world domains of biology, cryptography, finance, forensics, and gaming. Designed for concentrators and non-concentrators alike, with or without prior programming experience.
Note: Undergraduates, GSAS students, and cross-registered students may take CS50 either Satisfactory/Unsatisfactory (SAT/UNS) or for a letter grade. To take CS50 SAT/UNS, register for catalog number 43861. To take CS50 for a letter grade, register for catalog number 4949. When taken for a letter grade, this course meets the General Education requirement for undergraduates for Empirical and Mathematical Reasoning. See course's website for FAQs. This course will also meet on Fri 9/6 and Fri 10/18. Students with conflicts may watch those lectures online.



Computer Science 51. Introduction to Computer Science II
Catalog Number: 3411
Henry H. Leitner and Jesse Adam Tov
Half course (spring term). Tu., Th., 1-2:30, and an additional 90-minute section to be arranged.
EXAM GROUP: 15, 16
Abstraction and design in computation. Topics include functional and object-oriented styles of programming, software engineering in the small, and models of computation. Our main goal is to understand how to design large programs to make them readable, maintainable, elegant, and efficient. Exercises in OCaml.
Prerequisite: Computer Science 50 or equivalent.

Computer Science 61. Systems Programming and Machine Organization
Catalog Number: 3461
Edward W. Kohler
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Fundamentals of computer systems programming, machine organization, and performance tuning. This course provides a solid background in systems programming and a deep understanding of low-level machine organization and design. Topics include C and assembly language programming, program optimization, memory hierarchy and caching, virtual memory and dynamic memory management, concurrency, threads, and synchronization.
Prerequisite: CS50 or some experience programming in C.

***Computer Science 91r. Supervised Reading and Research**
Catalog Number: 0361
Harry R. Lewis
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised individual study of advanced topics in computer science. A student wishing to enroll in Computer Science 91r must be accepted by a faculty member who will supervise the course work. A form available from the Student Affairs Office, Pierce Hall 110, must be filled out and signed by the student and faculty supervisor. Students writing theses may enroll in this course while conducting thesis research and writing.
Note: At most two terms of Computer Science 91r may be taken for academic credit. May not be taken Pass/Fail. Students wishing more information about the range of suitable projects or faculty supervisors should consult the Director of Undergraduate Studies.

[*Computer Science 96. System Design Projects]
Catalog Number: 7499 Enrollment: Limited to 20.
Instructor to be determined
Half course (spring term). M., Th., 4–6.
Cooperative design, development, and testing of a sizable and realistic computer system. Students work as a group with a client on a real-world open-ended problem, and gain experience in problem definition, software development, and system lifecycle issues, and in the area of application. Students work in groups; both student participation in the classroom and effective group cooperation outside the classroom are stressed.
Prerequisite: Computer Science 51 or 61.

For Undergraduates and Graduates

***Computer Science 105. Privacy and Technology**
Catalog Number: 9751 Enrollment: Limited to 30.
James H. Waldo
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 16
What is privacy, and how is it affected by recent developments in technology? This course critically examines popular concepts of privacy and uses a rigorous analysis of technologies to understand the policy and ethical issues at play. Case studies: database anonymity, research ethics, wiretapping, surveillance, and others. Course relies on some technical material, but is open and accessible to all students, especially those with interest in economics, engineering, political science, computer science, sociology, biology, law, government, philosophy.
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement Social Analysis.

Computer Science 109. Data Science - *(New Course)*
Catalog Number: 70866
Hanspeter Pfister (Computer Science) and Joseph K. Blitzstein (Statistics)
Half course (fall term). Tu., Th., 2:30–4, and a weekly section.
Learning from data in order to gain useful predictions and insights. This course introduces methods for five key facets of an investigation: data wrangling, cleaning, and sampling to get a suitable data set; data management to be able to access big data quickly and reliably; exploratory data analysis to generate hypotheses and intuition; prediction based on statistical methods such as regression and classification; and communication of results through visualization, stories, and interpretable summaries. Built around three modules: prediction and elections, recommendation and business analytics, and sampling and social network analysis.
Note: Only one of CS 109, AC 209, or Stat 121 can be taken for credit. Only admitted graduate students can take AC 209, in which case we expect significant differences in readings, assignments, and projects.
Prerequisite: Programming knowledge at the level of CS 50 or above, and statistics knowledge at the level of Stat 100 or above (Stat 110 recommended).

Computer Science 121. Introduction to the Theory of Computation
Catalog Number: 0669
Harry R. Lewis
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
General introduction to the theory of computation, teaching how to reason precisely about computation and prove mathematical theorems about its capabilities and limitations. Finite automata, Turing machines, formal languages, computability, uncomputability, computational complexity, and the P vs. NP question.
Prerequisite: experience in formal mathematics at the level of Computer Science 20.

Computer Science 124. Data Structures and Algorithms
Catalog Number: 5207
Jelani Nelson
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14

Design and analysis of efficient algorithms and data structures. Algorithm design methods, graph algorithms, approximation algorithms, and randomized algorithms are covered.
Note: Starting in the spring of 2013, Computer Science 124 will assume background from Computer Science 20.
Prerequisite: Computer Science 50 or equivalent; Computer Science 51 is helpful. Some exposure to discrete applied mathematics, such as Applied Mathematics 106 or 107 or Computer Science 121 or Statistics 110, is also helpful.

Computer Science 127. Introduction to Cryptography - *(New Course)*
Catalog Number: 23635
Salil P. Vadhan
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Algorithms to guarantee privacy and authenticity of data during communication and computation. Proofs of security based on precise definitions and assumptions. Topics may include one-way functions, private-key and public-key encryption, digital signatures, pseudorandom generators, zero-knowledge proofs, fully homomorphic encryption, and the role of cryptography in network and systems security.
Prerequisite: Computer Science 121 or Computer Science 124.

[Computer Science 141. Computing Hardware]
Catalog Number: 4357
Instructor to be determined
Half course (fall term). M., W., 1-2:30, and a two-hour weekly laboratory. EXAM GROUP: 6, 7
Introduction to the design, structure, and operation of digital computers; logic circuits and digital electronics; computer arithmetic; computer architecture; and machine language programming. Consideration of the design interactions between hardware and software systems.
Prerequisite: Programming experience required.

[Computer Science 143. Computer Networks]
Catalog Number: 6401
Instructor to be determined
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Principles, design, implementation, and performance of computer networks. Topics include: Internet protocols and routing, local area networks, TCP, performance analysis, congestion control, network address translation, voice and video over IP, switching and routing, mobile IP, peer-to-peer overlay networks, network security, and other current research topics. Programming assignments on protocol implementation and analysis.
Prerequisite: Computer Science 51.

Computer Science 144r. Networks Design Projects
Catalog Number: 5415
H. T. Kung
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
In recent years we have witnessed a wave of new Internet of Things (IoT) devices in consumer markets. These include wearables such as wrist watch computers and ear phones for personal entertainment, work assistance and bio-metric monitoring. Enabled with energy-efficient

computing cores and sensors, these devices can be programmed to perform a variety of personalized or context-specific tasks at extremely low power consumption. Many believe that IoT will play a key role in the next frontier of computing. In this course we will study IoT and related devices and services. We will focus on new opportunities and challenges, including security on tiny devices and use of machine learning technology to enhance their usage. The course will consist of these five components: Overview of IoT Technologyn and Services, Networking for IoT, Security and Privacy for IoT, Machine Learning in Small-Data for the Local Context and for Wearables in IoT, and course projects formulation and execution. Industrial partners will help facilitate course projects. Project devices could include: Depth sensing (Kinect and depth cameras), Samsung Galaxy and watch, Raspberry Pi, Pebble watches, Google glass, Biometric sensors (Fitbits, Nike Fuel), Intel Galileo board, NFC (Near Field Communication)/RFID (Radio Frequency Identification), and Chromecast.
Note: Preference given to upper-class undergraduates or graduate students in computer science or in business.
Prerequisite: Programming experience.

[Computer Science 146. Computer Architecture]
Catalog Number: 99684
Instructor to be determined
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Review of the fundamental structures in modern processor design. Topics include computer organization, memory system design, pipelining, and other techniques to exploit parallelism. Emphasis on a quantitative evaluation of design alternatives and an understanding of timing issues.
Prerequisite: Computer Science 141.

[*Computer Science 148. Design of VLSI Circuits and Systems]
Catalog Number: 1772 Enrollment: Limited to 16.
Instructor to be determined
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Presentation of concepts and techniques for the design and fabrication of VLSI systems and digital MOS integrated circuits. Topics include: basic semiconductor theory; MOS transistors and digital MOS circuits design; synchronous machines, clocking, and timing issues; high-level description and modeling of VLSI systems; synthesis and place and route design flows; and testing of VLSI circuits and systems. Various CAD tools for design, simulation, and verification are extensively used.
Prerequisite: Computer Science 141 or permission of instructor.

Computer Science 152. Programming Languages
Catalog Number: 6841
Stephen N. Chong
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Comprehensive introduction to the principal features and overall design of both traditional and modern programming languages, including syntax, formal semantics, abstraction mechanisms, modularity, type systems, naming, polymorphism, closures, continuations, and concurrency. Provides the intellectual tools needed to design, evaluate, choose, and use programming

languages.
Prerequisite: Computer Science 51; Computer Science 121 is recommended. Students must have good programming skills, be comfortable with recursion, basic mathematical ideas and notations.

Computer Science 153. Compilers
Catalog Number: 2842
John G. Morrisett
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
Implementation of efficient interpreters and compilers for programming languages. Associated algorithms and pragmatic issues. Emphasizes practical applications including those outside of programming languages proper. Also shows relationships to programming-language theory and design. Participants build a working compiler including lexical analysis, parsing, type checking, code generation, and register allocation. Exposure to run-time issues and optimization.
Prerequisite: Computer Science 51 or 61.

Computer Science 161. Operating Systems
Catalog Number: 4347
Margo I. Seltzer
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
The fundamental principles of resource management and abstraction in modern operating systems. Control abstractions: threads, processes, scheduling, synchronization. Storage abstractions: dynamic memory allocation, virtual memory, file system design. Communication abstractions: interprocess communication, networking. Case studies. Design and implementation of parts of a multiuser multitasking virtual-memory operating system.
Prerequisite: Computer Science 51 and 61.

***Computer Science 164. Software Engineering**
Catalog Number: 7295 Enrollment: Permission of the instructor is required.
David J. Malan
Half course (spring term). M., W., 2:30–4:30. EXAM GROUP: 7, 8, 9
Introduction to principles of software engineering and best practices, including code reviews, source control, and unit tests. Topics include Ajax, database schemas, event handling, HTTP, MVC, object-oriented design, and user experience. Projects include web apps with front-end UIs (mobile and desktop) and back-end APIs. Languages include JavaScript and PHP.
Note: Students will work on projects in groups. In 2014, this course will focus on the design and implementation of web apps.
Prerequisite: Any four CS courses numbered 50 or higher (or, with instructor's permission, multiple years of programming experience).

Computer Science 165. Data Systems
Catalog Number: 0560
Stratos Idreos
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
We are in the big data era and data systems sit in the critical path of everything we do, i.e., in businesses, in sciences, as well as in everyday life. This course will be a comprehensive introduction to modern data systems. The primary focus of the course will be on modern trends

that are shaping the data management industry right now such as column-store and hybrid systems, shared nothing architectures, cache conscious algorithms, hardware/software codesign, main memory systems, adaptive indexing, stream processing, scientific data management, and key value stores. We will also study the history of data systems and traditional and seminal concepts and ideas such as the relational model, row-store database systems, optimization, indexing, concurrency control, recovery and SQL in order to understand both how data systems have evolved over the years and why, as well as how these concepts apply today and how data systems might evolve in the future.
Prerequisite: Computer Science 51 and Computer Science 61.

Computer Science 171. Visualization
Catalog Number: 8877
Hanspeter Pfister
Half course (spring term). Tu., Th., 2:30–4, and a weekly section to be arranged.
An introduction to key design principles and techniques for visualizing data. Covers design practices, data and image models, visual perception, interaction principles, visualization tools, and applications. Introduces programming of web-based interactive visualizations.
Note: This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: Students are expected to have basic programming experience (e.g., Computer Science 50).

Computer Science 175. Computer Graphics
Catalog Number: 3771
Steven J. Gortler
Half course (fall term). M., W., 2:30–4. EXAM GROUP: 7, 8
The computational aspects of computer graphics. Two major themes are image rendering (viewing transformations, clipping, visible-surface processing, raster algorithms, reflection models, lighting models, surface shading, antialiasing, ray tracing, radiosity, and volume rendering) and scene modeling (modeling transformations, curves and surfaces, texture mapping, data-amplification techniques, constructive solid geometry, scalar- and vector-field data, and animation). Ancillary topics include color compression, image compression, image compositing, graphical user interfaces, and special machine architectures for computer graphics.
Prerequisite: Computer Science 51, Applied Mathematics 21b or Mathematics 21b.

***Computer Science 179. Design of Usable Interactive Systems**
Catalog Number: 4052 Enrollment: Limited to 48.
Krzysztof Z. Gajos
Half course (spring term). M., W., 11:30–1. EXAM GROUP: 4, 5
Usability and design as keys to successful technology. Covers user observation techniques, needs assessment, low and high fidelity prototyping, usability testing methods, as well as theory of human perception and performance, and design best practices. Focuses on understanding and applying the lessons of human interaction to the design of usable systems; will also look at lessons to be learned from less usable systems. The course includes several small and one large project.

Computer Science 181. Machine Learning
Catalog Number: 6454
Ryan Prescott Adams
Half course (spring term). M., W., 1–2:30.
Introduction to machine learning, providing a probabilistic view on artificial intelligence and reasoning under uncertainty. Topics include: supervised learning, ensemble methods and boosting, neural networks, support vector machines, kernel methods, clustering and unsupervised learning, maximum likelihood, graphical models, hidden Markov models, inference methods, and computational learning theory. Students should feel comfortable with multivariate calculus, linear algebra, probability theory, and complexity theory. Students will be required to produce non-trivial programs in Python.
Prerequisite: Computer Science 51, Computer Science 121, Statistics 110, Math 21a and 21b (or equivalent).

Computer Science 182. Intelligent Machines: Reasoning, Actions, and Plans
Catalog Number: 0134
Barbara J. Grosz
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Introduction to AI, focused on problems in reasoning about action and rational decision making. Search: constraint satisfaction; informed search and optimization; game playing. Knowledge representation and logical inference. Planning: representation, search and heuristics. Bounded rationality, situated agents. Multiagent systems. Discussion of relevant work in philosophy, economics, and decision theory. Applications to scheduling, robotics and e-commerce.
Prerequisite: Computer Science 51; Computer Science 121 (may be taken concurrently).

Computer Science 186. Economics and Computation
Catalog Number: 87282
David C. Parkes
Half course (spring term). M., W., 11:30–1. EXAM GROUP: 4, 5
The interplay between economic thinking and computational thinking as it relates to electronic commerce, social networks, collective intelligence and networked systems. Topics covered include: game theory, peer production, reputation and recommender systems, prediction markets, crowd sourcing, network influence and dynamics, auctions and mechanisms, privacy and security, matching and allocation problems, computational social choice and behavioral game theory. Emphasis will be given to core methodologies, with students engaged in theoretical, computational and empirical exercises.
Prerequisite: Applied Math 21b, Computer Science 51 or equivalent, Statistics 110, and one of Computer Science 181, Computer Science 182, Economics 1011a, Economics 1052, or Economics 1056.

[Computer Science 187. Computational Linguistics]
Catalog Number: 0249
Instructor to be determined
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
Watson is the world Jeopardy champion. Siri responds accurately to "Should I bring an umbrella tomorrow?". How do they work? This course provides an introduction to the field of

computational linguistics, the study of human language using the tools and techniques of computer science, with applications to a variety of natural-language-processing problems such as those deployed in Watson and Siri, and covers pertinent ideas from linguistics, logic programming, and statistical modeling.
Prerequisite: Computer Science 121 or permission of the instructor.

***Computer Science 189r. Autonomous Multi-Robot Systems**
Catalog Number: 36932 Enrollment: Limited to 15.
Radhika Nagpal
Half course (fall term). F., 1–4. EXAM GROUP: 6, 7, 8
Building autonomous robotic systems requires understanding how to make robots that observe, reason, and act. Each component uses many engineering principles: how to fuse, multiple, noisy sensors; how to balance short-term versus long-term goals; how to control one's actions and how to coordinate with others. This year, we will study these questions in the context of a project to develop autonomous robot soccer teams. The class format will mix seminar and lab formats.
Note: Preference will be given to students with experience in AI (e.g. CS181 or CS182 and/or robotics ES159).

Primarily for Graduates

[*Computer Science 201. Cyberlaw and Intellectual Property: Advanced Problem Solving Workshop]
Catalog Number: 15116 Enrollment: Limited to 10.
Instructor to be determined
Half course (spring term). M., Tu., 3:20–4:50.
Students in this experimental capstone course will work in teams to solve a series of hard problems-based cases related to cyberlaw and intellectual property.
Note: Offered jointly with the Law School as 2315, and will meet at the Law School.

[*Computer Science 203hf. A Better Internet: Policy and Practice]
Catalog Number: 81745 Enrollment: Students will be selected via an application process.
Instructor to be determined
Half course (throughout the year). Fall: W., 5–7 p.m. EXAM GROUP: Fall: 9
Students will propose ideas for a better Internet, test them with stakeholders, prototype them for industries and organizations, and attack difficult implementation problems in a problem-solving capstone.
Note: Half course through the year, meeting in January at Stanford University. Offered jointly offered at Law School as LAW 2055.

Computer Science 205. Computing Foundations for Computational Science
Catalog Number: 85368
Cristopher R. Cecka
Half course (fall term). M., W., F., at 11, and a weekly section to be arranged. EXAM GROUP: 4
An applications course highlighting the use of computers in solving scientific problems. Students will be exposed to fundamental computer science concepts such as computer architectures, data structures, algorithms, and parallel computing. Fundamentals of scientific computing including

abstract thinking, algorithmic development, and assessment of computational approaches. Students will learn to use open source tools and libraries and apply them to data analysis, modeling, and visualization of real scientific problems. Emphasizes parallel programming and "parallel thinking."
Prerequisite: Students are expected to have basic programming experience (e.g., Computer Science 50).

Computer Science 207. Systems Development for Computational Science
Catalog Number: 33846
Cristopher R. Cecka
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
This is a project-based course emphasizing designing, building, testing, maintaining and modifying software for scientific computing. Students will work in groups on a number of projects, ranging from small data-transformation utilities to large-scale systems. Students will learn to use a variety of tools and languages, as well as various techniques for organizing teams. Most important, students will learn to fit tools and approaches to the problem being solved.
Prerequisite: Students are expected to have basic programming experience (Computer Science 50) and have completed Computer Science 205.

[Computer Science 220r. Cryptography: Trust and Adversity]
Catalog Number: 1637
Instructor to be determined
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Modern cryptography. Mathematical tools. Public-key encryptions, digital signatures, key exchanges, zero-knowledge proofs, authentication, oblivious transfer, practical zero-knowledge proofs and financial cryptography, secure multi-party computation, provably secure encryptions. Foundations: Probabilistic encryption and semantic security. Attacks and countermeasures.

Computer Science 221. Computational Complexity
Catalog Number: 5812
Salil P. Vadhan
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
A quantitative theory of the resources needed for computing and the impediments to efficient computation. The models of computation considered include ones that are finite or infinite, deterministic, randomized, quantum or nondeterministic, discrete or algebraic, sequential or parallel.
Prerequisite: Computer Science 121 or equivalent.

[Computer Science 222. Algorithms at the Ends of the Wire]
Catalog Number: 2493
Instructor to be determined
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Covers topics related to algorithms for big data, especially related to networks. Themes include compression, cryptography, coding, and information retrieval related to the World Wide Web. Requires a major final project.
Prerequisite: Computer Science 124.

[Computer Science 223. Probabilistic Analysis and Algorithms]
Catalog Number: 4740
Instructor to be determined
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Probabilistic techniques and tools for the design and analysis of algorithms. Designed for all first-year graduate students in all areas.
Prerequisite: Computer Science 124. Preferably additional probability, such as in Computer Science 226r, Statistics 110, or Mathematics 191.

[Computer Science 225. Pseudorandomness]
Catalog Number: 4869
Instructor to be determined
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
Efficiently generating objects that "look random" despite being constructed using little or no randomness. Connections and applications to computational complexity, cryptography, and combinatorics. Pseudorandom generators, randomness extractors, expander graphs, error-correcting codes, hash functions.
Prerequisite: Exposure to randomized algorithms (as in Computer Science 124), computational complexity (as in Computer Science 121), and algebra (as in Applied Mathematics 106, Mathematics 123, or Computer Science 226r).

[Computer Science 226r. Efficient Algorithms]
Catalog Number: 1749
Instructor to be determined
Half course (fall term). Tu., Th., 11:30–1.
Important algorithms and their real life applications. Topics include combinatorics, string matching, wavelets, FFT, computational algebra number theory and geometry, randomized algorithms, search engines, page rankings, maximal flows, error correcting codes, cryptography, parallel algorithms.

Computer Science 228. Computational Learning Theory
Catalog Number: 0364
Leslie G. Valiant
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Possibilities of and limitations to performing learning by computational agents. Topics include computational models, polynomial time learnability, learning from examples and learning from queries to oracles. Applications to Boolean functions, automata and geometric functions.
Prerequisite: Computer Science 121 or equivalent.

Computer Science 229r. Topics in the Theory of Computation
Catalog Number: 3730
Jelani Nelson
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Topic for 2013-14: Algorithms for Big Data. This course will cover rigorous methods, based on solid theoretical foundations, for processing massive amounts of data. Topics discussed will include streaming and sketching algorithms, dimensionality reduction, and external memory

algorithms, to name a few.
Prerequisite: comfort with rigorous mathematics, discrete probability, and reasoning about algorithms (e.g. as in CS 124).

Computer Science 244r. Networks Design Projects
Catalog Number: 3018
H. T. Kung
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
In recent years we have witnessed a wave of new Internet of Things (IoT) devices in consumer markets. These include wearables such as wrist watch computers and ear phones for personal entertainment, work assistance and bio-metric monitoring. Enabled with energy-efficient computing cores and sensors, these devices can be programmed to perform a variety of personalized or context-specific tasks at extremely low power consumption. Many believe that IoT will play a key role in the next frontier of computing. In this course we will study IoT and related devices and services. We will focus on new opportunities and challenges, including security on tiny devices and use of machine learning technology to enhance their usage. The course will consist of these five components: Overview of IoT Technology and Services, Networking for IoT, Security and Privacy for IoT, Machine Learning in Small-Data for the Local Context and for Wearables in IoT, and course projects formulation and execution. Industrial partners will help facilitate course projects. Project devices could include: Depth sensing (Kinect and depth cameras), Samsung Galaxy and watch, Raspberry Pi, Pebble watches, Google glass, Biometric sensors (Fitbits, Nike Fuel), Intel Galileo board, NFC (Near Field Communication)/RFID (Radio Frequency Identification), and Chromecast.
Note: Preference given to upper-class undergraduates or graduate students in computer science or in business who are proficient in computer programming or in business software.
Prerequisite: Programming experience.

[Computer Science 246. Advanced Computer Architecture]
Catalog Number: 0979
Instructor to be determined
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
The contents and course requirements are similar to those of Computer Science 146, with the exception that students enrolled in Computer Science 246 are expected to undertake a substantial course project.
Prerequisite: Computer Science 141.

Computer Science 247r. Advanced Topics in Computer Architecture
Catalog Number: 48162
David M. Brooks
Half course (fall term). M., W., F., 10–11:30. EXAM GROUP: 3, 4
Seminar course exploring recent research in computer architecture. Topics vary from year to year and will include subjects such as multi-core architectures, energy-efficient computing, reliable computing, and the interactions of these issues with system software. Students read and present research papers, undertake a research project.
Prerequisite: Computer Science 146 or 246 or permission of the instructor.

[*Computer Science 248. Advanced Design of VLSI Circuits and Systems]
Catalog Number: 7191 Enrollment: Limited to 16.
Instructor to be determined
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
The contents and course requirements are similar to those of Computer Science 148, with the exception that students enrolled in Computer Science 248 are expected to do a substantial design project and paper discussions on advanced topics.
Prerequisite: Computer Science 141 or permission of instructor.

Computer Science 252r. Advanced Topics in Programming Languages
Catalog Number: 1986
Stephen N. Chong
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Seminar course exploring recent research in programming languages. Topics vary from year to year. Students read and present research papers, undertake a research project.
Prerequisite: Computer Science 152 or permission of the instructor.

[Computer Science 253r. Virtual Machines]
Catalog Number: 2901
Instructor to be determined
Half course (fall term). M., F., 1–2:30. EXAM GROUP: 6, 7
Note: Preference given to graduate students or upper-class concentrators.
Prerequisite: Computer Science 153 or equivalent.

Computer Science 260r. Projects and Close Readings in Software Systems - *(New Course)
Catalog Number: 49684
Edward W. Kohler
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Modern software systems construction and analysis. Distributed systems; operating systems; networks; data centers; big data; emerging systems deployments. Close, careful reading of research papers and code, coupled with programming projects. Readability and programmability. Topic focus will change each offering. May be repeated for credit with instructor permission.
Prerequisite: Programming experience and instructor permission.

Computer Science 261. Research Topics in Operating Systems
Catalog Number: 6706
Margo I. Seltzer
Half course (fall term). Tu., Th., 1–2:30.
A quantitative approach to operating system design and evaluation. Discussion of recent research including extensible operating system architectures, distributed systems, and performance analysis. Overview of research techniques and methodology.
Prerequisite: Computer Science 161, or equivalent.

Computer Science 262. Introduction to Distributed Computing
Catalog Number: 7949
James H. Waldo

Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
An examination of the special problems associated with distributed computing such as partial failure, lack of global knowledge, asynchrony and coordination of time, and protocols that function in the face of these problems. Emphasis on both the theory that grounds thinking about these systems and in the ways to design and build such systems.
Prerequisite: Computer Science 161 or permission of instructor.

[Computer Science 264. Massively Parallel Computing]
Catalog Number: 37157
Instructor to be determined
Half course (spring term). M., W., F., 1–2:30. EXAM GROUP: 6, 7
This course is an introduction to several modern parallel computing approaches and languages. Covers programming models, hardware architectures, multi-threaded programming, GPU programming with CUDA, cluster computing with MPI, cloud computing, and map-reduce using Hadoop and Amazon's EC2. Students will complete readings, programming assignments, and a final project.

[Computer Science 265. Database Systems]
Catalog Number: 2083
Instructor to be determined
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
A research-oriented introduction to Database Management systems. First third covers database design, implementation, and use. Topics include: network, relational, and object oriented database models, system architectures, transaction processing, system implementation, and SQL. Remaining two-thirds address research literature surrounding database systems, including an historical perspective, the emergence of relational and object-oriented systems, concurrency control, and distributed systems. Students will be expected to undertake a final research project.
Prerequisite: CS 165 or permission of instructor.

[Computer Science 277. Geometric Modeling in Computer Graphics]
Catalog Number: 3067
Instructor to be determined
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Advanced seminar in computer graphics focusing on geometric representations and processing. Topics include: direct manipulation, implicit surfaces, spline presentations, recursively subdivided surfaces, model simplification, surface parameterization and processing, mesh generation, and motion capture processing.
Prerequisite: Computer Science 175.

Computer Science 278. Rendering and Image Processing in Computer Graphics
Catalog Number: 4883
Steven J. Gortler
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Advanced course in computer graphics focusing on image rendering and processing. Topics include: light transport, efficient rendering, image based rendering, texture processing,

interactive image processing.
Prerequisite: Computer Science 175 or permission of instructor.

***Computer Science 279 (formerly *Computer Science 279r). Research Topics in Human-Computer Interaction**
Catalog Number: 1435
Krzysztof Z. Gajos
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Current topics in HCI research, including intelligent interactive systems, usable privacy and security, interaction techniques, design methods, design for emerging markets. Special focus this year is on human computation and crowdsourcing. The course covers core research methods in HCI including experimental design, statistical data analysis, and qualitative methods. Activities will include discussion of primary literature, lectures, assignments, and a research project. Designed for first year grads from all areas. Advanced undergrads welcome.
Prerequisite: None for graduate students; CS 179 strongly recommended for undergraduates.

Computer Science 280r. Advanced Topics in Artificial Intelligence
Catalog Number: 11199
Barbara J. Grosz
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Seminar course exploring research directions in artificial intelligence (AI), typically combining two or more of such areas as multi-agent systems, natural-language processing, machine learning, reasoning under uncertainty, representation systems. Topic for Spring 2014: Models and algorithms for collaboration and coordination of multi-agent "mixed networks" comprising people and computer-system agents.
Prerequisite: Computer Science 181 or 182, or equivalents; or permission of instructor.

Computer Science 281. Advanced Machine Learning
Catalog Number: 97848 Enrollment: Limited to 60.
Ryan Prescott Adams
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Advanced statistical machine learning and probabilistic data analysis. Topics include: Markov chain Monte Carlo, variational inference, Bayesian nonparametrics, text topic modeling, unsupervised learning, dimensionality reduction and visualization. Requires a major final project.
Prerequisite: Students should feel comfortable with basic linear algebra and probability theory. Students will be expected to implement algorithms in a programming language such as Matlab, Python or R.

Computer Science 283. Computer Vision
Catalog Number: 4475
Todd Zickler
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Vision as an ill-posed inverse problem: image formation, two-dimensional signal processing; image enhancement and restoration; feature analysis; image segmentation; structure from

motion, texture, and shading; multiple view geometry; pattern classification; and applications. *Note:* Offered jointly with the Design School as SCI-06275.

Computer Science 284r. Topics on Computation in Networks and Crowds - *(New Course)*
Catalog Number: 74473
Yaron Singer
Half course (fall term). M., W., 10–11:30. EXAM GROUP: 3, 4
Topics on the design and analysis of algorithms, processes, and systems related to crowds and social networks. Readings in AI, theoretical CS, machine learning, social science theory, economic theory, and operations research.
Prerequisite: Mathematics 21b, Applied Mathematics 21b, or equivalent; Computer Science 124, and 181 or 182, or equivalents; or permission of instructor.

Computer Science 285. Multi-Agent Systems
Catalog Number: 1060
David C. Parkes
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Algorithmic, game-theoretic and logical foundations of multi-agent systems, including distributed optimization and problem solving, non-cooperative game theory, learning and teaching, communication, social choice, mechanism design, auctions, negotiation, coalitional game theory, logics of knowledge and belief, collaborative plans and social systems.
Prerequisite: Computer Science 181 or 182, or permission of instructor.

Computer Science 286r. Topics at the Interface between Computer Science and Economics
Catalog Number: 1099 Enrollment: Limited to 20.
Nicole Immorlica
Half course (spring term). F., 9–12. EXAM GROUP: 2, 3, 4
Interplay between computation and economics. Topics in electronic commerce, computational social choice, computational mechanism design, peer production, prediction markets and reputation systems. Readings in AI, theoretical CS, multi-agent systems, economic theory, and operations research. The topic for Spring 2014 is Matching and Market Design.
Prerequisite: Mathematics 21b, Applied Mathematics 21b, or equivalent; Economics 1011a, or equivalent; or permission of instructor.

[Computer Science 287r. Natural Language Processing]
Catalog Number: 3306
Instructor to be determined
Half course (spring term). Tu., Th., 2:30–4.
In-depth investigation of natural-language-processing techniques. Topics include: finite-state, context-free, and trans-context-free formalisms, syntactic analysis, semantic interpretation, weighted automata and transducers. Students discuss research papers and undertake a significant research project.
Prerequisite: Computer Science 187 or permission of instructor.

Computer Science 288r. Advanced Topics in Computer Vision - *(New Course)*
Catalog Number: 62802

Todd Zickler
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Seminar course exploring recent research in computer vision. Topics vary from year to year, typically including object recognition; activity recognition; and visual surveillance. Students read and present research papers and undertake a research project.
Prerequisite: Applied Math 21b or equivalent; Statistics 110 or equivalent; or permission of the instructor.

***Computer Science 289 (formerly *Computer Science 266). Biologically-inspired Multi-agent Systems**
Catalog Number: 0766 Enrollment: Limited to 20.
Radhika Nagpal
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Surveys biologically-inspired approaches to designing distributed systems. Focus is on algorithms, analysis, and programming paradigms. Topics: swarm intelligence, amorphous computing, immune-inspired systems, synthetic biology. Discussion of research papers and a research project required.
Note: Geared toward graduate students of all levels as well as advanced undergraduates. Preference given to graduate students or upper-level concentrators.
Prerequisite: Experience with algorithms (e.g. Computer Science 124) and programming (e.g. Computer Science 51).

Computer Science 299r. Special Topics in Computer Science
Catalog Number: 4592
David C. Parkes
Half course (fall term; repeated spring term). Hours to be arranged.
Supervision of experimental or theoretical research on acceptable computer science problems and supervision of reading on topics not covered by regular courses of instruction.
Note: Open to graduate students and AB/SM candidates only. Students must arrange such work with a member of the School of Engineering and Applied Sciences. This course is graded and is ordinarily taken with the approval of the Committee on Higher Degrees. Applicants must file a project sheet before study cards are filed. Project sheets may be obtained from the Academic Office, Pierce Hall 110.

Graduate Courses of Reading and Research

Reading courses are odd-numbered; research courses are even-numbered.

[*Computer Science 301qc. iLaw: Internet Technology, Law, and Policy]
Catalog Number: 65515
Yochai Benkler (Law School), Terry Fisher (Law School), Urs Gasser (Law School), Lawrence Lessig (Law School), Phil Malone (Law School), Charles Nesson (Law School), John Palfrey (Law School), and Jonathan Zittrain
Quarter course (fall term). Hours to be arranged.
Internet Technology, Law, and Policy. Intensive four-day course on the current state of the

Internet, its problems, and its path. Privacy, property, speech, and governance. A rigorous survey course with a final work product required of students.

***Computer Science 303,304. Statistical Machine Learning**
Catalog Number: 46531,61638
Ryan Prescott Adams 3022

***Computer Science 305,306. Readable, Extensible, High-Performance Software Systems**
Catalog Number: 15739,17423
Edward W. Kohler 1996

***Computer Science 307,308. Biologically-Inspired Multi-Agent Systems, Distributed Systems, and Computational Biology**
Catalog Number: 8289,8308
Radhika Nagpal 5068

***Computer Science 309,310. Computational Mechanism Design, Electronic Marketplaces, and Multi-Agent Systems**
Catalog Number: 8764,0931
David C. Parkes 4202

***Computer Science 311,312. Collaborative Systems, AI Planning, and Natural Language Processing**
Catalog Number: 4677,6223
Barbara J. Grosz 1599

***Computer Science 313,314. Visual Computing**
Catalog Number: 4273,1628
Hanspeter Pfister 5882

***Computer Science 315,316. Social Computing: Computation and Economics**
Catalog Number: 2892,2433
Yiling Chen 6187 (on leave fall term)

***Computer Science 321,322. Databases, Operating System, and Software Design**
Catalog Number: 4085,4086
Margo I. Seltzer 3371

***Computer Science 323,324. Human-Computer Communication through Natural, Graphical, and Artificial Languages**
Catalog Number: 2450,2453
Stuart M. Shieber 2456 (on leave 2013-14)

***Computer Science 325,326. Intelligent Interactive Systems and Human-Computer**
Catalog Number: 15849,82478
Krzysztof Z. Gajos 6339



***Computer Science 327,328. Mathematical Logic, Theory of Computation**
Catalog Number: 1160,3576
Harry R. Lewis 4455

***Computer Science 343,344. Computer Architecture: Modeling and Design**
Catalog Number: 3932,9266
David M. Brooks 4222 (on leave spring term)

***Computer Science 345,346. High-Performance Computer Systems**
Catalog Number: 6154,6156
Michael D. Smith 3372

***Computer Science 347,348. Computer Vision**
Catalog Number: 1882,8831
Todd Zickler 5143

***Computer Science 351,352. Cryptography: Unbreakable Codes and Financial Cryptography**
Catalog Number: 0218,0255
Michael O. Rabin 7003

***Computer Science 355,356. Computational Complexity, Parallel Computation, Computational Learning, Neural Computation**
Catalog Number: 0345,0346
Leslie G. Valiant 7396

***Computer Science 357,358. Computational Complexity, Cryptography, and Pseudorandomness**
Catalog Number: 3485,8641
Salil P. Vadhan 3833

***Computer Science 359,360. On-line Algorithms and Randomized Algorithms**
Catalog Number: 2104,1477
Michael D. Mitzenmacher 7748 (on leave 2013-14)

***Computer Science 361,362. Programming Languages and Semantics**
Catalog Number: 8672,8366
John G. Morrisett 4853 (on leave spring term)

***Computer Science 363,364. Programming Languages and Security**
Catalog Number: 52264,67371
Stephen N. Chong 6340

***Computer Science 365. SEAS Teaching Practicum**
Catalog Number: 8195
John A. Girash 6894

Half course (spring term). M., 2:30–4:30.
Gain effective skills for teaching applied sciences. Topics: presentation and communication, grading and giving feedback on assignments, cognition and learning, classroom practice and student interactions. Seminar style with an emphasis on observation, practice, feedback, discussion, and reflection.

***Computer Science 375,376. Computer Graphics**
Catalog Number: 6832,7313
Steven J. Gortler 2824

Computer Science 377,378. Sketching Algorithms for Massive Data** - ***(New Course)
Catalog Number: 11014,73819
Jelani Nelson 7260

Computer Science 379,380. Algorithms for Social Data** - ***(New Course)
Catalog Number: 37287,20798
Yaron Singer 7269

Cross-listed Courses

[MCB 131. Computational Neuroscience]
Statistics 221. Statistical Computing and Learning
[*Statistics 285r. Statistical Machine Learning]

Earth and Planetary Sciences

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Earth and Planetary Sciences

John H. Shaw, Harry C. Dudley Professor of Structural and Economic Geology *(Chair)*
Jeremy Bloxham, Mallinckrodt Professor of Geophysics, Dean of Science
Kelly V. Chance, Lecturer in Earth and Planetary Sciences
Jennifer S. Cole, Preceptor in Earth and Planetary Sciences
Brian F. Farrell, Robert P. Burden Professor of Meteorology
Peter John Huybers, Professor of Earth and Planetary Sciences and of Environmental Science and Engineering
Miaki Ishii, Professor of Earth and Planetary Sciences

Daniel J. Jacob, Vasco McCoy Family Professor of Atmospheric Chemistry and Environmental Engineering
Stein B. Jacobsen, Professor of Geochemistry
Hillary S. Jenkins, Preceptor in Earth and Planetary Sciences
David T. Johnston, Associate Professor of Earth and Planetary Sciences *(Co-Director of Graduate Studies)*
Andrew H. Knoll, Fisher Professor of Natural History and Professor of Earth and Planetary Sciences *(on leave fall term)*
Zhiming Kuang, Gordon McKay Professor of Atmospheric and Environmental Science
Charles H. Langmuir, Higgins Professor of Geochemistry
Francis Alexander Macdonald, Associate Professor of Earth and Planetary Sciences *(Co-Head Tutor)*
Scot T. Martin, Gordon McKay Professor of Environmental Chemistry *(on leave 2013-14)*
James J. McCarthy, Professor of Biological Oceanography and Alexander Agassiz Professor of Biological Oceanography
Michael B. McElroy, Gilbert Butler Professor of Environmental Studies
Brendan J. Meade, Professor of Earth and Planetary Sciences
Jerry X. Mitrovica, Professor of Geophysics *(Co-Head Tutor)*
Sujoy Mukhopadhyay, Visiting Associate Professor of Earth and Planetary Sciences
Richard J. O'Connell, Professor of Geophysics
Ann Pearson, Murray and Martha Ross Professor of Environmental Sciences *(on leave spring term)*
James R. Rice, Mallinckrodt Professor of Engineering Sciences and Geophysics
Daniel P. Schrag, Sturgis Hooper Professor of Geology and Professor of Environmental Science and Engineering
Sarah Stewart-Mukhopadhyay, Professor of Earth and Planetary Sciences *(on leave fall term)*
Eli Tziperman, Pamela and Vasco McCoy, Jr. Professor of Oceanography and Applied Physics, Area Dean Environmental Sciences & Engineering, *(Co-Director of Graduate Studies)*
Steven C. Wofsy, Abbott Lawrence Rotch Professor of Atmospheric and Environmental Science, Area Dean for Environmental Science and Engineering, *fall term (on leave spring term)*
Carl Wunsch, Visiting Professor of Physical Oceanography and Climate

Other Faculty Offering Instruction in the Department of Earth and Planetary Sciences

James G. Anderson, Philip S. Weld Professor of Atmospheric Chemistry

For more information about Earth and Planetary Sciences, please visit the department's website at www.eps.harvard.edu.

Primarily for Undergraduates

Earth and Planetary Sciences 21 (formerly EPS 7). The Dynamic Earth: Geology and Tectonics Through Time
Catalog Number: 26854
Francis Alexander Macdonald and Richard J. O'Connell
Half course (fall term). M., W., F., at 10, and a weekly three-hour lab to be arranged and two

field trips. EXAM GROUP: 3
Students will learn how the Earth works and how critical events in Earth history shaped their surroundings. We will explore what the Earth is made of, why there are continents and oceans, and how plate tectonics provides a unifying model to explain geological observations. Topics covered include the discovery of deep time, the relationship between geology and topography, the geology of our surroundings, plate tectonics, magnetism, chemical differentiation at subduction zones and mid-ocean ridges, mountain building, basin formation, isostasy, heat flow, convection, and feedbacks with the fluid Earth. Ultimately we will use physical processes to explain the patterns of nature. Our treatment will be quantitative with applications to other phenomena, and based on sound physics. Field trips provide opportunities to learn how to read rocks, to see data in the field, and to interpret observations in terms of their possible history and forces acting in and on the Earth.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. Students who have taken EPS 7 cannot take EPS 21 for credit.

Earth and Planetary Sciences 22 (formerly EPS 5). The Fluid Earth: Oceans, Atmosphere, Climate, and Environment
Catalog Number: 79499
Peter John Huybers
Half course (spring term). Tu., Th., 10-11:30, and a weekly three-hour lab to be arranged. EXAM GROUP: 12, 13
This course introduces students to the fluid Earth, emphasizing Earth's weather and climate, the carbon cycle, and global environmental change. The physical concepts necessary for understanding the structure, motion and energy balance of the atmosphere, ocean, and cryosphere are covered first, and then these concepts are applied in exploring major earth processes. Examples from Earth's past history, on-going changes in the climate, and implications for the future are highlighted.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. Students who have taken EPS 5 cannot take EPS 22 for credit.

Earth and Planetary Sciences 51. Introduction to Planetary Materials and Earth Resources - *(New Course)*
Catalog Number: 87498
Stein B. Jacobsen
Half course (spring term). M., W., at 11; and a weekly lab, F., 1-3. EXAM GROUP: 4
A comprehensive introduction to how the principles of mineralogy, phase equilibria, and the compositions of terrestrial and extraterrestrial materials are used to understand the evolution of the Earth and its resources. The course will discuss how we know that the Earth's crust has more than sufficient resources for its human population.
Prerequisite: EPS 21 or 22 and a course in college-level chemistry or equivalent, or permission of instructor.

Earth and Planetary Sciences 52. Introduction to Global Geophysics
Catalog Number: 48349

Jerry X. Mitrovica
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
A comprehensive introduction to global geophysics. This course serves as a bridge between introductory Earth science courses (EPS 21, EPS 22) and higher level courses in EPS. Topics include: plate tectonics, the Earth's composition, thermal state and rheology, mantle convection, the geodynamo, the Earth's gravity field and geodesy, comparative planetology, and (modern and paleo) climate change.
Prerequisite: Applied Mathematics 21a,b (or Mathematics 1a,1b; or Mathematics 21a,b); Physics 11a,b or Physics 15a,b (prior or concurrent); or permission of the instructor.

Earth and Planetary Sciences 56. Geobiology and the History of Life
Catalog Number: 29461
David T. Johnston and Andrew H. Knoll
Half course (spring term). M., W., F., at 10, and a weekly three-hour lab to be arranged, and one field trip. EXAM GROUP: 3
Within our solar system, Earth is distinguished as the planet with life. Life was born of planetary processes, has been sustained for some four billion years by planetary processes, and through time has emerged as a set of planetary processes that is important in its own right. In this course we will investigate the ways that Earth and life interact, focusing in particular on the biogeochemical cycles of major elements. This will provide a framework for interpreting the history of life reconstructed from fossils and phylogeny.
Note: EPS 56 is also offered as OEB 56. Students may not take both EPS 56 and OEB 56 for credit.
Prerequisite: EPS 21, 22, or Life Sciences 1b; or permission of instructor.

***Earth and Planetary Sciences 74r. Field Experiences in Earth and Planetary Sciences**
Catalog Number: 7239
Francis Alexander Macdonald
Half course (fall term; repeated spring term). Hours to be arranged.
Attend a domestic or overseas geological field program of 3-6 weeks duration to learn methods of obtaining, synthesizing, and interpreting field observations.
Note: Field programs are selected individually by students with the advice and approval of the instructor. Students must notify the instructor and Academic Administrator of intention to enroll by Study Card Day of the preceding term.

Earth and Planetary Sciences 91r. Supervised Reading and Research
Catalog Number: 1462
Ann Pearson (fall term), Sarah Stewart-Mukhopadhyay (spring term) and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading and research on topics not covered by regular courses of instruction.
Note: Usually intended for junior or senior concentrators in Earth and Planetary Sciences; open to sophomore concentrators under some circumstances. To enroll students must submit a registration form, which includes permission of their faculty sponsor, to the Academic Administrator.

Earth and Planetary Sciences 99r. Tutorial — Senior Year
Catalog Number: 7120
Hillary S. Jenkins, Sarah Stewart-Mukhopadhyay and members of the Department
Full course. Hours to be arranged.
Research and writing of the senior thesis under faculty direction.
Note: Senior honors candidates must take at least one term of this course (fall or spring) if writing a thesis; an oral presentation is required. Enrollment includes an informal tutorial series on how to get the most from your thesis experience. To enroll students must submit a registration form, which includes permission of their faculty sponsor, to the Academic Administrator.

Cross-listed Courses

Astronomy 16. Stellar and Planetary Astronomy
Science of the Physical Universe 12. Natural Disasters
Science of the Physical Universe 14 (formerly Science B-35). How to Build a Habitable Planet
Science of the Physical Universe 25. Energy: Perspectives, Problems and Prospects
[Science of the Physical Universe 29. The Climate-Energy Challenge]

For Undergraduates and Graduates

Earth and Planetary Sciences 100. The Missing Matlab Course: An Introduction to Programming and Data Analysis
Catalog Number: 0235
Miaki Ishii
Half course (spring term). W., F., 2-5. Course time includes lecture and lab. EXAM GROUP: 7, 8, 9
An overview of modern computational tools with applications to the Earth Sciences. Introduction to the MATLAB programming and visualization environment. Topics include: statistical and time series analysis, visualization of two- and three-dimensional data sets, tools for solving linear/differential equations, parameter estimation methods. Labs emphasize applications of the methods and tools to a wide range of data in Earth Sciences.
Note: Given in alternate years.
Prerequisite: Mathematics 1a, b; or equivalent.

[Earth and Planetary Sciences 107. Evolution of Plant Life in Geologic Time]
Catalog Number: 61716
Andrew H. Knoll
Half course (fall term). M., W., F., at 10, and a weekly two-hour lab to be arranged. EXAM GROUP: 3
Origin, evolution, dispersal, paleoecology, and geologic history of the major groups of the plant kingdom. Laboratory study of representative groups, living and fossil.
Note: Expected to be given in 2014–15. EPS 107 is also offered as OEB 107. Students may not take both EPS 107 and OEB 107 for credit.
Prerequisite: OEB 10 or permission of instructor

[Earth and Planetary Sciences 109. Earth Resources and the Environment]
Catalog Number: 2218
John H. Shaw
Half course (spring term). Tu., Th., 10-11:30, and three hours of laboratory work each week. EXAM GROUP: 12, 13
An overview of the Earth's energy and material resources. Following introductions to hydrocarbons, nuclear fuels, and other economically important ores, the course emphasizes methods used to exploit these resources and the environmental impacts of these operations. Topics include: coal and acid rain; petroleum, photochemical smog, and oil spills; nuclear power and radioactive hazards; alternative energies; metals and mining. Labs emphasize methods for discovering and exploiting resources, as well as environmental remediation approaches.
Note: Expected to be given in 2014–15. Given in alternate years. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A.
Prerequisite: EPS 7, 8, or 21; or permission of the instructor.

Earth and Planetary Sciences 121. Terrestrial Planets
Catalog Number: 8577
Sarah Stewart-Mukhopadhyay
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
The physical and chemical processes that influence the initial condition, evolution, and current state of terrestrial planets, focusing on the comparative evolution of Venus, Earth, Mars, and large moons. Topics include: planet formation, evolution of atmospheres, interior composition and equations of state, core formation, differentiation, thermal evolution, and major surface modification processes.
Note: Given in alternate years.
Prerequisite: One semester of physics or permission of instructor.

Earth and Planetary Sciences 131. Introduction to Physical Oceanography and Climate
Catalog Number: 2249
Eli Tziperman
Half course (spring term). M., Th., 2:30–4, and a lab to be arranged. EXAM GROUP: 7, 8, 16, 17
Basic observations and theoretical understanding of ocean phenomena from local surface beach waves to the effects of the oceans on global climate. Observations and dynamics of ocean waves, currents, turbulence, temperature and salinity distributions; basic fluid dynamics equations; the ocean's role in climate: wind-driven circulation and the Gulf stream, thermohaline circulation and the potential instability of Europe's climate, El Niño, the oceans and global warming.
Note: Given in alternate years. When offered, a field trip to Cape Cod and the Woods Hole Oceanographic Institution will be included.
Prerequisite: Applied Mathematics 21a,b; Physics 12a,b, Physics 15a,b,c or Applied Physics 50a,b; or permission of instructor.

Earth and Planetary Sciences 132. Introduction to Meteorology and Climate
Catalog Number: 8495
Brian F. Farrell

Half course (spring term). Tu., Th., 10–11:30, and a weekly lab to be arranged. EXAM GROUP: 12, 13
Physical concepts necessary to understand atmospheric structure and motion. Phenomena studied include the formation of clouds and precipitation, solar and terrestrial radiation, dynamical balance of the large-scale wind, and the origin of cyclones. Concepts developed for understanding today's atmosphere are applied to understanding the record of past climate change and the prospects for climate change in the future.
Prerequisite: Mathematics 21 or Applied Mathematics 21a and 21b; Physics 11 or 15; or permission of instructor.

Earth and Planetary Sciences 133. Atmospheric Chemistry
Catalog Number: 7731
Daniel J. Jacob
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Physical and chemical processes determining the composition of the atmosphere and its implications for climate, ecosystems, and human welfare. Construction of atmospheric composition models. Atmospheric transport. Nitrogen, oxygen, and carbon cycles. Climate forcing by greenhouse gases and aerosols. Stratospheric ozone. Oxidizing power of the atmosphere. Surface air pollution: aerosols and ozone. Deposition to ecosystems: acid rain, nitrogen, mercury.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe and the Core area requirement for Science A.
Prerequisite: Physical Sciences 1, 2, Mathematics 1b; or equivalents.

Earth and Planetary Sciences 134. Global Warming Debates: The Reading Course
Catalog Number: 45399
Peter John Huybers and Eli Tziperman
Half course (spring term). W., 3-6, and weekly lab to be arranged. EXAM GROUP: 8, 9
The atmospheric carbon dioxide concentration is now the highest it has been in at least 800,000 years, raising concerns regarding possible future climate changes. This seminar will survey the science of global change from the perspective of scientific debates within climate community. Specifically, the course will involve guided reading and discussion of papers that present contentious view points on the science of global change, with the goal of students learning how to scientifically evaluate these claims. Laboratories will provide students with hands on experience with some climate models and data.
Note: Given in alternate years.
Prerequisite: Applied Mathematics 21a or equivalent, or permission of instructor.

Earth and Planetary Sciences 135. Physics and Chemistry: In the Context of Energy and Climate at the Global and Molecular Level
Catalog Number: 79597
James G. Anderson
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
A solution to the problems set by the intersection of global energy demand and climate feedbacks requires the teaching of physics and chemistry in that context. Core topics include thermodynamics, free energy, entropy, acid-base and oxidation-reduction reactions,

electrochemistry, electromagnetic induction, circuit theory, AC and DC circuits, the nature of photons and of electromagnetic radiation, photochemistry, materials, catalysis, kinetics, molecular bonding, and biological processes for energy conversion and storage.
Note: EPS 135 is also offered as ES 135. Students may not take both EPS 135 and ES 135 for credit.
Prerequisite: Physical Sciences 1, or Physical Sciences 11, or permission of instructor.

Earth and Planetary Sciences 136. Introduction to Ocean Circulation Physics - *(New Course)*
Catalog Number: 33894
Carl Wunsch
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Introduction to the physical processes governing the large-scale circulation of the ocean. Emphasis on time-changing components, observational methods used, and a survey of basic methods of analysis and theory. Topics include sea level rise, oceanic heat transport changes, and smaller-scale physics.
Prerequisite: Math or Applied Math 21a, Physics 11b, or permission of instructor. Basic knowledge of a high-level programming language such as Matlab or Mathematica.

[Earth and Planetary Sciences 141. Isotope and Trace Element Geochemistry and Geochronology]
Catalog Number: 7724
Stein B. Jacobsen
Half course (fall term). Hours to be arranged.
The origin of the element and isotope distribution in the Earth and the Solar System. Closed system radioactive decay, isotope fractionation, mass balance and mixing. Application of Rb-Sr, Sm-Nd, U-Th-Pb, Lu-Hf, Re-Os and K-Ar isotope systems for geochronology and as tracers for geological processes. Noble gas geochemistry. Extinct nuclides. Cosmogenic nuclides. U-Th-series nuclides. Planetary isotopic evolution. Stable isotope geochemistry. Application of H, C, N, O, and S isotopes as tracers of geochemical and biogeochemical processes.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: A course in college-level chemistry or equivalent; EPS 7 or 21, or equivalent (recommended).

Earth and Planetary Sciences 145. Introduction to Igneous Petrology and Petrogenesis
Catalog Number: 5940
Charles H. Langmuir
Half course (spring term). M., W., 2:30-4:00, plus a weekly three-hour lab. EXAM GROUP: 7, 8
How igneous rocks form and reveal the processes and fluxes involved in the circulation of the solid Earth. The course begins with the essential elements of igneous petrology—rock description and nomenclature, mineralogy, phase diagrams, processes of melting and crystallization, trace elements. We then consider the formation of igneous rocks at modern igneous settings—spreading centers, convergent margins and ocean islands. We conclude with investigations of igneous phenomenon of the past, such as large igneous flood basalt provinces, anorthosites, komatites and the igneous history of the Moon.
Note: Given in alternate years.

Earth and Planetary Sciences 146. Ocean Ridges and the Earth System
Catalog Number: 22518
Charles H. Langmuir
Half course (spring term). M., W., 12–1:30. EXAM GROUP: 5, 6
Course will present our current knowledge of the ocean ridge system where two thirds of Earth's crust is continually being created. We will examine the progressive understanding of ocean ridges from a historical perspective, emphasizing the process of scientific discovery. Topics include melt generation in the mantle, magmatic processes in the crust, formation of ocean ridge topography, faulting and tectonics, hydrothermal systems, manifestations in the overlying water column, and the unique ecosystems associated with vents. Approaches must be inherently interdisciplinary, including geochemistry, geophysics, geology, hydrothermal systems, and biology. The place of the ocean ridge system within the overall Earth system will be emphasized.
Note: Students will likely have the opportunity to participate in a sea-going expedition as part of the course.
Prerequisite: One of: EPS 21, EPS 22, or SPU 14; or permission of instructor.

[Earth and Planetary Sciences 150. Geology and Composition of Planetary Crusts]
Catalog Number: 4726
Stein B. Jacobsen
Half course (fall term). M., W., 10–11:30. EXAM GROUP: 3, 4
The course explains how and why solid planets develop crusts. Chemical and isotopic analyses of rocks and minerals are used to understanding the origin and evolution of planetary crust and their surface environments. Through the study of primitive meteorites, martian meteorites, lunar samples and terrestrial rocks, it is shown how timescales, origin and evolution of planets and their crusts can be inferred from studies of rocks and minerals. It is shown that the Earth's crust is likely the only one in the Solar System that can support an advanced civilization and also that the Earth's crust has more than sufficient resources and energy for its human population for the foreseeable future. The principles of mineral structures, phase equilibria, and the origin of igneous, metamorphic, and sedimentary rocks covered in the course are essential for students of geology, geochemistry, planetary science and astrobiology.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: EPS 7 or 21, and a course in college-level chemistry or equivalent, or permission of instructor.

[Earth and Planetary Sciences 161 (Global Tectonics). Planetary Physics and Global Tectonics]
Catalog Number: 1854
Richard J. O'Connell
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Study of the physics and tectonic processes that govern the properties and evolution of the Earth and other planets. Covers: properties of planets and their interiors; plate tectonics on the Earth; magnetic fields of the Earth and planets; deformation and heat flow and planetary thermal evolution; melting and volcanism in planets; gravity and tidal interaction.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: Introductory physical science and math or permission of instructor.

Earth and Planetary Sciences 162. Hydrology and Environmental Geomechanics
Catalog Number: 76823
James R. Rice
Half course (spring term). M., W., F., at 11-12, and one and a half hour lab session or section for discussion of assigned problems. EXAM GROUP: 4
Study of water as a critical resource and as a factor in Earth surface and near-surface processes. Focus on development of relevant mechanics and physics. Hydrologic cycle, surface and groundwater, evapotranspiration, soil physics. Flow in porous media, Darcy law, contaminant transport, remediation strategies. Poroelasticity, subsidence, well hydraulics. Seepage forces, landslides, dam failures, sediment liquefaction. Glacial processes. Stream flows, turbulence concepts. Gravity waves, flood control; tsunamis; erosion and sediment transport.
Note: EPS 162 is also offered as ES 162. Students may not take both EPS 162 and ES 162 for credit.
Prerequisite: Applied Mathematics 21a,b or Mathematics 21a,b and Physics 11a,b or 15a,b

[Earth and Planetary Sciences 166 (Introduction to Seismology). Consequences of Earthquakes]
Catalog Number: 1540
Miaki Ishii
Half course (fall term). Tu., Th., 2:30–4, and a weekly three-hour lab to be arranged.
Introduction to seismology with a focus on conceptual understanding of seismic phenomena. Emphasis will be on earthquakes, e.g., detection, mechanism, characteristics, statistics, hazard, and relationship to dynamics. Broader topics such as the types of seismological data and inferences of the Earth's internal structure also will be covered.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: Mathematics 21a, b or Applied Mathematics 21a, b (may be taken concurrently); or equivalent.

Earth and Planetary Sciences 171. Structural Geology and Tectonics
Catalog Number: 0319
John H. Shaw
Half course (fall term). M., W., 1–2:30, and three hours of laboratory work each week. EXAM GROUP: 6, 7
An introduction to the deformation of Earth materials, including the processes of mountain building and plate tectonics, faulting and earthquakes, folding, and ductile deformation. Structures are examined using geologic maps, balanced cross sections, seismic reflection data, satellite imagery, microscopic analysis, analog experiments, and numerical methods. Labs emphasize the applications of structural geology in the energy and environmental industries, and for assessing earthquake hazards.
Note: Given in alternate years.
Prerequisite: EPS 7, 8, or 21; or permission of instructor.

[Earth and Planetary Sciences 181. Historical Geobiology]
Catalog Number: 5162
Andrew H. Knoll
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17



A focused inquiry on the interactions of life and environment through geologic history.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: EPS 8, OEB 10; or permission of instructor.

[Earth and Planetary Sciences 182. Stratigraphy and Sedimentology]
Catalog Number: 37284
Francis Alexander Macdonald
Half course (spring term). T., Th., 10-11:30, and a two-hour weekly lab to be arranged, and one field trip. EXAM GROUP: 12, 13
Techniques in interpreting paleo-environmental information from sedimentary rocks, covering grain-flow, carbonates, glacial deposits, terrestrial, marginal marine, and deep-sea environments, and culminating with cyclo-stratigraphy and basin dynamics.
Note: Expected to be given in 2014–15.

[Earth and Planetary Sciences 186. Low Temperature Geochemistry I: Introduction to biogeochemical cycles]
Catalog Number: 89929 Enrollment: This course serves to prepare students for EPS 187 (offered in Spring).
David T. Johnston
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
An introduction to low temperature biogeochemistry. We will focus on key biogeochemical elements and look to understand the linkages between the biosphere, atmosphere and hydrosphere. The course begins with a description of marine geochemistry (alkalinity and chemical fluxes) and works toward understanding isotopic fractionation and what it can tell us about the environment. We will explore biogeochemistry over a range of physical and temporal scales.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: A course in college chemistry is recommended.

[Earth and Planetary Sciences 187. Low Temperature Geochemistry II: Modern and ancient biogeochemical processes]
Catalog Number: 1923
Ann Pearson
Half course (spring term). Tu., Th., 2:30–4.
Introduction to biological and organic chemistry of the Earth's environment. Primary focus on formation, processing, and preservation of organic carbon, with emphasis on paleoenvironmental applications and on processes occurring at the molecular level. This class is intended to be taken in series with EPS 186.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: A course in college-level chemistry or equivalent. Chemistry 17 or 27 strongly recommended. EPS 186 strongly recommended.

***Earth and Planetary Sciences 189. Analytical and Field Methods in Geobiology**
Catalog Number: 26288 Enrollment: Limited to 10.
David T. Johnston and Ann Pearson
Half course (fall term). Tu., at 2:30, and a weekly three-hour lab to be arranged. EXAM

GROUP: 16, 17
Introduction to geobiological research methods: We will learn low temperature geochemical techniques, light stable isotope mass-spectrometry, and other microbiology methods commonly used in geobiological research. The focus will be on the cycling of biogeochemical elements (O, C, S, and Fe) in marine sediments throughout Earth history. This is a lab-based course that will be complemented with lectures.
Note: Given in alternate years.
Prerequisite: EPS 186 and EPS 187 (or equivalent) recommended.

Cross-listed Courses

Engineering Sciences 120. Introduction to the Mechanics of Solids
Engineering Sciences 123. Introduction to Fluid Mechanics and Transport Processes
Engineering Sciences 162. Hydrology and Environmental Geomechanics
Engineering Sciences 164. Environmental Chemistry (formerly Soil and Environmental Chemistry)
[OEB 107. Evolution of Plant Life in Geologic Time]

Primarily for Graduates

Earth and Planetary Sciences 200. Atmospheric Chemistry and Physics
Catalog Number: 2675
Daniel J. Jacob and Steven C. Wofsy
Half course (fall term). W., F., 10-11:30 and one to three hours of computer-based laboratory work per week. EXAM GROUP: 3, 4
Atmospheric physics and chemistry: stratospheric and tropospheric transport, photochemistry, and aerosols; stratospheric ozone loss, tropospheric pollution; biogeochemical cycles.
Note: Students specializing in this area are expected to take EPS 200 and 236. These courses may serve as an introduction to atmospheric and oceanic processes for other students with strong preparation.
Prerequisite: Applied Mathematics 105 (may be taken concurrently), Physics 11 a, b or 15; a course in college-level chemistry or equivalent, or more advanced courses; or permission of the instructors.

[Earth and Planetary Sciences 201. Physics of the Earth's Interior]
Catalog Number: 4004
Richard J. O'Connell
Half course (spring term). W., F., 2:30–4.
The properties and processes of the solid Earth: Continuum mechanics; structure and state of the Earth's interior; gravity and the geoid; viscous creep and mantle flow; rotational dynamics; heat transport and mantle convection.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: Applied Mathematics 104, 105; Physics 15 or equivalent. Preparation should be discussed with the instructor.

Earth and Planetary Sciences 202. Mechanics in Earth and Environmental Science
Catalog Number: 9798
James R. Rice
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Introduction to the mechanics of fluids and solids, organized around earth and environmental phenomena. Conservation laws, stress, deformation and flow. Inviscid fluids and ocean gravity waves; Coriolis dominated large scale flows. Viscosity and groundwater seepage; convective cells; boundary layers. Turbulent stream flows; flood surges; sediment transport. Elasticity and seismic waves. Pore fluid interactions with deformation and failure of earth materials, as in poro-mechanics of consolidation, cracking, faulting, and landslides. Ice sheets and glacial flow mechanics.
Note: Given in alternate years.
Prerequisite: Calculus-based introductory physics at the level of Physics 11 or 15 and Mathematics at the level of Applied Mathematics 21 and 105.

[Earth and Planetary Sciences 203. Earthquakes and Faulting]
Catalog Number: 4472
Brendan J. Meade, James R. Rice, and John H. Shaw
Half course (spring term). M., F., 2:30–4. EXAM GROUP: 7, 8
Earthquake phenomenology in the context of plate tectonics. Continuum mechanics and elastic deformation; seismic wave radiation. Earthquake cycle models and constraints from tectonic geodesy. Earthquake geology and paleoseismology. Source physics, fault friction, rupture dynamics. Deformation rates and fault system structure. Quantitative seismic hazard analysis.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: Applied Mathematics 21a, b.

Earth and Planetary Sciences 204. Global Seismology
Catalog Number: 4091
Miaki Ishii
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Fundamental concepts used in seismology as a tool in studying the Earth's deep interior. Topics include stress/strain/elasticity theory, the seismic wave equation, ray theory, surface waves and normal modes, source theory, and inverse methods.
Note: Given in alternate years.
Prerequisite: Applied Math 105 (may be taken concurrently), or permission of instructor.

Earth and Planetary Sciences 205. Geophysics: A Primer
Catalog Number: 62097
Jerry X. Mitrovica
Half course (spring term). M., Th., 1–2:30. EXAM GROUP: 6, 7, 15, 16
An introductory treatment of solid Earth geophysics for graduate students in all EPS and SEAS disciplines. The course will cover a sampling of topics that all Earth scientists should have knowledge of, whether to facilitate applications to their own research or to simply follow departmental seminars in geophysics. Topics include: the Earth's composition and internal boundaries; qualitative and quantitative plate tectonics; the Earth's energy budget, isostasy; Earth rheology, with examples from seismology, tides, glacial isostatic adjustment and mantle

convection; the Earth's gravity field and geodesy; planetary rotation. Physical concepts will be emphasized over mathematical derivations. While there are no formal pre-requisites for the course, some training in calculus, ordinary and partial differential equations would be helpful. Extra class time and material will be available for students without this background.
Note: Given in alternate years.

***Earth and Planetary Sciences 207r. Geochemical Oceanography**
Catalog Number: 1602
Daniel P. Schrag and David T. Johnston
Half course (spring term). Hours to be arranged.
Topics in low-temperature geochemistry, oceanography, and climatology will be discussed. Students will read and present journal articles on relevant topics, and will rotate responsibility for leading discussions.

Earth and Planetary Sciences 208. Physics of Climate
Catalog Number: 6561
Zhiming Kuang
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Overview of the basic features of the climate system (global energy balance, atmospheric general circulation, ocean circulation, and climate variability) and the underlying physical processes.
Prerequisite: Applied Mathematics 105 (may be taken concurrently), Physics 11a, b or 15; or permission of the instructor.

***Earth and Planetary Sciences 210. Introduction to Isotope and Trace Element Geochemistry**
Catalog Number: 9146
Sujoy Mukhopadhyay and members of the Department
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
The course emphasizes the principles of isotope and trace element geochemistry and their application to relevant problems in Earth and Planetary Sciences. Problems to be addressed include planet formation and differentiation, ocean chemistry, and climate reconstruction.

[*Earth and Planetary Sciences 231. Climate Dynamics]
Catalog Number: 6492
Eli Tziperman
Half course (spring term). M., Th., 2:30–4.
Climate and climate variability phenomena and dynamical mechanisms over multiple time scales, using dynamical system tools and a hierarchical modeling approach. Energy balance and greenhouse, El Niño, thermohaline circulation, abrupt climate change, millennial variability (DO and Heinrich events), glacial-interglacial cycles, warm past climates including the Pliocene (2-5 Myrs) and Eocene (50 Myrs). Needed background in stochastic and nonlinear dynamics will be covered.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: Background in geophysical fluid dynamics or permission of instructor.

Earth and Planetary Sciences 232. Dynamic Meteorology
Catalog Number: 5344
Brian F. Farrell
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The atmosphere understood as a fluid dynamical system. Observations of atmospheric motions related to weather and climate. Application of the equations of atmospheric dynamics to explaining phenomena such as jet streams, cyclones and fronts.
Prerequisite: Applied Mathematics 105; or permission of instructor.

[Earth and Planetary Sciences 234. Topics in Generalized Stability Theory]
Catalog Number: 80719
Brian F. Farrell
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
An introduction to the ideas and approaches to dynamics of generalized stability theory. Topics include autonomous and non-autonomous operator stability, stochastic turbulence models and linear inverse models. Students will learn the concepts behind non-normal thinking and how to apply these ideas in geophysical fluid dynamics and climate problems.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: Applied Math 105

Earth and Planetary Sciences 236. Environmental Modeling
Catalog Number: 7250
Steven C. Wofsy and Daniel J. Jacob
Half course (fall term). W., Th., 2:30–4 plus one to three hours of computer-based laboratory work per week.
Chemical transport models: principles, numerical methods. Inverse models: Bayes' theorem, optimal estimation, Kalman filter, adjoint methods. Analysis of environmental data: visualization, time series analysis, Monte Carlo methods, statistical assessment. Students prepare projects and presentations.
Note: Students specializing in this area are expected to take EPS 200 and 236. These courses may serve as an introduction to atmospheric and oceanic processes for other students with strong preparation.
Prerequisite: Applied Mathematics 105 (may be taken concurrently); a course in atmospheric chemistry (EPS 133 or 200 or equivalent); or permission of the instructors.

Earth and Planetary Sciences 238. Spectroscopy and Radiative Transfer of Planetary Atmospheres
Catalog Number: 1891
Kelly V. Chance
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Absorption, emission, and scattering of planetary atmospheres, emphasizing Earth. Atmospheric spectroscopic properties for various measurement geometries. Quantitative spectroscopy and atmospheric structure are reviewed. Radiative transfer modeling and simulation and interpretation of atmospheric spectra from microwave through ultraviolet.
Note: Given in alternate years.

Prerequisite: Ability to program in a high-level computer language (may be learned in parallel with the permission of the instructor).

Earth and Planetary Sciences 239. The Consequences of Energy Systems
Catalog Number: 98708
Daniel P. Schrag
Half course (fall term). F., 10–12.
This course provides an introduction to the physical and chemical impacts of energy choices on human society and natural ecosystems. Topics will include the carbon cycle, climate, air and water pollution, impacts of energy systems on health, land use consequences of energy technologies, and nuclear waste and proliferation.
Note: This course is a requirement for the Graduate Consortium on Energy and Environment.
Prerequisite: College level chemistry and physics and permission of instructor.

[Earth and Planetary Sciences 240r. Geochemical Modeling of Planetary Surfaces, Interiors and Formation]
Catalog Number: 0187
Stein B. Jacobsen
Half course (spring term). Hours to be arranged.
A review of various computer programs available for computation of geochemical equilibria at low and high temperatures and low and high pressures. The thermodynamic basis for the programs and a critical discussion of the available thermodynamic data bases for such computations. Applications to modeling of planetary surfaces, interiors and formation, in particular including modeling of elements with multiple oxidation states.
Note: Expected to be given in 2014–15. Given in alternate years.

[Earth and Planetary Sciences 241r. Isotope Geochemistry and Processes of Planetary Evolution]
Catalog Number: 1680
Stein B. Jacobsen
Half course (fall term). Hours to be arranged.
The composition and the evolution of the Solar Nebula. Application of radiogenic and stable isotopes to study the processes of formation and evolution of planetary crusts, mantles, and cores.
Note: Expected to be given in 2014–15. Given in alternate years.

[Earth and Planetary Sciences 242. Low Temperature Geochemistry (formerly Biogeochemistry of Light Stable Isotopes)]
Catalog Number: 8808 Enrollment: Limited to 10.
Daniel P. Schrag
Half course (spring term). Hours to be arranged.
Introduction to the theory and methodology of stable isotope biogeochemistry. Topics include isotope ratio mass spectrometry, biological fractionation of carbon and nitrogen isotopes, distribution of isotopes in terrestrial and marine ecosystems, and applications to climate reconstruction.
Note: Expected to be given in 2014–15. Given in alternate years.

Earth and Planetary Sciences 243. Geochemical and Cosmochemical Thermodynamics
Catalog Number: 2002
Stein B. Jacobsen
Half course (fall term). M., W., 11:30–1.
The laws of thermodynamics. Equilibrium and spontaneous transformations in systems of variable chemical composition. Components, phase rule and petrogenetic grids. Calculation of phase diagrams. Applications to cosmochemistry, igneous and metamorphic petrology, and environmental geochemistry.
Note: Given in alternate years.
Prerequisite: A course in college-level chemistry or equivalent; Mathematics 21a or Applied Mathematics 21a (may be taken concurrently).

***Earth and Planetary Sciences 245r. Petrological Approaches to Understanding the Earth's System**
Catalog Number: 7202
Charles H. Langmuir
Half course (spring term). M., W., 2:30–4, and a three hour lab. EXAM GROUP: 7, 8
The course studies the igneous processes at spreading centers, convergent margins and hot spots, and explores their influences on mantle, crust, ocean and atmosphere and the constraints they provide for the plate tectonic geochemical cycle.
Note: Given in alternate years.
Prerequisite: EPS 145 or permission of instructor.

Earth and Planetary Sciences 246r. Earth Accretion and Early Earth History - *(New Course)*
Catalog Number: 57731
Sujoy Mukhopadhyay
Half course (spring term). F., 1–3. EXAM GROUP: 6, 7
Research seminar on Earth accretion and early Earth history (pre-Archean) from a geochemical perspective. Students will read and present journal articles and take turns in leading the discussions. Topics include timescale of formation and differentiation of planetary embryos, terrestrial and lunar magma oceans, the formation of the moon, mantle degassing and differentiation of the silicate Earth, and the formation and destruction of the early crust.
Prerequisite: EPS 210 or equivalent, or permission of instructor.

Earth and Planetary Sciences 247. Ocean Ridges and the Earth System - *(New Course)*
Catalog Number: 37603
Charles H. Langmuir
Half course (spring term). M., W., 12–1:30. EXAM GROUP: 5, 6
Course will present our current knowledge of the ocean ridge system where two thirds of Earth's crust is continually being created. We will examine the progressive understanding of ocean ridges from a historical perspective, emphasizing the process of scientific discovery. Topics include melt generation in the mantle, magmatic processes in the crust, formation of ocean ridge topography, faulting and tectonics, hydrothermal systems, manifestations in the overlying water column, and the unique ecosystems associated with vents. Approaches must be inherently interdisciplinary, including geochemistry, geophysics, geology, hydrothermal systems, and

biology. The place of the ocean ridge system within the overall Earth system will be emphasized.
Note: Students will likely have the opportunity to participate in a sea-going expedition as part of the course.
Prerequisite: One of: EPS 21, EPS 22, or SPU 14; or permission of instructor.

[Earth and Planetary Sciences 250r. Topics in Planetary Sciences]
Catalog Number: 1225
Sarah Stewart-Mukhopadhyay
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Research seminar on current problems in planetary sciences.
Note: Expected to be given in 2014–15. Given in alternate years or upon announcement.

[Earth and Planetary Sciences 255r. Topics in Tropical Dynamics]
Catalog Number: 8807
Zhiming Kuang
Half course (spring term). Hours to be arranged.
Research seminar on current problems in tropical dynamics. Students will read and present journal articles on relevant topics, and will rotate responsibility for leading discussions.
Note: Expected to be given in 2014–15.

[Earth and Planetary Sciences 261. Sea Level Change]
Catalog Number: 91589
Jerry X. Mitrovica
Half course (spring term). Tu., Th., 1–2:30.
The physical processes responsible for sea level changes over time scales extending from hours to hundreds of millions of years. Long-term sea-level trends: geological observations, physical mechanisms and eustasy, dynamic topography. Sea-level change on an ice age Earth (glacial isostatic adjustment, GIA): observations, viscoelastic loading, mantle viscosity, the Last Glacial Maximum (LGM), interglacial sea-level change, ongoing GIA. Ocean tides: equilibrium and non-equilibrium effects, tidal dissipation. Modern global sea level change: tide gauge and geodetic observations, ice melting and thermal expansion, closing the sea-level budget, sea-level fingerprinting.
Note: Expected to be given in 2014–15. Given in alternate years
Prerequisite: Applied Mathematics 21a, b; Physics 11 or 15; or permission of instructor.

[*Earth and Planetary Sciences 262. Theoretical Seismology]
Catalog Number: 35838
Miaki Ishii
Half course (fall term). Hours to be arranged.
Theoretical aspects of seismology with strong emphasis on global free-oscillation seismology. Topics include continuum mechanics, equations of motion, linearization, perturbation theory, elasticity & anelasticity, rotation & ellipticity, spheroidal & toroidal modes of the Earth, mode splitting, and multiplet coupling.
Note: Expected to be given in 2014–15.
Prerequisite: Applied Mathematics 202 or equivalent, or permission of instructor; EPS 204.

[Earth and Planetary Sciences 265r. Topics in Geodynamics]
Catalog Number: 0816
Richard J. O'Connell
Half course (fall term). W., F., 2:30–4. EXAM GROUP: 7, 8
Topics in the dynamics of processes and properties in the Earth's interior, including: thermal convection and flow in the mantle, rheology of the mantle, plate motions, plate deformation, physical properties of rocks and minerals.
Note: Expected to be given in 2014–15. Given in alternate years.

[Earth and Planetary Sciences 266r. Computational Tools in Seismology]
Catalog Number: 25351
Miaki Ishii
Half course (spring term). Hours to be arranged.
Seminar course that investigates computational tools that are readily available. Students will select one to two techniques (e.g., receiver functions and focal mechanism determination), present the basis, current research using the technique(s), and lead the class through installation and application of the method.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: EPS 204 or equivalent and computer programming experience; or permission of instructor.

***Earth and Planetary Sciences 269r. Topics in Crustal Dynamics**
Catalog Number: 8157
Brendan J. Meade and John H. Shaw
Half course (spring term). Hours to be arranged.
Research seminar on current problems of tectonics, faulting, and earthquake occurrence at the Pacific-North America plate boundary in California. Emphasis on the identification of extant problems that may be resolved with contemporary geologic, geophysical, and geodetic data analysis and process based modeling.
Note: Given in alternate years.

[Earth and Planetary Sciences 270r. Advanced Structural Interpretation Methods]
Catalog Number: 8230
John H. Shaw
Half course (fall term). Hours to be arranged.
Methods of interpreting complex geologic structures imaged in 2- and 3-dimensional seismic reflection data. Methods of integrated geologic and remote sensing data will be described. Students will complete independent projects analyzing seismic data on workstations.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: EPS 171 or equivalent.

[Earth and Planetary Sciences 272r. Topics in Structural Geology]
Catalog Number: 1546
John H. Shaw
Half course (spring term). Hours to be arranged.
Seminar course investigating recent advances in structural geology and exploration geophysics

with applications in earthquake science and the petroleum industry. Specific topics vary from year to year.
Note: Expected to be given in 2014–15. Given in alternate years.
Prerequisite: EPS 171 or equivalent. Intended for graduate and advanced undergraduate students involved in structural geology research.

***Earth and Planetary Sciences 274r. Field Geology**
Catalog Number: 74831 Enrollment: Limited.
Francis Alexander Macdonald
Half course (fall term; repeated spring term). Hours to be arranged.
Attend an advanced domestic or overseas geological field course of 3-6 weeks duration to learn methods of obtaining, synthesizing, and interpreting field observations.
Note: Field programs are selected individually by students with the advice and approval of the instructor. An upper-level field course at another university can be substituted with approval of the instructor. Students must notify the instructor and Academic Administrator of intention to enroll by Study Card Day of the preceding term. In alternate years, the EPS Department offers a field-based course in the Mojave Desert during January winter session continuing throughout the spring term.

[Earth and Planetary Sciences 281r. Great Papers in Earth Sciences]
Catalog Number: 2474
Eli Tziperman
Half course (spring term). W., 3–5.
A survey and discussion of groundbreaking papers from across the Earth sciences.
Note: Expected to be given in 2014–15. Given in alternate years.

[Earth and Planetary Sciences 282r. Topics in Stratigraphy and Earth History]
Catalog Number: 60506
Francis Alexander Macdonald
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Readings and discussions on current problems in stratigraphy and Earth history. Students will read and present journal articles on relevant topics, and will rotate responsibility for leading discussions.
Note: Expected to be given in 2014–15.

***Earth and Planetary Sciences 286r. Current Topics in Biogeochemistry I: Biological and Inorganic Stable Isotope Systematics**
Catalog Number: 38407
David T. Johnston and Ann Pearson
Half course (fall term). Th., 8–11.
This is a reading class aimed at touring the literature on light stable isotope systematics. Topics covered will range from classic applications in geology (diagenetic and high temperature exchange), through to more novel isotope systems (clumping, 17O, etc.) and applications in biological systems (for instance, those effects associated with RuBiSCo). Topics covered will also flex with the interest of the enrolled students.

Note: Given in alternate years.
Prerequisite: EPS 186 and 187/137 or equivalent; or permission of instructor.

[*Earth and Planetary Sciences 287. Current Topics in Biogeochemistry II: Role of the biological pump in the carbon cycle]
Catalog Number: 9320
Ann Pearson and David T. Johnston
Half course (spring term). Hours to be arranged.
An intensive reading course that will compare modern oceanographic approaches to the biological pump with concepts of the size and function of the biological pump over geologic time. We will review the carbon cycle; carbon, nitrogen, and oxygen isotope proxies; and will stress simple calculations and limited box models. This will be a seminar class focused on discussion rather than lecture. Assessment will be based on participation, several short problem sets, and a term paper.
Note: Expected to be given in 2014–15. Meets once a week for three hours. Given in alternate years.
Prerequisite: EPS 186 and 187/137 or equivalent; or permission of instructor.

[Earth and Planetary Sciences 290. Scientific Communication]
Catalog Number: 6610
Sarah Stewart-Mukhopadhyay
Half course (fall term). Hours to be arranged.
Teaches students how to effectively, communicate scientific concepts focusing on short oral presentations based on current journal articles drawn from Earth and Planetary Sciences. Technical presentation skills (planning, delivery, managing nervousness, etc.) developed through weekly practice and detailed feedback.
Note: Expected to be given in 2014–15. Recommended for EPS graduate students in their 1st or 2nd year. Topics include: differences between written and oral communication; structure and organization of short vs. long and general vs. technical talks; and effective use of visualizations including poster presentations.

Cross-listed courses

Engineering Sciences 220. Fluid Dynamics
Engineering Sciences 240. Solid Mechanics
[Engineering Sciences 241. Advanced Elasticity]
[Engineering Sciences 267. Aerosol Science and Technology]

Graduate Courses of Reading and Research

***Earth and Planetary Sciences 320. Topics in Planetary Sciences**
Catalog Number: 6050
Sarah Stewart-Mukhopadhyay 4637 (on leave fall term)

***Earth and Planetary Sciences 330. Climate Atmospheric Chemistry and Free Radical Kinetics**



Catalog Number: 3810
James G. Anderson 6057

***Earth and Planetary Sciences 331. Atmospheric Chemistry**
Catalog Number: 4038
Daniel J. Jacob 1781

***Earth and Planetary Sciences 332. Dynamic Meteorology**
Catalog Number: 2802
Brian F. Farrell 7628

***Earth and Planetary Sciences 333. Environmental Chemistry**
Catalog Number: 4927
Scot T. Martin 3365 (on leave 2013-14)

***Earth and Planetary Sciences 334. Atmospheric Physics and Chemistry**
Catalog Number: 4886
Michael B. McElroy 2462

***Earth and Planetary Sciences 335. Climate Dynamics and Physical Oceanography**
Catalog Number: 3095
Eli Tziperman 4748

***Earth and Planetary Sciences 336. Geophysical Fluid Dynamics**
Catalog Number: 8851
Eli Tziperman 4748

***Earth and Planetary Sciences 337. Biological Oceanography**
Catalog Number: 5704
James J. McCarthy 4343

***Earth and Planetary Sciences 338. Atmospheric Chemistry**
Catalog Number: 7596
Steven C. Wofsy 4396 (on leave spring term)

***Earth and Planetary Sciences 339. Biogeochemistry**
Catalog Number: 9843
Ann Pearson 4224 (on leave spring term)

***Earth and Planetary Sciences 340. Topics in Isotope Geochemistry: Research Seminar**
Catalog Number: 2881
Stein B. Jacobsen 7212

***Earth and Planetary Sciences 341. Isotope Geochemistry**
Catalog Number: 7103
Stein B. Jacobsen 7212

***Earth and Planetary Sciences 342. Topics in Atmospheric and Climate Dynamics**
Catalog Number: 1732
Zhiming Kuang 5285

***Earth and Planetary Sciences 343. Topics in Quantitative Analysis of the Climate Record**
Catalog Number: 2979
Peter John Huybers 5746

***Earth and Planetary Sciences 344. Topics in Stable Isotope Geochemistry and Geochemical Oceanography**
Catalog Number: 6291
Daniel P. Schrag 3054

***Earth and Planetary Sciences 345. Solid Earth Geochemistry**
Catalog Number: 7979
Charles H. Langmuir 4293

***Earth and Planetary Sciences 346. Topics in Noble Gas Geochemistry**
Catalog Number: 2928
Sujoy Mukhopadhyay 4621

***Earth and Planetary Sciences 362. Dynamo Theory: Research Seminar**
Catalog Number: 1840
Jeremy Bloxham 2047

***Earth and Planetary Sciences 363. Mechanics of Earth and Environmental Processes**
Catalog Number: 8664
James R. Rice 7270

***Earth and Planetary Sciences 364. Geophysics**
Catalog Number: 1438
Jeremy Bloxham 2047

***Earth and Planetary Sciences 365. Geophysics**
Catalog Number: 5632
Richard J. O'Connell 3642

***Earth and Planetary Sciences 367. Global Geodynamics**
Catalog Number: 4447
Jerry X. Mitrovica 6696

***Earth and Planetary Sciences 368. Seismology**
Catalog Number: 4932
Miaki Ishii 5493

***Earth and Planetary Sciences 369. Topics in Active Tectonics**
Catalog Number: 5904
Brendan J. Meade 5340

***Earth and Planetary Sciences 370. Structural Analysis**
Catalog Number: 9046
John H. Shaw 3699

***Earth and Planetary Sciences 380. Topics in Geology and Earth History**
Catalog Number: 1161
Francis Alexander Macdonald 6283

***Earth and Planetary Sciences 381. Topics in Stable Isotope Geobiology and Earth History**
Catalog Number: 22177
David T. Johnston 6278

***Earth and Planetary Sciences 387. Paleobotany**
Catalog Number: 6983
Andrew H. Knoll 7425 (on leave fall term)

East Asian Languages and Civilizations

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of East Asian Languages and Civilizations

Shigehisa Kuriyama, Reischauer Institute Professor of Cultural History *(Chair)*
Ryuichi Abe, Reischauer Institute Professor of Japanese Religions
Peter K. Bol, Charles H. Carswell Professor of East Asian Languages and Civilizations *(on leave spring term)*
Ryan Marshall Cook, Lecturer on East Asian Languages and Civilizations
Edwin A. Cranston, Professor of Japanese Literature *(on leave spring term)*
Lianbin Dai, College Fellow in the Department of East Asian Languages and Civilizations
Mark P. Dallas, Visiting Assistant Professor of East Asian Languages and Civilizations
Xiaonan Deng, Visiting Professor of East Asian Languages and Civilizations
Nara Dillon, Lecturer on East Asian Languages and Civilizations
Carter J. Eckert, Yoon Se Young Professor of Korean History
Mark C. Elliott, Mark Schwartz Professor of Chinese and Inner Asian History
Matthew Fraleigh, Visiting Associate Professor of East Asian Languages and Civilizations
Binnan Gao, Preceptor in East Asian Languages and Civilizations

Andrew Gordon, Lee and Juliet Folger Fund Professor of History
Helen Hardacre, Reischauer Institute Professor of Japanese Religions and Society
David Howell, Professor of Japanese History
Haibo Hu, Preceptor in East Asian Languages and Civilizations
Hui-Yen Huang, Senior Preceptor in Chinese
Wesley M. Jacobsen, Professor of the Practice of the Japanese Language and Director of the Japanese Language Program
Hee-Jeong Jeong, Preceptor in Korean
Heeyeong Jung, Preceptor in Korean
Yuko Kageyama-Hunt, Senior Preceptor in Japanese
Miki Kaneda, Lecturer on East Asian Languages and Civilizations
Sun Joo Kim, Harvard-Yenching Professor of Korean History
Jie Li, Assistant Professor of East Asian Languages and Civilizations
Wai-yee Li, Professor of Chinese Literature *(Director of Graduate Studies)*
Jennifer Li-Chia Liu, Senior Lecturer on Chinese Language and Director of the Chinese Language Program *(on leave fall term)*
Wei Liu, Preceptor in Chinese
Yasuko Matsumoto, Preceptor in Japanese
Satomi Matsumura, Senior Preceptor in Japanese *(on leave fall term)*
David McCann, Korea Foundation Professor of Korean Literature *(on leave spring term)*
Melissa M. McCormick, Professor of Japanese Art and Culture
Binh Ngo, Senior Preceptor in Vietnamese and Director of the Vietnamese Language Program
Sang-suk Oh, Senior Preceptor in Korean and Director of the Korean Language Program
Mareike Ohlberg, Lecturer on East Asian Languages and Civilizations
Stephen Owen, James Bryant Conant University Professor
Michael J. Puett, Walter C. Klein Professor of Chinese History
James Robson, Professor of East Asian Languages and Civilizations *(Director of Undergraduate Studies)*
Kevin C. Schoenberger, Lecturer on East Asian Languages and Civilizations
Mi-Ryong Shim, Lecturer on East Asian Languages and Civilizations
Ikue Shingu, Preceptor in Japanese
Hongyun Sun, Preceptor in Chinese *(on leave spring term)*
Michael A. Szonyi, Professor of Chinese History *(on leave 2013-14)*
Xiaofei Tian, Professor of Chinese Literature
Leonard W. J. van der Kuijp, Professor of Tibetan and Himalayan Studies
David Der-Wei Wang, Edward C. Henderson Professor of Chinese Literature
Xuedong Wang, Preceptor in Chinese
Miki Yagi, Preceptor in Japanese
Lei Yan, Preceptor in Chinese
Tomiko Yoda, Takashima Professor of Japanese Humanities *(on leave 2013-14)*
Alexander Nikolas Zahlten, Assistant Professor of East Asian Languages and Civilizations
Chen Zhang, Preceptor in East Asian Languages and Civilizations
Xin-Yi Zhang, Preceptor in Chinese

Other Faculty Offering Instruction in East Asian Languages and Civilizations

Janet Gyatso, Hershey Professor of Buddhist Studies *(Divinity School)*
Wilt L. Idema, Professor of Chinese Literature, Emeritus
Yukio Lippit, Professor of History of Art and Architecture
Susan J. Pharr, Edwin O. Reischauer Professor of Japanese Politics

Affiliates of the Department of East Asian Languages and Literatures

Karen Thornber, Professor of Comparative Literature

Committee for the Social Science Program in East Asian Studies of the Department of East Asian Languages and Civilizations

Courses listed under the Department of East Asian Languages and Civilizations begin with department tutorials and then are grouped by area: China, Japan, Korea, Manchu, Mongolia, Tibet, and Vietnam. Each area is divided into language, history, and literature courses, then "Graduate Courses of Reading and Research," and concludes with cross-listings from other departments. Please note that courses under each heading are categorized as either "For Undergraduates and Graduates" or "Primarily for Graduates."

The concentration draws upon faculty working on East Asian topics from the Department of East Asian Languages and Civilizations and from other departments. It offers both a humanities track, in which the history, literature, philosophy, and religion of premodern and modern times are studied, and a social science track, stressing approaches to modern East Asia drawn from the social science disciplines.

Courses in the Language Programs are designed to be taken in sequence and cannot be taken out of order. There are no auditors permitted in the Language Programs and language courses must be taken for a grade. Independent study in languages will only be offered after completion of all courses in the sequence, and with permission of the Director of that language. Placement and admission to a course is at the discretion of the Director of the Program.

East Asian Studies

Primarily for Undergraduates

East Asian Studies 90r. East Asian Language Tutorials
Catalog Number: 74997
James Robson and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Independent reading and research in an East Asian language.

***East Asian Studies 91r. Supervised Reading and Research**
Catalog Number: 0961
James Robson and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Independent reading and research in East Asian Studies.

Note: Open to students who have given evidence of ability to do independent reading and research. May be taken on an individual basis or by small groups of students interested in working on the same topic. Permission of the Director of Undergraduate Studies required.

East Asian Studies 97ab. Introduction to the Study of East Asia: Issues and Methods
Catalog Number: 2337
James Robson and members of the Department
Half course (spring term). Tu., Th., at 12.
This interdisciplinary and team-taught course provides an introduction to several of the approaches and methods through which the societies and cultures of East Asia can be studied at Harvard, including history, philosophy, literary studies, political science, film studies, anthropology and gender studies. We consider both commonalities and differences across the region, and explore how larger processes of imperialism, modernization, and globalization have shaped contemporary East Asian societies and their future trajectories.
Note: Required of sophomore concentrators and secondary field candidates. Open to freshmen. EAS 97ab may not be taken Pass/Fail.

[East Asian Studies 98a. Tutorial--Junior Year: State-Society Relations in Modern China]
Catalog Number: 0964
Elizabeth J. Perry
Half course (spring term). Hours to be arranged.
Junior Tutorial for students in the China Social Science track.
Note: Expected to be given in 2014–15. EAS 98a, 98b, 98d, 98g or a substitution approved by the Director of Undergraduate Studies is required for all EAS concentrators. Preference to EAS concentrators but open to Government concentrators.

East Asian Studies 98b. Junior Tutorial--Japan and the World
Catalog Number: 8288
Susan J. Pharr
Half course (fall term). Tu., 3-5 with an additional hour to be arranged. EXAM GROUP: 17, 18
Junior Tutorial option for EAS. Open to Government and other concentrators. For students with an interest in the society, economy, politics, and popular culture of contemporary Japan and its place in the world.
Note: EAS 98a, 98b, 98d, 98g or a substitution approved by the Director of Undergraduate Studies is required for all EAS concentrators.

East Asian Studies 98d. Junior Tutorial--The Political Economy of Modern China
Catalog Number: 4800
Nara Dillon
Half course (fall term). W., 1–3.
Junior Tutorial for students with an interest in China Social Sciences. After an introduction to the historical context of China's development, this course will focus on the political economy of reform in the post-Mao period. Some of the topics covered include democracy, the 1989 Tiananmen protests, the rise of entrepreneurs, the role of labor, rural-urban migration, and the Internet.
Note: EAS 98a, 98b, 98d, 98g or a substitution approved by the Director of Undergraduate

Studies is required for all EAS concentrators. Preference to EAS students but open to Government concentrators.

[East Asian Studies 98f. Junior Tutorial —The Study of East Asian Religions]
Catalog Number: 94577
James Robson
Half course (fall term). Tu., at 2.
This tutorial is designed to deepen and extend the student's knowledge of the study of East Asian religions. It will build on the student's foundational understanding of the development and history of Buddhism, Daosim, Confucianism, Shinto, and various forms of popular religion, by situating that material in the context of larger issues in the study of East Asian religions. The overarching concern within this tutorial will be on reading and discussing methodologically oriented scholarship that will introduce the student to new and intellectually engaging approaches to the various traditions covered.
Note: Expected to be given in 2014–15. EAS 98a, 98b, 98d, 98g or a substitution approved by the Director of Undergraduate Studies is required for all EAS concentrators
Prerequisite: Culture and Belief 33: Introduction to the Study of East Asian Religions. If students have not previously taken this course, they are required to attend those lectures concurrently with this tutorial.

[East Asian Studies 98h. Junior Tutorial--Modern Korea History Reading and Research]
Catalog Number: 29637
Carter J. Eckert
Half course (spring term). Th., 2–4.
Readings of various materials related to the history of modern Korea, in conjunction with the research and writing of a term paper using primary and secondary sources. Readings for fall 2012 will center on contemporary history after 1945.
Note: Expected to be given in 2014–15. Note: EAS 98a, 98b, 98d, 98g, 98h or a substitution approved by the Director of Undergraduate Studies is required for all EAS concentrators.
Prerequisite: Societies of the World 27: The Two Koreas, or equivalent.

***East Asian Studies 99. Tutorial — Senior Year**
Catalog Number: 0384
James Robson and members of the Department
Full course. Hours to be arranged.
Thesis guidance under faculty direction.
Note: All students writing an EAS or joint EAS thesis will attend a research and writing workshop that meets twice each term.

Cross-listed Courses

[Aesthetic and Interpretive Understanding 44. Arts of Asia]
[Culture and Belief 11. Medicine and the Body in East Asia and in Europe]
Culture and Belief 25. Studying Buddhism, Across Place and Time
Culture and Belief 33. Introduction to the Study of East Asian Religions

[Ethical Reasoning 29. Social Theory, the Humanities, and Philosophy Now]
Societies of the World 22. Asia in the Making of the Modern World

For Undergraduates and Graduates

East Asian Studies 107. Integrating China: Regions, Industries and Internationalization - *(New Course)*
Catalog Number: 84284 Enrollment: Limited to 12.
Mark P. Dallas
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
The course concerns the political economy of China, in particular the political and social transformations of industrialization and international integration in the late 20th century. While the primary focus is China, the course also examines China within the broader East Asian region and incorporates contemporary history, political economy, and geography as interpretative lens.

[East Asian Studies 121. Global Cities in East Asia]
Catalog Number: 43797
Nara Dillon
Half course (spring term). Tu., 2–4.
This course examines urbanization and globalization in East Asia, focusing first on the development of Tokyo as a global city, then turning to the socialist cities of contemporary China, before concluding with an examination of uneven development in Southeast Asian cities. In each section of the course, we will examine how urbanization and globalization affect major social groups (in particular, entrepreneurs and women) who have both propelled and been marginalized by these processes.
Note: Expected to be given in 2014–15.

East Asian Studies 128. Ideology in Contemporary Chinese Politics - *(New Course)*
Catalog Number: 88064
Mareike Ohlberg
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
The primary focus of this course is on understanding the complex and extremely flexible ideological system in contemporary China that is primarily constituted of Marxist dogmas but has integrated and continues to integrate Neo-liberal, Neo-authoritarian, Confucian, nationalist and various other elements from different schools of thought.

[East Asian Studies 129. The World of the Three Kingdoms: Seminar]
Catalog Number: 20018
Xiaofei Tian
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
This course explores the appeal of the "Three Kingdoms," a dangerous and violent time, and examines the nostalgic construction of the world of the Three Kingdoms from medieval times through contemporary period, in the forms of fiction, poetry, plays, movies, TV series, video games, MVs and fan fiction. Using the concept of "nostalgia" as a point of entry, this class offers an account of the nuances in the phenomenon and sentiments of nostalgia about the Three Kingdoms in different periods throughout Chinese history, with emphasis on nostalgia as a

historical emotion and a modern global condition.
Note: Expected to be given in 2014–15. Intended for undergraduate and graduate students. All readings in English (students may opt to read in Chinese). No specific background in Chinese or East Asian Studies required.

East Asian Studies 130. The Tang - *(New Course)*
Catalog Number: 88747
Stephen Owen
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
The Tang was not only one of the largest and culturally cosmopolitan periods in Chinese history, it played a pivotal role in the formation of a shared "East Asian" culture. By looking at the history, literature, social and religious thought, and visual culture of the Tang, we will address a series of questions about historical culture: what are the presumptions and strengths of different disciplines and is it possible to cross them to some unified understanding? To what degree is our knowledge shaped by what gets recorded and what materially survives? How much of our understanding of a period is shaped by subsequent ages?
Note: Discussions and readings in English
Prerequisite: All readings in English; no knowledge of Literary or Modern Chinese required.

East Asian Studies 140. Major Religious Texts of East Asia
Catalog Number: 0856
Ryuichi Abe
Half course (fall term). W., 2–4:30. EXAM GROUP: 7, 8, 9
This course aims at enabling students to read and analyze in depth major religious texts of East Asia, representing diverse traditions and genres. The course encourages students to take up their reading of texts not only as ways to acquire knowledge on Asian religious traditions, but as practice, labor, and play in which their ordinary way of understanding/experiencing the world and themselves will be challenged, reaffirmed, and renewed.

[*East Asian Studies 160. Writing Asian Poetry]
Catalog Number: 0327 Enrollment: Limited to 16.
David McCann
Half course (spring term). M., 1–3.
The Japanese haiku is well known, widely published, written about, a part of most school curricula in the United States. The Korean sijo is less known, but stands as a compelling contrast on its own terms and as a verse form in English. The workshop will be reading examples of haiku and sijo, translations as well as poems written and published in English, then writing and comparing the forms. Participants will assemble portfolios of their own original work, with commentary and notes. We will also identify potential magazine, online or other literary journals, prepare and submit selections.
Note: Expected to be given in 2014–15. No Asian language knowledge is required; all writing will be in English.

[East Asian Studies 191. Zen: History, Culture, and Critique]
Catalog Number: 39452
James Robson

Half course (spring term). Tu., Th., 10–11:30.
This course is an introduction to the religious history, philosophy and practices of Zen Buddhism. Zen is the Japanese pronunciation of the Chinese word *Chan*, which is itself a transcription of the Sanskrit word *dhyâna*, meaning meditation. While meditation is the backbone of the Zen tradition, we will see that Zen has a number of different faces and will examine the rich diversity of the Zen tradition as it developed in China, Korea, and Japan.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3012.

***East Asian Studies 195. Fighting Poverty in China: Welfare and Disaster Relief in Comparative Perspective**
Catalog Number: 78777 Enrollment: Limited to 15. Instructor's signature on study card required.
Nara Dillon
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
This course is a research seminar on the political economy of poverty and inequality in China. Because China has tried such a wide variety of methods to combat poverty, it provides a useful "laboratory" for analyzing different anti-poverty policies. After an introduction to theories of the welfare state and international humanitarian relief, students will examine disaster relief and the welfare state in China, with comparisons to Europe, North America, and other developing countries.

Cross-listed Courses

History of Science 180. Science, Technology, and Society in Modern East Asia

Primarily for Graduates

[East Asian Studies 220r. Medieval Japanese Picture Scrolls]
Catalog Number: 1685
Melissa M. McCormick
Half course (spring term). Tu., 1–3.
Examines the rich tradition of medieval Japanese picture scrolls (*emaki*). Provides training in the reading of scroll texts (*kotobagaki*), the analysis of paintings, and the examination of the production contexts of important scrolls from the 12th to the 16th century. Aims to make picture scrolls available as a primary source for graduate research in many different disciplines within Japanese studies.
Note: Expected to be given in 2014–15.

East Asian Buddhist Studies

Primarily for Graduates

[East Asian Buddhist Studies 240r. Japanese Buddhist Doctrine and Monastic Culture: Seminar]
Catalog Number: 3768
Ryuichi Abe
Half course (fall term). F., 10–12.

A graduate seminar aimed at improving students' ability to read and analyze scriptural sources in the context of textual, artistic, and other cultural productions centered around large monasteries in premodern Japan. Major theme for this semester: Buddhist cultural exchange between medieval Japan and China.
Note: Expected to be given in 2014–15.
Prerequisite: Classical Japanese and *Kambun* are required.

East Asian Buddhist Studies 241. Major Issues in the Study of East Asian Buddhism
Catalog Number: 57596
Ryuichi Abe and James Robson
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
A graduate seminar that critically examines major academic works in English on East Asian Buddhism. It is aimed at preparing EALC graduate students for their general examinations in the fields relevant to Buddhism.

[East Asian Buddhist Studies 245r. Ritual and Text in Japanese Buddhist Literature]
Catalog Number: 7113
Ryuichi Abe
Half course (spring term). Hours to be arranged.
Examines the way in which rituals are approached, described, and interpreted in primary Japanese Buddhist texts. Students will acquire skills allowing them to move freely in their reading of texts from diverse literary genres.
Note: Expected to be given in 2016–17.
Prerequisite: Classical Japanese and *Kambun*.

[East Asian Buddhist Studies 255. Readings on Chinese Religions: Recent Scholarship on Chinese Buddhism: Seminar]
Catalog Number: 24345
James Robson
Half course (fall term). W., 1–4.
This seminar aims to discuss significant new works in the field of Chinese Religions by focusing on the historical, doctrinal, and philosophical development of the Buddhist tradition in China.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3232.

[East Asian Buddhist Studies 256r (formerly East Asian Buddhist Studies 256). Chinese Buddhist Texts--Readings in Medieval Buddho-Daoist Documents: Seminar]
Catalog Number: 69666
Ryuichi Abe and James Robson
Half course (spring term). W., 1–4.
This seminar focuses on the careful textual study and translation of a variety of Chinese Buddho-Daoist texts through the medieval period.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3233.
Prerequisite: Reading knowledge of classical Chinese required.

Graduate Courses of Reading and Research

***East Asian Buddhist Studies 300. Reading and Research**
Catalog Number: 9811
Ryuichi Abe 4974, Janet Gyatso (Divinity School) 4243, and James Robson 6695

Cross-listed courses

Aesthetic and Interpretive Understanding 36. Buddhism and Japanese Culture

East Asian Film and Media Studies

For Undergraduates and Graduates

East Asian Film and Media Studies 110. Film and Popular Culture Flows Across East Asia
Catalog Number: 64089
Alexander Nikolas Zahlten
Half course (fall term). M., W., at 11. EXAM GROUP: 4
How does popular culture flow across East Asia? What are the consequences of this intense form of exchange in terms of politics, nation, and global media culture? This course maps the interaction of film, moving images and other forms of popular culture between Japan, Hong Kong and Korea. Topics include colonialism and its after effects, co-productions, fan cultures, recent attempts at national branding and the increasing significance of visual media such as animation, comic books, and video games.
Note: Students who have taken Freshman Seminar 34w are excluded from taking this course for credit.

East Asian Film and Media Studies 115. Sound and Image: The Politics and Practices of Experimental Arts in Japan after 1945 - *(New Course)*
Catalog Number: 87883
Miki Kaneda and Ryan Marshall Cook
Half course (fall term). Th., 1–4. EXAM GROUP: 15, 16, 17
In this course, we will investigate the activities of filmmakers, musicians, and artists through case studies that highlight the interplay of sound and image in experimental practices with a particular focus on music and film in the 1960s and 70s. We will also examine theories and methodologies of audio/visual performance and practice in the context of the changing postwar media environment. There will be a one-day field trip to The Museum of Modern Art in New York for this class. Participation in this field trip is highly recommended for course participants, but not a requirement. The exact date will be announced in early September.

East Asian Film and Media Studies 130. In Her Shadow: "Woman" in Modern Korean History, Literature, and Film - *(New Course)*
Catalog Number: 46306 Enrollment: Limited to 15.
Mi-Ryong Shim
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
This inter-disciplinary course explores major issues in modern Korean history through the reoccurring and shifting trope of "woman". We will consider some of the social, cultural, and historical phenomena of 20th and 21st century Korea where primary actors have been women. In

addition, we will examine how figures of women have been deployed in literary works and films to narrate diverse issues, such as possibilities of mass politics, colonial and national identities, and social anxieties over industrialization.
Note: All films and literature are subtitled or translated in English.

East Asian Film and Media Studies 150. Chinese Cinema - *(New Course)*
Catalog Number: 14983
Jie Li
Half course (spring term). M., 1–2:30, and an additional section to be arranged. Film screenings Wednesday, 7-9 pm. EXAM GROUP: 6, 7
Introduction to major works, genres, and waves of Chinese cinema from the silent era to the present, including films from Mainland China, Hong Kong, Taiwan, and the Chinese diaspora. We will discuss formal aesthetics, historical representation, and audience reception. Students are encouraged to collaborate on their own short films in response to works we watch in class.

Cross-listed Courses

Primarily for Graduates

[East Asian Film and Media Studies 200 (formerly East Asian Studies 200). The Uses and Meaning of the New Arts of Presentation]
Catalog Number: 6509 Enrollment: Limited to 16.
Shigehisa Kuriyama
Half course (fall term). M., 4–6.
Exploration of the new horizons of communication created by current media technology and their implications for the future of teaching and scholarship. The seminar will combine theoretical readings and reflection with practical, hands-on experiments using podcasts, media-intensive lectures, and iMovies for conveying academic research.
Note: Expected to be given in 2015–16.

[East Asian Film and Media Studies 201 (formerly East Asian Studies 215). Media Mix. Representations and Meaning Between Media in Japan: Seminar]
Catalog Number: 91266
Alexander Nikolas Zahlten
Half course (fall term). Th., 2–5 with film screenings on Monday evenings.
This course will explore different histories of the interconnection of media in Japan, from the early ties between theater, literature and cinema to the popularization of the media mix by the company Kadokawa and the current routes between manga, anime, light novels, films and games.
Note: Expected to be given in 2015–16.

[East Asian Film and Media Studies 202 (formerly East Asian Studies 216). Rip and Tear--The Body as Moving and Moved Image in Japanese Film: Seminar]
Catalog Number: 39744
Alexander Nikolas Zahlten
Half course (spring term). M., 2–5; and a weekly film screening W., 7–9. EXAM GROUP: 7, 8, 9

This course traces the role of the body as a discursive anchor in moving image culture in Japan. The focus will lie on the period after WW II, although the mapping of historical contexts will entail investigations into earlier histories as well.
Note: Expected to be given in 2015–16.

East Asian Film and Media Studies 204. Three Times + 1. Transitional Moments in Film and Media Culture in Japan: Seminar - *(New Course)*
Catalog Number: 80341
Alexander Nikolas Zahlten
Half course (fall term). Tu., 1–4. EXAM GROUP: 15, 16, 17
This seminar will focus on transitional moments in the history of film and media culture in Japan, all of them embedded in decisive socio-political shifts. It will explore the deep transformations manifesting around the years 1927, 1963, and 1995, with an additional focus on 1973.

East Asian Film and Media Studies 205. Sexuality, Gender, and Media Culture in Japan - *(New Course)*
Catalog Number: 85185
Alexander Nikolas Zahlten
Half course (spring term). Th., 1–4. EXAM GROUP: 15, 16, 17
The seminar will explore aspects of the history of sexuality and gender in media culture in Japan. With a non-exclusive focus on moving image media It will identify different modes of dealing with sexuality and gender rather than simply readings of their expression. Spanning a time frame from the 1920s to the 2000s, this will entail the interplay of different media platforms with sexuality and gender, ranging from film to TV, video, and video games.

East Asian Film and Media Studies 220. Topics in Chinese Film and Media Studies: Seminar - *(New Course)*
Catalog Number: 93879
Jie Li
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
This course addresses the question "What was/is cinema in China?" from shadow puppets to DV documentaries. Topics include cinema's arrival in China, silent film stars, sound film sing-alongs, wartime collaborations, mobile projection teams, revolutionary model operas, and Chinese cinema's transnational connections.

China: Language Courses

For Undergraduates and Graduates

Chinese Ba. Elementary Modern Chinese
Catalog Number: 4375
Hongyun Sun
Half course (fall term). Sections Tu., Th., 10, 11, 1, or 2, and three additional hours to be arranged. EXAM GROUP: 12
Non-intensive introduction to modern Chinese pronunciation, grammar, conversation, reading,

and writing.
Note: No auditors. May not be taken Pass/Fail.

Chinese Bb. Elementary Modern Chinese
Catalog Number: 8714
Hongyun Sun
Half course (spring term). Hours to be arranged. EXAM GROUP: 12
Continuation of Chinese Ba.
Note: No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese Ba or equivalent.

***Chinese Bx. Elementary Chinese for Advanced Beginners**
Catalog Number: 7066
Hui-Yen Huang
Half course (fall term). M., W., F., at 10 or 12; and two additional hours to be arranged. EXAM GROUP: 3
For students with significant listening and speaking background. Introductory Modern Chinese language course, with emphasis on reading and writing. Covers in one term the equivalent of Chinese Ba and Bb.
Note: No auditors. May not be taken Pass/Fail. Students must pass a test in listening and speaking to take the course.

Chinese 120a. Intermediate Modern Chinese
Catalog Number: 4283
Xuedong Wang
Half course (fall term). Sections Tu., Th., at 10, 12 or 2, and Drill M., W., F., at 10, 11, 12, or 2. EXAM GROUP: 12
Modern texts, conversation, reading, and composition.
Note: No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese Bb or equivalent.

Chinese 120b. Intermediate Modern Chinese
Catalog Number: 1702
Xuedong Wang
Half course (spring term). Sections Tu., Th., at 10, 12, or 2, and three additional hours to be arranged. EXAM GROUP: 12
Continuation of Chinese 120a.
Note: No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese 120a, or equivalent.

Chinese 123xb. Intermediate Modern Chinese for Advanced Beginners
Catalog Number: 7034
Hui-Yen Huang
Half course (spring term). Sections M., W., F. at 10 or 12, and two additional hours to be arranged. EXAM GROUP: 3
Continuation of Chinese Bx. Covers in one term the equivalent of Chinese 120a and 120b.

Note: No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese Bx, or instructor's permission.

Chinese 130a. Advanced Modern Chinese
Catalog Number: 6724
Haibo Hu
Half course (fall term). Sections Tu., Th., at 10, 11, or 1, and three additional hours to be arranged. EXAM GROUP: 12
A study of writings selected from modern Chinese literature, academic works and newspaper articles, aimed at enhancing and further developing the student's proficiency in modern Chinese language.
Note: Conducted in Chinese. No auditors. May not be taken Pass/Fail.
Prerequisite: Two years of modern Chinese.

Chinese 130b. Advanced Modern Chinese
Catalog Number: 2917
Haibo Hu
Half course (spring term). Sections T., Th., at 10, 11, or 1, and three additional hours to be arranged. EXAM GROUP: 12
Continuation of Chinese 130a.
Note: Conducted in Chinese. No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese 130a.

Chinese 130xa. Advanced Modern Chinese for Heritage Students
Catalog Number: 9097
Binnan Gao
Half course (fall term). Section I: M., W., F., at 10; Section II: M., W., F., at 12 and two additional hours to be arranged. EXAM GROUP: 3
Designed for heritage learners and covers the equivalent of Chinese 130a and other materials for reading and writing.
Note: No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese 120b, Chinese 123xb, Chinese 125ab, or with permission of instructor.

Chinese 130xb. Advanced Modern Chinese for Heritage Students
Catalog Number: 2437
Binnan Gao
Half course (spring term). Section I: M., W., F., at 10; Section II: M., W., F., at 12 and two additional hours to be arranged. EXAM GROUP: 3
Designed for heritage learners and covers the equivalent of Chinese 130b and other materials for reading and writing.
Note: No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese 130xa.

Chinese 140a. Advanced Readings in Modern Chinese
Catalog Number: 1945
Lei Yan

Half course (fall term). Sections M., W., F., at 10, or 2, and two additional hours to be arranged. EXAM GROUP: 3
Rapid reading of selections from books and articles.
Note: Conducted in Chinese. No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese 130b, Chinese 130xb

Chinese 140b. Advanced Readings in Modern Chinese
Catalog Number: 6844
Lei Yan
Half course (spring term). Sections: M., W., F., at 10, or 2, and two additional hours to be arranged. EXAM GROUP: 3
Continuation of Chinese 140a.
Note: No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese 140a.

***Chinese 142a. Advanced Conversational Chinese**
Catalog Number: 3900 Enrollment: Limited to 12.
Wei Liu
Half course (fall term). Tu., Th., 10–11:30; Th., at 2, Tu., 2–4.
Spoken Chinese for advanced students.
Note: No auditors. May not be taken Pass/Fail. No native speakers allowed. May not be used for citation.
Prerequisite: Chinese 130b, Chinese 130xb, or equivalent.

***Chinese 142b. Advanced Conversational Chinese**
Catalog Number: 1418 Enrollment: Limited to 12. per lecture section.
Xin-Yi Zhang
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Spoken Chinese for advanced students.
Note: No auditors. May not be taken Pass/Fail. No native speakers allowed. May not be used for citation.
Prerequisite: Chinese 140a, Chinese 142a, or equivalent.

***Chinese 150a. Formal Chinese Writing and Speaking**
Catalog Number: 5621 Enrollment: Limited to 20.
Xin-Yi Zhang
Half course (fall term). M., W., F., at 9, and two additional hours to be arranged. EXAM GROUP: 2
The purpose of this course is to enable students to acquire a comprehensive written grammar with sufficient formal vocabulary in modern Chinese. Formal patterns generated by combining single characters are used for the foundation of written grammar. This course also offers students authentic academic readings in order to improve their abilities in academic writing and formal speech. Students are required to write and present their essays in formal Chinese.
Note: No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese 140b or equivalent.

***Chinese 150b. Formal Chinese Writing and Speaking**
Catalog Number: 8111 Enrollment: Limited to 20.
Xin-Yi Zhang
Half course (spring term). M.,W.,F., at 9 and two additional hours to be arranged. EXAM GROUP: 2
Continuation of Chinese 150a.
Note: No auditors. May not be taken Pass/Fail.
Prerequisite: Chinese 150a.

***Chinese 163. Business Chinese**
Catalog Number: 6558 Enrollment: Limited to 25.
Wei Liu
Half course (fall term; repeated spring term). Fall: M., W., F., at 10 or 12 and two additional hours to be arranged; Spring: M., W., F., at 9 or 12 and two additional hours to be arranged. EXAM GROUP: Fall: 3; Spring: 2
Designed for students interested in international business or for students who intend to work or travel for business in Chinese-speaking communities (including China, Taiwan, Hong Kong, and Singapore), or for students who desire to improve their Chinese language proficiency. An introduction to business and economic climates, practices and customs of these communities. Students learn specialized business and economic vocabulary and the principles of business correspondence.
Note: Conducted in Chinese. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students.
Prerequisite: At least three years of modern Chinese or equivalent (with permission of instructor).

[Chinese 166r. Chinese in Humanities]
Catalog Number: 16522
Jennifer Li-Chia Liu and David Der-Wei Wang
Half course (spring term). M., W., at 1; Tu., Th., at 10. EXAM GROUP: 6
Advanced language practice associated with authentic academic texts in humanities disciplines (e.g., art, literature, religious studies). May be offered independently in Chinese, or linked with an English-language content course. In spring 2013, the topic of this course is "Masterpieces of Modern Chinese Literature."
Note: Expected to be given in 2013–14. All readings and discussions in Chinese. Counts toward Language Citation in Modern Chinese.
Prerequisite: Grade of B or better in Chinese 140b or equivalent proficiency.

[Chinese 168r. Chinese in Social Sciences]
Catalog Number: 59138
Jennifer Li-Chia Liu
Half course (fall term). M., W., at 10. EXAM GROUP: 3
Advanced language practice associated with authentic academic texts in social science disciplines (e.g., history, politics, sociology, economics). In Fall 2012 the topic of the course is "Society and Culture of Late Imperial China" and it mirrors the issues covered in Chinese History 113.

Note: Expected to be given in 2014–15. Students are required to attend the lectures of Chinese History 113. Most readings in Chinese. Discussions in Chinese. Counts toward Language Citation in Modern Chinese.
Prerequisite: Grade of B or better in Chinese 140b or equivalent proficiency.

[Chinese 187. Art and Violence in the Cultural Revolution]
Catalog Number: 1253
Xiaofei Tian
Half course (fall term). Th., 1–3.
Examines the cultural implications of the Cultural Revolution (1966-1976). We will examine how art was violent towards people and how violence was turned into an art. We will also consider the link between violence, trauma, memory and writing. Materials include memoir, fiction, essay, "revolutionary Peking Opera," and film.
Note: Expected to be given in 2014–15. Lectures and most readings in Chinese. Discussions in Chinese. Count toward Language Citation in Modern Chinese. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C or Foreign Cultures, but not both.
Prerequisite: Four years of Mandarin or equivalent (with permission of instructor).

Literary Chinese Courses

Chinese 106a. Introduction to Literary Chinese
Catalog Number: 1185
Chen Zhang
Half course (fall term). Tu., Th., 11:30-1. EXAM GROUP: 5, 13, 14
Basic grammar and the reading of simple historical narrative.
Note: An additional lecture slot may be added if enough students enroll, with times to be arranged.
Prerequisite: At least one year of modern Chinese, or familiarity with Chinese characters through knowledge of Japanese or Korean.

Chinese 106b. Introduction to Literary Chinese
Catalog Number: 3600
Chen Zhang
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Introduction to pre-Qin philosophical texts.
Note: An additional lecture slot may be added if enough students enroll, with times to be arranged.
Prerequisite: Chinese 106a or permission of instructor.

Chinese 107a. Intermediate Literary Chinese
Catalog Number: 3343
Chen Zhang
Half course (fall term). Tu., Th., 10-11:30, and an additional hour to be arranged. EXAM GROUP: 12, 13
A second-year course designed to prepare students for reading and research using materials

written in Literary Chinese. The focus in the fall semester will be prose from the Tang and Song dynasties.
Prerequisite: One year of literary Chinese (Chinese 106 or equivalent).

Chinese 107b. Intermediate Literary Chinese
Catalog Number: 6931
Chen Zhang
Half course (spring term). Tu., Th., 10-11:30, and an additional hour to be arranged. EXAM GROUP: 12, 13
A continuation of Chinese 107a, introducing more prose styles as well as poetry and lyric.
Prerequisite: Chinese 107a or equivalent.

Primarily for Graduates

Chinese Pedagogy

Chinese 280. Teaching Chinese as a Foreign/Second Languages - *(New Course)*
Catalog Number: 42612
Jennifer Li-Chia Liu
Half course (spring term). F., 10–12.
This course is designed to introduce students to the theory and practice of teaching Chinese as a foreign/second language. It seeks to help students gain an understanding of the current issues and research about Chinese language instruction in the US.

China: History Courses

For Undergraduates and Graduates

[Chinese History 113. Society and Culture of Late Imperial China]
Catalog Number: 8264
Michael A. Szonyi
Half course (fall term). Tu., Th., 10–11:30.
This course is a survey of the social and cultural history of China from the Song to the mid-Qing (roughly from 1000 to 1800). The main topics discussed include urbanization and commerce; gender; family and kinship; education and the examination system, and religion and ritual. The main goal of the course will be to explore the relationship between social and cultural changes and political and intellectual developments.
Note: Expected to be given in 2015–16.

Chinese History 115. Topics in Book History of Late Imperial China - *(New Course)*
Catalog Number: 37487
Lianbin Dai
Half course (fall term). Th., 1–3:30. EXAM GROUP: 15, 16, 17
The central question examined in this course is how to establish book history of late imperial China as a modern discipline before integrating or globalizing it into a framework of book history of the world. Topics include: book history as an interdisciplinary field, theories on book

history, China's tradition of book studies, China's bibliographic tradition, literary criticism and book history, socio-economic history of the book, history of reading, state and the book, the book and scholarship. Theoretical assumptions, approaches and materials for exploring those topics are to be highlighted. Students will be evaluated by two assignments and a final essay.

Chinese History 116. Culture and Society in Late Imperial China - *(New Course)*
Catalog Number: 26117
Lianbin Dai
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The central question examined in this course is what forces shaped continuity and discontinuity, both cultural and social, from the mid-eighth to the eighteenth centuries in China. What did a historical period inherit from the preceding one? And how did it distinguish itself from the earlier? The dynastic transition was not as decisive in the cultural and social (dis)continuity as might have been thought. Rather economy, society, and culture interacted with each other and developed largely independent from political powers. The students will be evaluated by a short essay and a final essay.

[Chinese History 185. The Historiography of the Middle Period]
Catalog Number: 41785
Peter K. Bol
Half course (spring term). W., 1–3.
The course this year will be devoted to creating modules for ChinaX, the new HarvardX course devoted to China's history and culture from antiquity to the present. In addition to acquiring a general knowledge of China's history, participants in the course will be actively involved in creating materials for the online course; including producing videos, creating structures for content development, choosing texts and images for online discussion and mark-up, and participating in debates and discussions that will be shown to a world-wide online audience. We hope to do these modules in both English and Chinese versions, but knowledge of Chinese language is not necessary to participate. As presently conceived the course will aim to produce fifteen modules covering topics from the 8th to the 18th century. Topics will include political and institutional history, poetry, novels and short stories, art, social and economic change, and international relations among others. It is possible that the scope will be extended forward and backward in time. This is not a lecture course. There is no final examination. Grades will be based on both a self-assessment and a review of contributions to the modules by peers and faculty.
Note: Expected to be given in 2016–17.

Cross-listed Courses

[Culture and Belief 26 (formerly Foreign Cultures 81). The Culture of Everyday Life in China]
Empirical and Mathematical Reasoning 21. Maps and Mapping
Ethical Reasoning 18 (formerly Moral Reasoning 78). Classical Chinese Ethical and Political Theory
Ethical Reasoning 20. Self, Serenity, and Vulnerability: West and East
***Freshman Seminar 46t. Rebels With a Cause: Tiananmen in History and Memory**

History 60c. The Nature of Modern China: Space, Science, and Environment - *(New Course)
[*History 76c. Major Themes in World History: Colonialism, Imperialism, and Post-Colonialism]
History 76g. Building the Modern Chinese Nation - *(New Course)
***History 1918 (formerly History 1618). Telling Lives in Asia: Conference Course**
Societies of the World 12 (formerly Historical Study A-13). China
[Societies of the World 37 (formerly Historical Study A-89). The Chinese Overseas]
Societies of the World 45 (formerly Chinese History 118). Beyond the Great Wall: China and the Nomadic Frontier

Primarily for Graduates

[Chinese History 200r. Computational Methods for Historical Analysis]
Catalog Number: 5606
Peter K. Bol
Half course (fall term). Hours to be arranged.
History takes place through the actions of people who live in time and space. Modern computational methods provide means of analyzing changes in patterns of behavior and thought among large numbers of people spread across many regions. This course introduces the use of GIS, relational databases, social network analysis, text-mining, and topic modeling for the analysis of geographic information, biographical data, and the content of texts. Separate labs will provide introductory instruction in various computational techniques.
Note: Expected to be given in 2014–15. Introductory meeting to be held Monday at 12 noon.

Chinese History 210. Late Imperial Chinese Elite Reading Practices and Knowledge Acquisition (the 16th - 18th Centuries): Seminar - *(New Course)*
Catalog Number: 83831
Lianbin Dai
Half course (spring term). F., 1–4. EXAM GROUP: 6, 7, 8
Close reading of the texts selected from Fang Yizhi's and his family's writings. Students are expected to write a research essay on a topic of their choosing.

[Chinese History 224. Introduction to T'ang and Sung Historical Sources]
Catalog Number: 0673
Peter K. Bol
Half course (fall term). M., 1–4.
Introduction to the reading and interpretation of sources useful in the study of T'ang and Sung history. Recent scholarship and methodological issues are also discussed.
Note: Expected to be given in 2015–16.
Prerequisite: One year of literary Chinese or equivalent.

Chinese History 225r. Topics in Song History: Seminar
Catalog Number: 90241
Xiaonan Deng
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8

Examines various topics in the political, institutional and intellectual history of Song China. Brief introductions on the Song bureaucratic institutions. Close reading of the texts selected from *Xu Weili* documents. The students will be evaluated by an open-book test and a final essay.
Prerequisite: Communicating ability in modern Chinese and knowledge of literary Chinese.

[Chinese History 228. Introduction to Neo-Confucianism]
Catalog Number: 2130
Peter K. Bol
Half course (fall term). M., 1-4.
Introduces major Neo-Confucian texts for close reading and analysis. Selections from the writings and records of spoken instruction by Zhou Dunyi, Zhang Zai, Cheng Yi, Cheng Hao, Zhu Xi, Liu Jiuyuan, and others.
Note: Expected to be given in 2015–16.

[Chinese History 229. Topics in Ming Intellectual History: Seminar]
Catalog Number: 23612
Peter K. Bol
Half course (spring term). M., 1–4.
Examines various topics in the intellectual and cultural history of Ming China.
Note: Expected to be given in 2015–16.
Prerequisite: Knowledge of literary Chinese

[Chinese History 232r. Topics in Han History: Seminar]
Catalog Number: 7542
Michael J. Puett
Half course (fall term). Hours to be arranged. EXAM GROUP: 17
Examines various topics in the history of the Han Dynasty.
Note: Expected to be given in 2014–15.

Chinese History 233. Sources of Early Chinese History
Catalog Number: 85192
Michael J. Puett
Half course (spring term). Hours to be arranged.
Chronological survey of recently-discovered paleographic texts and received materials from the late Shang through the early Warring States period, with discussion of problems of contextualization.

[Chinese History 234. The Historiography of Early Chinese History]
Catalog Number: 48777
Michael J. Puett
Half course (fall term). Hours to be arranged.
A study of major trends in the history of scholarship on early China. The main focus will be on 20th-century scholarship, but earlier developments will be introduced where relevant.
Note: Expected to be given in 2014–15.

Chinese History 235r. Topics in Warring States History: Seminar
Catalog Number: 1499
Michael J. Puett
Half course (fall term). Tu., 1–3:30. EXAM GROUP: 15, 16, 17
Close reading of texts from the Warring States period.

[Chinese History 253. Topics in Late Imperial History]
Catalog Number: 41366
Mark C. Elliott and Michael A. Szonyi
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
Review of historical scholarship on China from roughly 1500 to the early 20th century. This course is designed to aid in preparations for the general examinations and in developing a dissertation topic.
Note: Expected to be given in 2014–15.

[Chinese History 270a. Research Methods in Late Imperial Chinese History I: Seminar]
Catalog Number: 1863
Mark C. Elliott and Michael A. Szonyi
Half course (fall term). Th., 1–4.
Training in the use of a wide array of sources, methods, and reference tools for research in the history of late imperial China, focusing upon the reading and analysis of different types of Qing-era documents, official and unofficial. Students will write a research paper using documents provided in class. Reading knowledge of modern and literary Chinese required.
Note: Expected to be given in 2015–16. Open to qualified undergraduates with permission of instructor.
Prerequisite: Chinese 106b or equivalent in foundation literary Chinese.

Chinese History 270b (formerly Chinese History 264b). Research Methods in Late Imperial Chinese History II: Seminar
Catalog Number: 84929
Mark C. Elliott
Half course (fall term). Th., 1–4. EXAM GROUP: 15, 16, 17
Continued training in sources and methods for research in the history of late imperial China. Students will use original sources to write a research paper on a topic of their choosing.
Prerequisite: Chinese History 270a or consent of instructor.

Cross-listed Courses

[Anthropology 2092. Early China: Archaeology and Texts]
History 1602. China's Long 20th Century - *(New Course)*
***History 1976 (formerly History 2620). Visible and Invisible Hands in China: State and Economy since 1800: Conference Course**
***History 2300. Methods in Intellectual History: Proseminar**
History of Art and Architecture 281p. Visual Programs in Early Chinese Art - *(New Course)*

History of Art and Architecture 284. Visual Programs in Medieval Chinese Art - *(New Course)*

China: Literature Courses

For Undergraduates and Graduates

[Chinese Literature 114 (formerly Foreign Cultures 68). Authority and the Claims of the Individual in Chinese Literary Culture]
Catalog Number: 9028
Xiaofei Tian
Half course (spring term). M., W., at 11. EXAM GROUP: 4
Examines the role Chinese literary texts have played in articulating the place of the individual as part of, or against, the authority of community and state. Beginning with the celebrations of social integration in the early parts of the *Classic of Poetry* (early first millennium BC), we will follow the increasingly complex role literature came to play, both as a critic of authority and as establishing a domain of private life.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for either Foreign Cultures or Literature and Arts A, but not both.

[Chinese Literature 140. The Greatest Chinese Novel]
Catalog Number: 71999
Wai-yee Li
Half course (fall term). Tu., Th., 10–11:30.
The Story of the Stone (also known as The Dream of the Red Chamber) by Cao Xueqin (1715?-1763) is widely recognized as the masterpiece of Chinese fiction. It is also a portal to Chinese civilization. Encyclopedic in scope, this book both sums up Chinese culture and asks of it difficult questions. Its cult status also accounts for modern popular screen and television adaptations. Through a close examination of this text in conjunction with supplementary readings and visual materials, the seminar will explore a series of topics on Chinese culture, including foundational myths, philosophical and religious systems, the status of fiction, conceptions of art and the artist, ideas about love, desire and sexuality, gender roles, garden aesthetics, family and clan structure, and definitions of socio-political order.
Note: Expected to be given in 2015–16.

Cross-listed Courses

For related courses, see also *China: Language Courses* section.
Aesthetic and Interpretive Understanding 39. Reinventing Literary China: Old Tales Retold in Modern Times
Aesthetic and Interpretive Understanding 47. Forbidden Romance in Modern China
[Culture and Belief 40 (formerly Foreign Cultures 67). Popular Culture and Modern China]
Freshman Seminar 32q. Introduction to Traditional Asian Drama Texts - *(New Course)

Primarily for Graduates

[Chinese Literature 200. Research Methods in Pre-modern Chinese Literature--Proseminar]
Catalog Number: 2533
Stephen Owen
Half course (spring term). Th., 1–4.
An introduction to the use of Western and East Asian sources in literary research, including both print and digital media. In addition, one hour each week will be devoted to a basic text in literary theory.
Note: Expected to be given in 2014–15. Primarily for first- and second-year graduate students (MA or PhD).

[Chinese Literature 201a. History of Chinese Literature: Beginnings through Song]
Catalog Number: 0165
Xiaofei Tian
Half course (fall term). Tu., 1–4.
In-depth, scholarly introduction to history of Chinese literature and literary culture from antiquity through 1400. Also examines state of the field and considers issues for future research. Includes bibliography. Essential for generals preparation.
Note: Expected to be given in 2014–15.

Chinese Literature 223r. Keywords - *(New Course)*
Catalog Number: 22565
Wai-yee Li
Half course (spring term). Tu., 1–3:30. EXAM GROUP: 15, 16, 17
This course will examine the semantic range of keywords in early Chinese texts (up to Han) by considering their narrative and rhetorical possibilities. What kinds of arguments do they generate? What are the stories told to illustrate their meanings?

Chinese Literature 229r. Topics in Early Medieval Literature
Catalog Number: 6099
Xiaofei Tian
Half course (fall term; repeated spring term). Th., 1–4. EXAM GROUP: 15, 16, 17
Topic for fall term is poetry and poetics from the late Eastern Han through Sui. Spring term topic: The fall of the South in mid-sixth century and the subsequent displacement of many southerners to north China was a traumatic event for Southern Dynasties elite. We will discuss the writing of trauma, diaspora and nostalgia in this period with focus on the use of poetry as a medium of writing the history of self and state.

Chinese Literature 231. Late-Ming Literature and Culture
Catalog Number: 2770
Wai-yee Li
Half course (fall term). W., 1–4. EXAM GROUP: 6, 7, 8
Surveys writings from second half of sixteenth century until fall of Ming, including prose (including "informal essays"), poetry, drama, fiction. Examines late-Ming literary-aesthetic sensibility (and questions how such a category may be justified.)
Prerequisite: Reading knowledge of classical and pre-modern vernacular Chinese required.

Chinese Literature 245r. Topics in Sinophone Studies - Modern Chinese Fiction on the Periphery
Catalog Number: 0321
David Der-Wei Wang
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
Survey of modern Chinese fiction and narratology from Taiwan, Hong Kong, and the Chinese Diaspora: polemics of the canon, dialogues between national and regional imaginaries, and literary cultures in the Sinophone world.

[Chinese Literature 247. Chinese Lyricism and Modernity: Seminar]
Catalog Number: 8098
David Der-Wei Wang
Half course (fall term). M., 2–4.
Explores lyricism as an overlooked discourse in modern Chinese literature and culture. Looks into lyrical representations in poetic, narrative, and performative terms and re-defines the polemics of "the lyrical" in the making of Chinese modernities.
Note: Expected to be given in 2015–16.

[Chinese Literature 248. Modern Chinese Literature: Theory and Practice: Seminar]
Catalog Number: 9486
David Der-Wei Wang
Half course (fall term). M., 2–4.
Survey of the concepts, institutions, canons, debates, experiments, and actions that gave rise to, and continually redefined, modern Chinese literature. Equal attention given to theories drawn from Chinese and Western traditions.
Note: Expected to be given in 2014–15.

Chinese Literature 258. Encounters between Tradition and Modernity in Chinese Literature: Seminar - *(New Course)*
Catalog Number: 14688
Xiaofei Tian and David Der-Wei Wang
Half course (spring term). M., 1–4. EXAM GROUP: 6, 7, 8
In this course we will read a series of important Chinese texts from past to present and explore the complicated and nuanced ways in which modern literary culture responds to and negotiates with the classical tradition. Whether inheriting or disinheriting traditional resources, the present is intimately intertwined with the past, in its ingenious appropriations or impassioned negation.
Prerequisite: Reading proficiency in Literary Chinese is helpful but not required.

Chinese Literature 267r. Topics in Tang Literature: Seminar
Catalog Number: 8521
Stephen Owen
Half course (spring term). W., 1–4.
A survey of the three centuries of Tang literature, with special attention to critical issues arising in the study of Tang literature. The topic this term will be Tang stories.
Prerequisite: Two years of literary Chinese or equivalent.

Chinese Literature 268r. Topics in Song and Yuan Literature: Seminar
Catalog Number: 7143
Stephen Owen
Half course (fall term). M., 1–4. EXAM GROUP: 6, 7, 8
The topic this semester will be Northern Song prose and classical poetry.
Prerequisite: Two years of literary Chinese or equivalent.

Chinese Literature 280. Shanghai and Beijing: A Tale of Two Cities: Seminar - *(New Course)*
Catalog Number: 78971
Jie Li
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
This course aims to excavate the cultural and historical memories of China's two most important cities. We will discuss literary and cinematic representations, visual and material transformations of the cityscape, cities as sites of cultural production, and the lives of their inhabitants in modern times.

Cross-listed Courses

[Comparative Literature 277. Literature and Diaspora]
[History of Art and Architecture 280p. Voices in Chinese Painting]

Graduate Courses of Reading and Research

***Chinese 300. Reading and Research**
Catalog Number: 4849
Peter K. Bol 8014 (on leave spring term), Mark C. Elliott 3329, Wilt L. Idema 2511, Wai-yee Li 3357, Stephen Owen 7418, Michael J. Puett 1227, Michael A. Szonyi 4842 (on leave 2013-14), Xiaofei Tian 3746, and David Der-Wei Wang 5190

Japan: Language Courses

For Undergraduates and Graduates

Japanese Ba. Elementary Japanese
Catalog Number: 2014
Yuko Kageyama-Hunt
Half course (fall term). Sections M., W., F., at 9, 10, or 1, and two additional hours to be arranged for Tu. and Th. EXAM GROUP: 2
This course aims to develop a basic foundation in modern Japanese leading to proficiency in the four language skills of speaking, listening, reading and writing. Emphasis is placed on the use of these skills to communicate effectively in authentic contexts of daily life. Mastery of hiragana, katakana, and approximately 45 Kanji (Chinese characters).

Japanese Bb. Elementary Japanese
Catalog Number: 8728

Yuko Kageyama-Hunt
Half course (spring term). Sections M., W., F., at 9, 10, or 1, and two additional hours to be arranged for Tu. and Th. EXAM GROUP: 2
Continuation of Japanese Ba, with an approximately 135 additional Kanji.
Prerequisite: Japanese Ba or equivalent.

Japanese 106a. Classical Japanese
Catalog Number: 1492
Edwin A. Cranston
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
Introduction to classical grammar and texts.
Prerequisite: Japanese 130b.

[Japanese 106b. Kambun]
Catalog Number: 2602
Edwin A. Cranston
Half course (spring term). M., W., F., at 11.
Introduction to *Kambun*.
Note: Expected to be given in 2015–16.
Prerequisite: Japanese 106a or equivalent.

[Japanese 106c. Later Classical Japanese]
Catalog Number: 7307
Edwin A. Cranston
Half course (spring term). M., W., F., at 11.
Post-Heian writings in Classical Japanese.
Note: Expected to be given in 2014–15.
Prerequisite: Japanese 106a or equivalent.

Japanese 120a. Intermediate Japanese I
Catalog Number: 8152
Ikue Shingu
Half course (fall term). Sections M., T., W., Th., F., at 10 and 2. EXAM GROUP: 3, 12
Second-year intermediate level course aimed at consolidation of the basic grammatical patterns of Japanese and development of reading, writing, speaking, and listening skills to the level necessary for communication in everyday life in Japanese society. Introduction of approximately 150 Chinese characters beyond those introduced in Bb.
Prerequisite: Japanese Bb or equivalent.

Japanese 120b. Intermediate Japanese I
Catalog Number: 6433
Ikue Shingu
Half course (spring term). Sections M., T., W., Th., and F., at 10 or 2. EXAM GROUP: 3, 12
Continuation of Japanese 120a. Approximately 150 additional Chinese characters.



Japanese 130a. Intermediate Japanese II
Catalog Number: 4855
Miki Yagi
Half course (fall term). Sections M., T., W., Th., F., at 10, or 2 . EXAM GROUP: 3, 12
Third-year intermediate advanced course. Development of skills in reading authentic materials from contemporary Japanese media and fiction and in aural comprehension of contemporary television news and drama with decreased reliance on pedagogical aids. Development of speaking and writing skills to an increasingly sophisticated level. Introduction of approximately 200 additional Chinese characters beyond those introduced in 120b.
Prerequisite: Japanese 120b or equivalent.

Japanese 130b. Intermediate Japanese II
Catalog Number: 6904
Miki Yagi
Half course (spring term). M., through F., at 10, or 2. EXAM GROUP: 3, 12
Continuation of Japanese 130a. Approximately 200 additional Chinese characters.

Japanese 140a. Advanced Modern Japanese
Catalog Number: 3688
Yasuko Matsumoto
Half course (fall term). Sections: M. through F., at 10 or 1. EXAM GROUP: 3, 12
Readings of modern texts in both rapid and in-depth modes. Comprehension of media news and drama. Advanced conversation and composition on topics related to the preceding.
Prerequisite: Japanese 130b.

Japanese 140b. Advanced Modern Japanese
Catalog Number: 8551
Yasuko Matsumoto
Half course (spring term). Sections: M. through F., at 10 or 1. EXAM GROUP: 3, 12
Continuation of Japanese 140a.

Japanese 150a. Readings and Discussion in Japanese Social Sciences
Catalog Number: 4693
Yasuko Matsumoto
Half course (fall term). M.,W., F. at 9. EXAM GROUP: 2
Selected readings and discussion in Japanese primarily on contemporary topics in economics, sociology, political science, psychology, and cultural studies, with occasional readings from literature. Readings are supplemented by selections from audiovisual media on current social issues.
Note: Conducted in Japanese.
Prerequisite: Japanese 140b.

Japanese 150b. Readings and Discussion in Japanese Social Sciences
Catalog Number: 0984
Yasuko Matsumoto
Half course (spring term). M., W., F., at 9. EXAM GROUP: 2

Continuation of Japanese 150a.
Prerequisite: Japanese 150a.

Cross-listed Courses

[Linguistics 173. Linguistic Issues in Japanese]
[Linguistics 174. Tense and Aspect in Japanese]
Linguistics 176. History and Prehistory of the Japanese Language

Primarily for Graduates

Japanese 210a. Reading Scholarly Japanese for Students of Chinese and Korean
Catalog Number: 9182
Wesley M. Jacobsen
Half course (fall term). M., W., F., at 9. EXAM GROUP: 2
Development of skills in reading and translating academic genres of Japanese, with special attention to Japanese scholarship on Chinese and Korean studies. Introduction to old kana usage and classical forms commonly used in scholarly writing.
Prerequisite: Japanese 120b, and graduate standing in some field of Chinese or Korean studies.

Japanese 210b. Reading Scholarly Japanese for Students of Chinese and Korean
Catalog Number: 8918
Wesley M. Jacobsen
Half course (spring term). M., W., F., at 9. EXAM GROUP: 2
Continuation of Japanese 210a.
Note: Expected to be omitted in 2010–11.
Prerequisite: Japanese 210a.

Japan: History Courses

For Undergraduates and Graduates

[Japanese History 115. Religion and Society in Edo and Meiji Japan]
Catalog Number: 5756
Helen Hardacre
Half course (fall term). W., 1–3.
Examination of religion and society in Japan from 1600-1912, beginning with an era of state control over religious institutions and religious affiliations of the populace, followed by the demise of the Edo-period system and diversification of religious practice in context of rapid social change, modernization, and imperialism during the Meiji period. Separate section for students able to utilize primary sources in Japanese will explore the Maruzen Meiji Microfilm collection in the Harvard-Yenching Library.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 3957.
Prerequisite: General knowledge of Japanese history and religion is helpful.

[Japanese History 117. Japanese Folk Religion: Conference Course]
Catalog Number: 65798
Helen Hardacre
Half course (fall term). W., 1–3.
This conference course is an introduction to the study of Japanese folk religion, popular religious life carried on largely outside the frameworks of Buddhism, Shinto, and other religious institutions. The course aims to interrogate the idea of folk religion and its viability as a field of study within Japanese religions and within contemporary society. In its first half, the course examines the traditional rubrics and topics in the literature on Japanese folk religion. In the second half, the course turns to changes in folk religious life brought about through tourism and the appropriation of folk religious motifs by such contemporary media forms as animé and manga.
Note: Expected to be given in 2014–15.

Japanese History 120. Religion and Society in Twentieth-Century Japan
Catalog Number: 4903
Helen Hardacre
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
An examination of religion and society from the end of the Meiji period (1912) to the present. This course explores the meaning of the modern in Japanese religions, the development of the public sphere and religion's relations with it, religion and nationalism, and the interconnections of religion and social change with materialism, consumerism, pacifism, and spiritualism.
Note: Offered jointly with the Divinity School as 3958.
Prerequisite: General knowledge of Japanese history and religion is helpful. Enrollment in Japanese History 115 recommended but not required.

[Japanese History 126. Shinto: Conference Course]
Catalog Number: 3097
Helen Hardacre
Half course (spring term). W., 1–3.
An examination of Shinto, emphasizing its concepts of deity (*kami*), patterns of ritual and festival, shrines as religious and social institutions, political culture and interactions with party politics, and its contribution to contemporary youth culture.
Note: Expected to be given in 2015–16. General knowledge of Japanese history and religion is helpful. Japanese language is not required, but several meetings will be held for students able to use Japanese-language sources. Offered jointly with the Divinity School as 3960.

[Japanese History 130. The History of Curiosity and the Curiosities of Edo Japan]
Catalog Number: 4445 Enrollment: Limited to 30.
Shigehisa Kuriyama
Half course (spring term). Hours to be arranged.
This course probes the nature and history of curiosity by exploring the strangely, extravagantly, intensely curious culture that was Japan in the Edo period (1600-1868), and spotlighting its entwinement with outsiders who were intensely curious about it. The design of the course is unique: crafted as an intellectual adventure game, it presupposes no prior knowledge, but will require keen curiosity and a willingness to experiment with new technologies of learning. In

addition to students of Japanese culture, it should particularly interest those fascinated by global connections, early modern science, and the mystery of curiosity.
Note: Expected to be given in 2015–16.

Cross-listed Courses

Culture and Belief 57. Animated Spirituality: Japanese Religion in *Anime*, *Manga*, and Film - *(New Course)*
[*History 76a. Japanese Imperialism and the East Asian Modern]
History of Art and Architecture 18j. Introduction to Japanese Architecture - *(New Course)*
History of Art and Architecture 18k. Introduction to Japanese Art
Societies of the World 13 (formerly Historical Study A-14). Japan in Asia and the World
[Societies of the World 33 (formerly Foreign Cultures 84). Tokyo]
Societies of the World 43 (formerly Historical Study B-67). Japan's Samurai Revolution

Primarily for Graduates

Japanese History 240. Museum Research in Japanese Art: Seminar - *(New Course)*
Catalog Number: 74246
Melissa M. McCormick and Ryuichi Abe
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
Examines works in the Harvard Art Museums in art historical, literary, and religious context. The Spring 2014 seminar will focus on medieval Buddhist art and illustrated scrolls about the Shingon sect and its founder Kūkai.

Japanese History 256. The Ise Shrines: Seminar - *(New Course)*
Catalog Number: 27559
Helen Hardacre and Yukio Lippit
Half course (fall term). W., 4–6. EXAM GROUP: 9
This seminar examines Shikinen Sengu, the practice of rebuilding the Ise Grand Shrines every twenty years, addressing these shrines' history, architecture, religious practices, and related topics. Course readings will be in English and Japanese.
Note: Offered jointly with the Divinity School as 3227.

Japanese History 260r. Topics in Japanese Cultural History
Catalog Number: 4539
Shigehisa Kuriyama
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
In 2013-14, the course will focus on the interplay of pictures and texts in Edo Japan in a wide variety of genres, including natural history, shunga, popular literature, how-to manuals, and advertisements. In addition to training students in the cultural analysis of printed illustrations, the course will also help students develop facility in reading *hentaigana* materials.
Prerequisite: Advanced reading knowledge of Japanese with some acquaintance with (or at least concurrent study of) *bungo* and *kambun*.

Japanese History 270. Early Modern Japanese History: Proseminar
Catalog Number: 85593
David Howell
Half course (fall term). F., 1–4. EXAM GROUP: 6, 7, 8
This seminar surveys the recent English-language literature on the history of early modern Japan, roughly from the late sixteenth century to around 1875.

Japanese History 271r (formerly Japanese History 271). Research in Early Modern Japanese History: Seminar
Catalog Number: 49178
David Howell
Half course (spring term). Tu., 2–5. EXAM GROUP: 16, 17, 18
This seminar deals with the politics, society, and culture of Japan from the late sixteenth to the mid-nineteenth centuries. Readings will include primary and secondary sources in Japanese and English. Students will write a major research paper.

Cross-listed Courses

***History 2651. Japanese History: Seminar**
History 2653. Historiography of Modern Japan: Proseminar
History of Art and Architecture 288y. Tohaku on Painting - *(New Course)*

Japan: Literature Courses

For Undergraduates and Graduates

Japanese Literature 124. *The Tale of Genji* in Word and Image
Catalog Number: 2181
Melissa M. McCormick
Half course (spring term). W., 1–3.
Introduces students to *The Tale of Genji*, often called the world's first novel, authored by the court lady Murasaki Shikibu around the year 1000 CE. In addition to a close reading of the tale, topics for examination include Japanese court culture, women's writing, and the tale's afterlife in painting, prints, drama, manga, and film.

Japanese Literature 128a. The World of Classical Japanese Literature - *(New Course)*
Catalog Number: 91163
Matthew Fraleigh
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course will introduce students to some of the most artistically significant, historically influential and culturally celebrated works of Japanese literature from the classical period.

Japanese Literature 128b. The World of Early Modern Japanese Literature - *(New Course)*
Catalog Number: 18835
Matthew Fraleigh
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13

This class will survey some of the most celebrated works of literature from Japan's early modern period (1600-1868).

Japanese Literature 133. Gender and Japanese Art
Catalog Number: 2144
Melissa M. McCormick
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
Examines the role of gender in the production, reception, and interpretation of visual images in Japan from the twelfth through the twenty-first centuries. Topics include Buddhist conceptions of the feminine and Buddhist painting; sexual identity and illustrated narratives of gender reversals; the dynamics of voyeurism in Ukiyo-e woodblock prints; modernization of images of "modern girls" in the 1920s; and the gender dynamics of girl culture in manga and anime.

[Japanese Literature 162. Girl Culture, Media, and Japan]
Catalog Number: 27841
Tomiko Yoda
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
The course examines the ways in which girlhood and girl culture have figured in the construction of gender, nation, and popular medias in modern to contemporary Japan. We will study visual and textual mediums, including novels, magazines, films, manga, and animation, paying attention to principal transformations that have marked the history of modern girl culture in Japan. No prior knowledge of Japanese language or history is expected.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for either Foreign Cultures or Literature and Arts C, but not both.

Cross-listed Courses

[Aesthetic and Interpretive Understanding 53 (formerly Japanese Literature 161). Anime as Global Popular Culture]

Primarily for Graduates

Japanese Literature 230. Literature of Travel in Early Modern and Modern Japan - *(New Course)*
Catalog Number: 51966
Matthew Fraleigh
Half course (spring term). F., 1–4. EXAM GROUP: 6, 7, 8
This seminar closely examines a diverse range of Japanese travel literature from the seventeenth to the nineteenth century. The readings have been chosen to reflect the breadth and variety of Japanese travelogues from the period.

Japanese Literature 233r. Nara and Heian Court Literature: Seminar
Catalog Number: 8614
Edwin A. Cranston
Half course (fall term). W., 2–5. EXAM GROUP: 7, 8, 9

Topic: *Genji Monogatari.*
Prerequisite: Japanese 106a or equivalent.

Japanese Literature 240. Chinese Poetry in Early Modern Japan: Seminar - *(New Course)*
Catalog Number: 98242
Matthew Fraleigh
Half course (fall term). F., 1–4. EXAM GROUP: 6, 7, 8
This seminar focuses on Chinese poetic forms in Japanese literary history of the early modern period.

[Japanese Literature 270. Topics in Modern and Contemporary Japanese Fiction: Seminar]
Catalog Number: 10263
Tomiko Yoda
Half course (fall term). W., 2–4:30.
A seminar course on the history, theory, and practice of modern to contemporary Japanese fiction. The course will be organized around a specific theme, time period, a cluster of writers, critics, or genres.
Note: Expected to be given in 2014–15.

[Japanese Literature 271. Topics in Gender and Culture in Japan: Seminar]
Catalog Number: 76892
Tomiko Yoda
Half course (spring term). W., 2–4:30.
A seminar course that studies the constructions of gender and gender relations in Japan through the examination of various forms of expressive culture (visual, textual, sonic) in their historical contexts.
Note: Expected to be given in 2014–15.

Cross-listed Courses

[Comparative Literature 277. Literature and Diaspora]

Graduate Courses of Reading and Research

***Japanese 300. Reading and Research**
Catalog Number: 4627
Ryuichi Abe 4974, Edwin A. Cranston 1186 (on leave spring term), Andrew Gordon 1891, Helen Hardacre 3191, Wesley M. Jacobsen 3443, Shigehisa Kuriyama 5269, Satomi Matsumura 2665 (on leave fall term), Melissa M. McCormick 5331, and Tomiko Yoda 6301 (on leave 2013-14)

Korea: Language Courses

Primarily for Undergraduates

***Korean 91r. Supervised Reading and Research**
Catalog Number: 79216
Sang-suk Oh
Half course (fall term; repeated spring term). Hours to be arranged.
Independent reading and research in Korean Language.
Note: Open to students who have completed Korean 150b and given evidence of ability to do independent reading and research. May be taken on an individual basis or by small groups of students interested in working on the same topic.
Prerequisite: Korean 150b and permission of course head.

For Undergraduates and Graduates

Korean Ba. Elementary Korean
Catalog Number: 8739
Sang-suk Oh
Half course (fall term). M., W., F., at 11, and two additional hours to be arranged. EXAM GROUP: 4
Introduction to modern Korean: basic grammar, reading of simple texts, conversational skills, and writing short letters. After successful completion of this course, students are expected to be able to handle a limited number of interactive, task-oriented, and social situations and to have sufficient control of the writing system to interpret written language in areas of practical needs.

Korean Bb. Elementary Korean
Catalog Number: 8718
Sang-suk Oh
Half course (spring term). M., W., F., at 11, and two additional hours to be arranged. EXAM GROUP: 4
Continuation of Korean Ba.
Prerequisite: Korean Ba or equivalent.

Korean Bxa. Elementary Korean for Advanced Beginners
Catalog Number: 0120
Heeyeong Jung
Half course (fall term). M., W., F., at 10, and two additional hours to be arranged. EXAM GROUP: 3
Designed for students with some listening and speaking background, either from prior formal learning or previous exposure to a Korean speaking community. Introductory Korean course, with emphasis on reading and writing. After successful completion of this course, students are expected be able to understand main ideas and/or some facts from the simple connected texts dealing with basic personal and social needs and to be able to meet a number of practical writing needs.

Korean Bxb. Elementary Korean for Advanced Beginners
Catalog Number: 3031
Heeyeong Jung

Half course (spring term). M., W., at 10; Tu., Th., at 1. EXAM GROUP: 3
Continuation of Korean Bxa.

Korean 120a. Intermediate Korean
Catalog Number: 5884
Hee-Jeong Jeong
Half course (fall term). M., W., F., at 10, and two additional hours to be arranged. EXAM GROUP: 3
Continuation of elementary Korean to consolidate students' knowledge of the fundamental grammatical structures of Korean with an aim to increase their abilities to communicate using Korean in a wide range of daily-life transactional situations. After successful completion of second-year Korean, students are expected to handle most uncomplicated communicative tasks and social situations and read consistently with understanding of simple connected texts dealing with personal and social needs.
Prerequisite: Korean Bb or equivalent.

Korean 120b. Intermediate Korean
Catalog Number: 8590
Hee-Jeong Jeong
Half course (spring term). M. through F., at 9. EXAM GROUP: 2, 11
Continuation of Korean 120a.
Prerequisite: Korean 120a or equivalent.

Korean 130a. Pre-advanced Korean
Catalog Number: 2071
Heeyeong Jung
Half course (fall term). M., W., F., at 1 and Drill T., Th., 9, and a weekly section to be arranged.
Continuation of intermediate Korean, to consolidate the student's knowledge of the grammatical structures of Korean with an aim to increase their abilities to communicate using Korean in a wide range of familiar and everyday topics, current societal events, and factual and concrete topics relating to personal interests. After successful completion of third-year Korean, students are expected to be able to describe and narrate about concrete and factual topics of personal and general interest.
Prerequisite: Korean 120b or equivalent.

Korean 130b. Pre-advanced Korean
Catalog Number: 2662
Heeyeong Jung
Half course (spring term). M., W., at 1; Th., 3–5. EXAM GROUP: 6
Continuation of Korean 130a.
Prerequisite: Korean 130a or equivalent.

Korean 140a. Advanced Korean
Catalog Number: 5723
Hee-Jeong Jeong
Half course (fall term). Tu., Th., 2:30–4:30. EXAM GROUP: 16, 17

Development of skills in reading materials from contemporary Korean media and fiction and in aural comprehension of contemporary television news and drama with decreased reliance on pedagogical aids. After successful completion of fourth-year Korean, students should be able to satisfy the requirements of various everyday school, and work situations and follow essential points of written discourse which are abstract and linguistically complex, and also to write about a variety of topics in detail with precision.
Prerequisite: Korean 130b or equivalent.

Korean 140b. Advanced Korean
Catalog Number: 3011
Hee-Jeong Jeong
Half course (spring term). M., W., 12-2. EXAM GROUP: 5, 6
Continuation of Korean 140a.
Prerequisite: Korean 140a or equivalent.

Korean 150a. Readings in Cultural Studies
Catalog Number: 1936
Sang-suk Oh
Half course (fall term). W., 3-6 with two additional hours to be arranged. EXAM GROUP: 8, 9
Selected readings in contemporary Korean on topics in art, film, drama, and cultural studies, supplemented by selections from audio-visual media on traditional and current cultural events. After completion of Korean 150a and 150b, students are expected to be able to participate in most formal and informal conversations on practical, social, professional, and abstract topics and read with almost complete comprehension and at normal speed expository prose on unfamiliar subjects and a variety of literary texts.
Prerequisite: Korean 140b or equivalent.

Korean 150b. Readings in Cultural Studies
Catalog Number: 1282
Sang-suk Oh
Half course (spring term). W., 3–6, with one additional hour to be arranged. EXAM GROUP: 8, 9
Continuation of Korean 150a.
Prerequisite: Korean 140b or equivalent.

Korea: History Courses

For Undergraduates and Graduates

[Korean History 111. Traditional Korea]
Catalog Number: 3709
Sun Joo Kim
Half course (fall term). Tu., Th., 10–11:30.
Survey of the history of Korea, from earliest times to the 19th century. Examines various interpretive approaches and issues in the political, social, economic, intellectual, cultural, and

diplomatic history of premodern Korea.
Note: Expected to be given in 2015–16.

[Korean History 115. Korean History Through Film]
Catalog Number: 20477
Sun Joo Kim
Half course (spring term). M., 3–6. EXAM GROUP: 8, 9
This course is to examine history of premodern Korea through select Korea's contemporary feature films. Films and dramas with historical themes and personages have been very popular in Korea. We will examine the content of the films, and investigate how "true" or "false" they represent Korea's past, how they imagine and invent Korea's past, in what ways films are useful in better understanding Korean history, people's lives and practices.
Note: Expected to be given in 2014–15. A discussion section in the Korean language will be offered if enrollment is sufficient.

[Korean History 130. The Recurring Past--Early Korea and Northeast Asia as History and Identity]
Catalog Number: 40272
Mark Edward Byington
Half course (fall term). M., W., F., at 11.
With a focus on Korea's proto-historic and early historic periods, this course will explore the question of history as shaper of identity, looking at the ways the remote past surfaces repeatedly in modern context. We will examine international disputes over historical interpretation, the popularization of the ancient past in popular culture, and the politicization of history in both North and South Korea.
Note: Expected to be given in 2014–15.

Cross-listed Courses

Societies of the World 27 (formerly Historical Study A-75). The Two Koreas

Primarily for Graduates

Korean History 230r. Readings in Premodern Korean History
Catalog Number: 4497
Sun Joo Kim
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
A study of social, political, economic, and intellectual history of premodern Korea reviewing major scholarship in the field. Designed primarily for graduate students preparing for the general examination. All readings are in English.
Prerequisite: Korean History 111 or equivalent.

[Korean History 231ar. Documents and Research Methods for the Study of Premodern Korea I: Seminar]
Catalog Number: 56199
Sun Joo Kim

Half course (fall term). W., 1–3.
Introduction of the different types of primary sources and research methodologies useful for study of Chôson Korea. Students are required to write a research paper.
Note: Expected to be given in 2015–16.
Prerequisite: Korean History 111 or equivalent and reading proficiency in Korean. Reading ability in literary Chinese and Japanese helpful.

[Korean History 231b. Documents and Research Methods for the Study of Premodern Korea II: Seminar]
Catalog Number: 91032
Sun Joo Kim
Half course (spring term). W., 1–3.
Continued training in reading and interpreting primary sources and exploring innovative research methodologies. Students are required to write a research paper based on original sources on a topic of their choosing.
Note: Expected to be given in 2015–16.
Prerequisite: Korean History 231a or instructor's permission.

[Korean History 235r. Historical Research in Korea]
Catalog Number: 7886
Sun Joo Kim
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
Explores current historical research in the field of premodern Korea by reviewing major publications in the field in Korean.
Note: Expected to be given in 2014–15.
Prerequisite: Korean History 111 or equivalent and proficiency in Korean.

Korean History 240r. Selected Topics in Premodern Korean History: Seminar
Catalog Number: 9837
Sun Joo Kim
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
Reading and research of selected primary sources and secondary works on premodern Korean history.
Prerequisite: Korean History 111 or equivalent and reading proficiency in Korean. Reading ability in classical Chinese and Japanese helpful.

Korean History 253. Modern Korean History: Proseminar
Catalog Number: 0365
Carter J. Eckert
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
An introduction to some of the current issues in modern Korean history through selected readings. Designed for entering graduate students and undergraduates with a basic knowledge of modern Korean History (Societies of the World 27, "Two Koreas" or its equivalent).

[*Korean History 255r. Modern Korean History: Seminar]
Catalog Number: 0713

Carter J. Eckert
Full course (indivisible). Th., 2–4.
Readings and research in modern Korean history. Students are required to write a seminar paper based largely on primary materials
Note: Expected to be given in 2014–15.
Prerequisite: Korean History 253 or equivalent, and reading proficiency in Korean.

Korean History 260r. Readings in Modern Korean History I
Catalog Number: 5372
Carter J. Eckert
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
Explores the history of the field through an examination of major scholarship. Designed primarily for graduate students preparing for the general examination.

Korean History 261. Readings in Modern Korean History II
Catalog Number: 79753
Carter J. Eckert
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Continuation of Korean History 260. Designed primarily for graduate students preparing for the general examination.

[Korean History 270. Readings in Early Korean and Northeast Asian History: Seminar]
Catalog Number: 55379
Mark Edward Byington
Half course (spring term). Tu., 1–4.
This course involves close readings in various topics related to early Korean History, reinforcing the view of early Korea as an active component in a very dynamic East Asian cultural matrix.
Note: Expected to be given in 2014–15.
Prerequisite: Reading proficiency in classical Chinese and one of either Korean, Chinese or Japanese.

Korea: Literature Courses

For Undergraduates and Graduates

[Korean Literature 132. Korean Literature in Translation: Conference Course]
Catalog Number: 7838
David McCann
Half course (spring term). Tu., Th., 1–2:30, additional evening screenings to be arranged. EXAM GROUP: 15, 16
This course provides a comprehensive overview of Korean culture as it is represented in Korean fiction and poetry from pre-modern to contemporary period. It delves into the question of how Korea, as a society and nation, has responded to cultural transformations and changing conceptions of the land, the people, and the nation over time. The course highlights different genres of Korean literature from mythologies of Korea's birth, literary works in Japanese written under Colonial Korea, to contemporary pop culture and literature in films. The concepts of state,

gender, class, nostalgia, modernity, and revolutionary aesthetics will be at the forefront of our discussions.
Note: Expected to be given in 2014–15. This course will include an exam.
Prerequisite: All readings will be in English. No prior knowledge of Korea or the Korean language is required.

Cross-listed Courses

Aesthetic and Interpretive Understanding 35. Forms in Korean Cultural History

Primarily for Graduates

[Korean Literature 210r. Pre-Modern Korean Literature]
Catalog Number: 6342
David McCann
Half course (fall term). Th., 1–3.
Close reading in a number of literary forms, including the essay, histories, prose fiction, songs, poetry, and p'ansori.
Note: Expected to be given in 2014–15. Readings in English and Korean.
Prerequisite: Korean Literature 132 or equivalent.

Korean Literature 212. Modern Korean Poetry
Catalog Number: 5627
David McCann
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Major and minor voices in 20th and 21st-century Korean poetry. Attention to the practices of reading and translation, and to the political contexts of modern Korean poetry.
Note: Readings in English and Korean.
Prerequisite: Korean Literature 132 or equivalent.

Cross-listed Courses

[Comparative Literature 277. Literature and Diaspora]

Graduate Courses of Reading and Research

***Korean 300. Reading and Research**
Catalog Number: 8122
Carter J. Eckert 1178, Sun Joo Kim 3821, David McCann 3635 (on leave spring term), and Sang-suk Oh 3856

Manchu: Language Courses

For Undergraduates and Graduates

[Manchu A. Elementary Manchu]
Catalog Number: 8961
Mark C. Elliott
Half course (fall term). Tu., Th., 10–11:30.
Introduction to Manchu grammar with elementary readings in Manchu script.
Note: Expected to be given in 2014–15.

[Manchu B. Elementary Manchu]
Catalog Number: 1625
Mark C. Elliott
Half course (spring term). Tu., Th., 10–11:30.
Readings in a variety of historical and literary texts with emphasis on Manchu documentary sources.
Note: Expected to be given in 2014–15.

Manchu 120a. Intermediate Manchu
Catalog Number: 4190
Mark C. Elliott
Half course (fall term). Hours to be arranged.
Readings in a wide variety of Manchu texts. English to Manchu translation exercises.

Manchu 120b. Advanced Manchu
Catalog Number: 1414
Mark C. Elliott
Half course (spring term). F., 1–4. EXAM GROUP: 6, 7, 8
Intensive reading in Manchu archival materials, other historical texts and literary texts. Some texts in pre-diacritical form. English to Manchu translation exercises.

Primarily for Graduates

Manchu 210b. Introduction to Sources for Manchu Studies
Catalog Number: 4146
Mark C. Elliott
Half course (fall term). W., 2–5. EXAM GROUP: 7, 8, 9
Research papers prepared on the basis of primary sources.
Prerequisite: Manchu 210a.

Graduate Courses of Reading and Research

***Manchu 300. Reading and Research**
Catalog Number: 8735
Mark C. Elliott 3329

Mongolian: Language Courses

Primarily for Undergraduates



Mongolian A. Elementary Written Mongolian
Catalog Number: 2965
Mark C. Elliott
Half course (fall term). Hours to be arranged.
Study of classical Mongolian grammar, with introduction to pre-classical and classical Mongolian texts.

Mongolian B. Elementary Written Mongolian
Catalog Number: 8489
Mark C. Elliott
Half course (spring term). Hours to be arranged.
Continuation of Mongolian A.

For Undergraduates and Graduates

Mongolian 120a. Intermediate Written Mongolian
Catalog Number: 0810
Mark C. Elliott
Half course (fall term). Hours to be arranged.
Readings in classical and modern Mongolian texts.

Mongolian 120b. Advanced Written Mongolian
Catalog Number: 4032
Mark C. Elliott
Half course (spring term). Hours to be arranged.
Continuation of Mongolian 120a.

Graduate Courses of Reading and Research

***Mongolian 300. Reading and Research**
Catalog Number: 1345
Mark C. Elliott 3329

Tibetan and Himalayan Studies

Tibetan History

Cross-listed Courses

History of Art and Architecture 18s. Arts of South and Southeast Asia
History of Art and Architecture 183k. Himalayan Art - *(New Course)*
History of Art and Architecture 285m. South Asian Temple : Theory and Practice
Religion 1705 (Buddhism in Tibet). Tibetan Religions
Tibetan 91r. Supervised Reading and Research
Tibetan 101a. Elementary Classical Tibetan
Tibetan 101b. Elementary Classical Tibetan

Tibetan 102a. Intermediate Classical Tibetan
Tibetan 102b. Intermediate Classical Tibetan
Tibetan 104ar. Elementary Colloquial Tibetan
Tibetan 104br. Elementary Colloquial Tibetan
Tibetan 105ar. Intermediate Colloquial Tibetan
Tibetan 106ar. Advanced Colloquial Tibetan
Tibetan 106br. Advanced Colloquial Tibetan
Tibetan 219r. Tibetan Religious Literature: Seminar
[Tibetan 235. Introduction in reading traditional Tibetan archival (yig tshags) and government documents (gzhung yig)]
***Tibetan 300. Reading and Research**
***Tibetan 302. Direction of AM Theses**

Uyghur: Language Courses

Primarily for Undergraduates

For Undergraduates and Graduates

Uyghur A. Elementary Uyghur
Catalog Number: 8767
Mark C. Elliott
Half course (fall term). M., W., F., at 9. EXAM GROUP: 2
Introduction to Uyghur, the Turkic language spoken in China's Xinjiang Uyghur Autonomous Region and throughout Central Asia. Course covers grammar, reading and writing (in the modified Arabic alphabet adopted in the PRC), and conversation practice.

Uyghur B. Elementary Uyghur
Catalog Number: 5271
Mark C. Elliott
Half course (spring term). M., W., F., at 4. EXAM GROUP: 9
Continuation of Uyghur A. Completion of basic Uyghur grammar, listening and speaking practice with the aid of audio-visual materials, selected readings from Uyghur literature and academic prose.

[Uyghur 120A. Intermediate/Advanced Uyghur]
Catalog Number: 9312
Mark C. Elliott
Half course (fall term). Tu., Th., 8:30–10.
Additional training in modern Uyghur, with attention to improvement of spoken fluency and comprehension. Extensive readings in a range of genres, including historical writing and academic prose as well as religious texts.
Note: Expected to be given in 2014–15.
Prerequisite: Uyghur B or permission of instructor.

[Uyghur 120B. Intermediate/Advanced Uyghur]
Catalog Number: 4234
Mark C. Elliott
Half course (spring term). Tu., Th., 8:30–10.
Continuation of Uyghur 120A.
Note: Expected to be given in 2014–15.
Prerequisite: Uyghur 120A or permission of instructor.

Graduate Courses of Reading and Research

***Uyghur 300. Readings in Uyghur Language and Literature**
Catalog Number: 5357
Mark C. Elliott 3329
Half course (fall term; repeated spring term). Hours to be arranged.
Guided readings in advanced Uyghur-language texts. May be repeated for credit.
Prerequisite: Uyghur 120B or permission of instructor.

Vietnam: Language Courses

For Undergraduates and Graduates

Vietnamese Ba. Elementary Vietnamese
Catalog Number: 3873
Binh Ngo
Half course (fall term). M. through F., at 9. EXAM GROUP: 2, 11
Surveys the fundamentals of Vietnamese phonetics, grammar, and vocabulary to provide students with basic ability to understand, speak, read, and write Vietnamese. Conversational ability is stressed through an interactive, communication-oriented approach.

Vietnamese Bb. Elementary Vietnamese
Catalog Number: 9940
Binh Ngo
Half course (spring term). M. through F., at 9. EXAM GROUP: 2, 11
Continuation of Vietnamese Ba, with introduction of additional Vietnamese texts and excerpts from Vietnamese newspapers to enhance reading skills.
Prerequisite: Vietnamese Ba or permission of the instructor.

Vietnamese 120a. Intermediate Vietnamese
Catalog Number: 3276
Binh Ngo
Half course (fall term). Lecture M., 4-6, Drill W., 4-6.
Further development of speaking, reading, writing, and aural comprehension. Texts and dialogues on Vietnamese geography, history, culture, and customs will be used, as well as audiotapes and videos. Students are expected to speak Vietnamese in all class discussions.
Note: Conducted entirely in Vietnamese.
Prerequisite: Vietnamese Bb or permission of instructor.



Vietnamese 120b. Intermediate Vietnamese
Catalog Number: 6178
Binh Ngo
Half course (spring term). M., W., 4–6. EXAM GROUP: 9
Continuation of Vietnamese 120a.
Note: Conducted entirely in Vietnamese.
Prerequisite: Vietnamese 120a or permission of instructor.

Vietnamese 130a. Advanced Vietnamese
Catalog Number: 6287
Binh Ngo
Half course (fall term). Lecture T., 3-5, Drill Th., 3-5. EXAM GROUP: 17
Development of high proficiency in Vietnamese. Introduction of complex grammar and vocabulary, using authentic Vietnamese texts, videos, and translation of English news articles into Vietnamese. Discussions focus on selected short stories and poems.
Note: Conducted entirely in Vietnamese.
Prerequisite: Vietnamese 120b or permission of instructor.

Vietnamese 130b. Advanced Vietnamese
Catalog Number: 3968
Binh Ngo
Half course (spring term). Tu., Th., 3-5, and one additional hour to be arranged. EXAM GROUP: 17, 18
Continuation of Vietnamese 130a.
Note: Conducted entirely in Vietnamese.
Prerequisite: Vietnamese 130a or permission of instructor.

Vietnamese 140a. Advanced-High Vietnamese
Catalog Number: 97175
Binh Ngo
Half course (fall term). M., W., 2:30–4.
Development of near-native fluency in oral and written expression. Modern Vietnamese literature, including short stories, excerpts from novels, and poems in the original, that were published in Vietnam from the 1930s to the present day is used to introduce the complex grammar, idioms, proverbs and some slang expressions commonly used in contemporary Vietnamese. Discussion focuses on Vietnamese culture and issues related to Vietnamese society during that period.
Prerequisite: Vietnamese 130b

Vietnamese 140b. Advanced-High Vietnamese
Catalog Number: 45653
Binh Ngo
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
Continuation of Vietnamese 140a.
Prerequisite: Vietnamese 140a

Vietnam: History Courses

Cross-listed Courses

History 1063 (formerly History 1963). America and Vietnam: 1945-1975
[History 1619. Premodern Vietnam]
History 1620. Modern Vietnam
***History 1918 (formerly History 1618). Telling Lives in Asia: Conference Course**

Graduate Courses of Reading and Research

***Vietnamese 300. Reading and Research**
Catalog Number: 7211
Binh Ngo 1383

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Economics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Economics

N. Gregory Mankiw, Robert M. Beren Professor of Economics *(Chair)*
Philippe Aghion, Robert C. Waggoner Professor of Economics
Alberto F. Alesina, Nathaniel Ropes Professor of Political Economy
Pol Antràs, Professor of Economics
Aloisio Araujo, Visiting Professor of Economics
David Harold Autor, Visiting Professor of Economics
Robert J. Barro, Paul M. Warburg Professor of Economics
Susanto Basu, Visiting Professor of Economics
John Y. Campbell, Morton L. and Carole S. Olshan Professor of Economics
Gary Chamberlain, Louis Berkman Professor of Economics
Eric Chaney, Assistant Professor of Economics
Raj Chetty, William Henry Bloomberg Professor of Economics *(Affiliate of the Department of Statistics)*
Richard N. Cooper, Maurits C. Boas Professor of International Economics
David M. Cutler, Otto Eckstein Professor of Applied Economics
Armin Falk, Visiting Professor of Economics
Emmanuel Farhi, Professor of Economics *(on leave 2013-14)*
Martin Feldstein, George F. Baker Professor of Economics
Christopher L. Foote, Professor of the Practice of Economics
Richard B. Freeman, Herbert S. Ascherman Professor of Economics
Benjamin M. Friedman, William Joseph Maier Professor of Political Economy
Roland G. Fryer, Robert M. Beren Professor of Economics
Drew Fudenberg, Frederic E. Abbe Professor of Economics
Alan M. Garber, Professor of Economics *(FAS),* Professor of Public Policy *(Kennedy School),* Mallinckrodt Professor of Health Care Policy *(Medical School),* and Provost
Edward L. Glaeser, Fred and Eleanor Glimp Professor of Economics
Claudia Goldin, Henry Lee Professor of Economics *(on leave 2013-14)*
Gita Gopinath, Professor of Economics
Jerry R. Green, David A. Wells Professor of Political Economy, John Leverett Professor *(on leave fall term)*
James Hamilton, Visiting Professor of Economics
Oliver S. Hart, Andrew E. Furer Professor of Economics
Elhanan Helpman, Galen L. Stone Professor of International Trade
Nathaniel Hendren, Assistant Professor of Economics



Richard A. Hornbeck, Dunwalke Associate Professor of American History
David William Johnson, Senior Preceptor
Dale W. Jorgenson, Samuel W. Morris University Professor
Maximilian Kasy, Assistant Professor of Economics
Lawrence F. Katz, Elisabeth Allison Professor of Economics *(on leave spring term)*
Johann-helmut Kotz, Visiting Lecturer on Economics
Michael R. Kremer, Gates Professor of Developing Societies *(on leave 2013-14)*
David I. Laibson, Robert I. Goldman Professor of Economics *(on leave fall term)*
Owen A. Lamont, Visiting Lecturer on Economics
Gregory M. Lewis, Associate Professor of Economics
Stephen A. Marglin, Walter S. Barker Professor of Economics
Robert Margo, Visiting Professor of Economics
Eric S. Maskin, Adams University Professor
Marc J. Melitz, David A. Wells Professor of Political Economy *(on leave fall term)*
Jeffrey A. Miron, Senior Lecturer on Economics *(Director of Undergraduate Studies)*
Stephen Morris, Visiting Professor of Economics
Sendhil Mullainathan, Professor of Economics
Nathan J. Nunn, Professor of Economics
Ariel Pakes, Thomas Professor of Economics
Amanda D. Pallais, Assistant Professor of Economics *(on leave 2013-14)*
Fausto Panunzi, Visiting Professor of Economics
Kenneth Rogoff, Thomas D. Cabot Professor of Public Policy
Yuliy Sannikov, Visiting Professor of Economics
Amartya Sen, Lamont University Professor
Neil Shephard, Professor of Economics and of Statistics
Andrei Shleifer, Professor of Economics
Jeremy C. Stein, Moise Y. Safra Professor of Economics *(on leave 2013-14)*
James H. Stock, Harold Hitchings Burbank Professor of Political Economy *(on leave 2013-14)*
Tomasz Strzalecki, John L. Loeb Associate Professor of the Social Sciences
Che-lin Su, Visiting Professor of Economics
Lawrence H. Summers, Charles W. Eliot University Professor
John Van Reenen, Visiting Professor of Economics
Martin L. Weitzman, Professor of Economics
Ali R. Yurukoglu, Visiting Assistant Professor of Economics
Jeffrey Zabel, Visiting Professor of Economics

Other Faculty Offering Instruction in the Department of Economics

Alberto Abadie, Professor of Public Policy at the John F. Kennedy School of Government *(Kennedy School)*
Christopher N. Avery, Roy E. Larsen Professor of Public Policy and Management at the John F. Kennedy School of Government *(Kennedy School)*
George Pierce Baker, Herman C. Krannert Professor of Business Administration *(Business School)*
Lucian A. Bebchuk, William J Friedman and Alicia Townsend Friedman Professor of Law, Economics, and Finance *(Law School)*

Amitabh Chandra, Professor of Public Policy *(Kennedy School)*
Shawn Cole, Associate Professor *(Business School)*
James Engell, Gurney Professor of English Literature and Professor of Comparative Literature
Günther Fink, Assistant Professor of International Health Economics *(Public Health)*
Paul Gompers, Eugene Holman Professor of Business Administration *(Business School)*
Robin Marc Greenwood, Associate Professor of Business Administration *(Business School)*
Samuel Gregory Hanson, Assistant Professor *(Business School)*
Louis E. Kaplow, Finn M. W. Caspersen and Household International Professor of Law and Economics *(Law School)*
William Robert Kerr, Associate Professor *(Business School)*
Asim I. Khwaja, Sumitomo-Foundation for Advanced Studies on International Development Professor of International Finance and Development *(Kennedy School)*
Elon Kohlberg, Royal Little Professor of Business Administration *(Business School)*
Maciej Henryk Kotowski, Assistant Professor of Public Policy *(Kennedy School)*
Robert Z. Lawrence, Albert L. Williams Professor of International Trade and Investment *(Kennedy School)*
Joshua Lerner, Jacob H. Schiff Professor of Investment Banking *(Business School)*
Jeffrey B. Liebman, Malcolm Wiener Professor of Public Policy at the John F. Kennedy School of Government *(Kennedy School)*
Gerard Livesey, Visiting Professor of History *(University of Sussex)*
Joseph P. Newhouse, John D. MacArthur Professor of Health Policy and Management, Professor of Health Care Policy *(Kennedy School, Public Health, Medical School)*
Rohini Pande, Mohamed Kamal Professor of Public Policy *(Kennedy School)*
Dwight H. Perkins, Harold Hitchings Burbank Professor of Political Economy, Emeritus
James Robinson, David Florence Professor of Government
Dani Rodrik, Rafiq Hariri Professor of International Political Economy at the John F Kennedy School Government *(Kennedy School)*
Alvin E. Roth, George Gund Professor of Economics and Business Administration, Emeritus
David S. Scharfstein, Edmund Cogswell Converse Professor of Finance and Banking *(Business School)*
Jeff Snyder-Reinke, Visiting Assistant Professor of History *(The College of Idaho)*
Robert N. Stavins, Albert Pratt Professor of Business and Government at the John F. Kennedy School of Government *(Kennedy School)*
Aditya Vikram Sunderam, Assistant Professor *(Business School)*
Cass Robert Sunstein, Robert Walmsley University Professor *(Law School)*
Richard Tuck, Frank G. Thomson Professor of Government *(on leave spring term)*
Jeffrey G. Williamson, Laird Bell Professor of Economics, Emeritus
Richard J. Zeckhauser, Frank Plumpton Ramsey Professor of Political Economy in the John F. Kennedy School of Government *(Kennedy School)*

Tutorials, Junior Seminars, and Senior Thesis Seminars in Economics

Primarily for Undergraduates

***Economics 910r. Supervised Reading and Research**
Catalog Number: 1020

Jeffrey A. Miron
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading leading to a long term paper on a topic or topics not covered by regular courses.
Note: Does not count for concentration credit and may not be taken Pass/Fail. Requires signatures of the adviser and of the Director of Undergraduate Studies. Application available at the Economics Undergraduate Office at Littauer Center, North Yard.

***Economics 970. Tutorial - Sophomore Year**
Catalog Number: 7923
Jeffrey A. Miron
Half course (spring term). Hours to be arranged.
A series of small seminars taught in section focusing on applications of economic theory to real problems.
Note: One term required of all Economics concentrators. Enrollment limited to concentrators. Has an introductory meeting. Meets in assigned section thereafter.
Prerequisite: Both terms of Economics10a and 10b (or equivalent); Statistics 100, 104, or 110; Economics 1010a1, 1010a2, or 1011a; and, current enrollment in Economics 1010b or 1011b.

***Economics 975. Tutorial — Theory Review**
Catalog Number: 3281
Jeffrey A. Miron
Half course (fall term; repeated spring term). Hours to be arranged.
A thorough review of intermediate microeconomics and macroeconomics.
Note: Required of and limited to concentrators who received below a B-/C+ average in the Economics 1010/1011 sequence.

Economics 980 Junior Seminars

Junior seminars are lotteried the week before classes start and are restricted to economics concentrators in their junior year. Each course will be limited to 18 students. Please see the Undergraduate Program section of the Economics Department website for instructions on how and when to lottery. Other interested students may apply in person during the first week of classes to the Undergraduate Program Administrator located in Room 113 Littauer Center - North Yard.
Economics 980aa. The Rise of Asia and the World Economy - *(New Course)*
Catalog Number: 70805
Dale W. Jorgenson
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Prerequisite: Ec 1010a and 1010b (or 1011a and 1011b), one of stats 100, 104 or 110, and Ec 1123 or 1126 (or concurrent enrollment in 1123 or 1126).

[*Economics 980b. Education in the Economy]
Catalog Number: 1581 Enrollment: Course may be lotteried.
Lawrence F. Katz and Claudia Goldin
Half course (spring term). M., 2–4.

An exploration of the role of education in the economy using historical, comparative, and current policy perspectives. Topics include the theory of human capital, role of education in economic growth and distribution, the educational production function, vouchers, charter schools, class size, standards, school equalization, for-profit educational institutions, and the gender gap in college completion. A serious research paper is required, as are several short critical essays of the literature.
Note: Expected to be given in 2014–15.
Prerequisite: Ec 1010a and 1010b (or 1011a and 1011b), one of stats 100, 104 or 110, and Ec 1123 or 1126 (or concurrent enrollment in 1123 or 1126).

***Economics 980p. International Trade Policy**
Catalog Number: 17382
Elhanan Helpman
Half course (fall term). M., 2–4.
Provides a discussion of the economic impacts of international trade policies and the political economy of trade policy formation. The course will focus on analytical methods and therefore requires knowledge of calculus.
Prerequisite: Ec 1010a and 1010b (or 1011a and 1011b), one of stats 100, 104 or 110, and Ec 1123 or 1126 (or concurrent enrollment in 1123 or 1126).

***Economics 980q. Economics Design Lab**
Catalog Number: 7220
Sendhil Mullainathan
Half course (fall term). W., 5–7 p.m. EXAM GROUP: 9
This class offers a chance for students to see how social science insights (economics, finance and psychology) can be used to design policies and products that solve important problems. This class offers a chance for students use insights from behavioral economics to design solutions to important and/or interesting problems. Each student will be asked to pick one concrete problem and craft a solution. Some students may focus on designing behaviorally informed policy solutions to problems such as unemployment insurance. Others may focus on designing new products for everything from personal finance to healthy eating; products might be apps, financial vehicles or something more exotic. Others may focus on problems closer to home such as devising a way to keep students (themselves) from cramming. The emphasis in all these cases will be on (i) use of behavioral insights and (ii) practical implementability of the solution. Students will take the problem as far as the implementation cycle as the class and their design will allow.
Note: Students with non-economic backgrounds (such as psychology or engineering) are particularly encouraged to take the course. Some familiarity with behavioral economics (1030, 1035) is valuable but knowledge of psychology from other classes is a substitute.
Prerequisite: Ec 1010a and 1010b (or 1011a and 1011b), one of stats 100, 104 or 110, and Ec 1123 or 1126 (or concurrent enrollment in 1123 or 1126).

***Economics 980s. The Historical Origins of Middle Eastern Development**
Catalog Number: 53797
Eric Chaney
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17

Middle Eastern countries enjoyed world economic leadership during the Middle Ages, and continue to play an important role in the world economy. This course will explore the historical development of Middle Eastern economies. Topics include the effects of colonialism, natural resource endowments and religion on economic growth. The course will emphasize how these and other historical factors continue to influence development prospects in the region today.
Prerequisite: Ec 1010a and 1010b (or 1011a and 1011b), one of stats 100, 104 or 110, and Ec 1123 or 1126 (or concurrent enrollment in 1123 or 1126).

[*Economics 980u. Immigration Economics]
Catalog Number: 87839
George J. Borjas (Kennedy School)
Half course (fall term). W., 2–4.
There has been a resurgence of international migration in the past few decades. This course explores the economic determinants and consequences of these population flows. Specific topics include the study of how immigrants are non-randomly selected from the population of the sending countries, the measurement of assimilation in the receiving country, the impact on the labor markets of both receiving and sending countries, and the calculation of the economic benefits from immigration.
Note: Expected to be given in 2014–15.
Prerequisite: Ec 1010a and 1010b (or 1011a and 1011b), one of stats 100, 104 or 110, and Ec 1123 or 1126 (or concurrent enrollment in 1123 or 1126).

***Economics 980w. Industrial Organization and Health: Seminar**
Catalog Number: 31219 Enrollment: Lottery
Ariel Pakes
Half course (spring term). (W.), 1–3. EXAM GROUP: 6, 7
The seminar will focus on policy and conceptual issues in health economics.We will use tools from the Industrial Organization literature to formulateanalytic frameworks and then read quantitative papers and assess them inlight of the frameworks we develop. Examples include the analysis of mergersin hospital markets and the choice of capitation vs fee-for-service contracts forproviders. We will also formulate models capable of analyzing moral hazardand adverse selection in health insurance, and assess the literature on thosetopics. Finally we will consider the literature on determinants of health carecosts and productivity, emphasizing measurement issues. Some knowledge ofmicroeconomic and statistical tools, particularly those related to industrialorganization, would be useful.
Prerequisite: Ec 1010a and 1010b (or 1011a and 1011b), one of stats 100, 104 or 110, and Ec 1123 or 1126 (or concurrent enrollment in 1123 or 1126).

[*Economics 980x. Economics of Work and Family]
Catalog Number: 13231 Enrollment: Course may be lotteried.
Claudia Goldin
Half course (fall term). M., 2–4.
How are the most personal choices and life transitions decided? When and whom do you marry, how many children do you have, how much education should you obtain, and which careers or jobs will you pursue? Much will be explored in terms of change over time, particularly concerning the economic emergence of women and the growing role of government. Readings

draw on economic theory, empirical analyses, history, and literature from the 19th century to the present.
Note: Expected to be given in 2014–15.
Prerequisite: Ec 1010a and 1010b (or 1011a and 1011b), one of stats 100, 104 or 110, and Ec 1123 or 1126 (or concurrent enrollment in 1123 or 1126).

***Economics 980y. The Economy of China**
Catalog Number: 23151 Enrollment: Limited to 18.
Richard N. Cooper
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
This course critically examines China's remarkable economic performance since 1980 and places this performance in comparative context. Topics covered include China's economic structure, institutions, inequality, trade, population, and public policy.
Prerequisite: Ec 1010a and 1010b (or 1011a and 1011b), one of stats 100, 104 or 110, and Ec 1123 or 1126 (or concurrent enrollment in 1123 or 1126).

Economics 980z. Tax and Budget Policy - *(New Course)
Catalog Number: 95127
Martin Feldstein
Half course (spring term). Tu., 4–6. EXAM GROUP: 18
This seminar will expose students to a wide range of questions in tax and budget policy. Each student will be expected to develop a research-based position on one such issue. Examples from which students can choose might include: How can future budget deficits be reduced?, How should the student loan program be reformed?, Should the post office be privatized?, Should the government mortgage programs (Fannie Mae and Freddie Mac) be phased out?, Should the tax deduction for state tax payments be eliminated?
Prerequisite: Ec 1010a and 1010b (or 1011a and 1011b), one of stats 100, 104 or 110, and Ec 1123 or 1126 (or concurrent enrollment in 1123 or 1126).

Economics 985 Senior Thesis Seminars

These seminars are limited to seniors writing senior honor theses. Each seminar focuses on the research topics of interest to the participants. Emphasis is placed on research design, methodological problems, literature review, and sources of data. Regular student presentations of work in progress are required. An Economics 985 seminar taken in the senior year substitutes for Economics 990, and seniors will not be allowed to enroll concurrently in both courses. All 985 seminars are limited to 16 students.

***Economics 985k. Research in Macroeconomics, Finance, and Modeling**
Catalog Number: 0871
Kiran Gajwani
Full course. Hours to be arranged.
Workshop for seniors writing theses. Especially for topics in macroeconomics, finance, or theses involving theoretical models, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis are required.

Economics 985l. Research in Development and Health Economics
Catalog Number: 94962
Kiran Gajwani
Full course. Hours to be arranged.
Workshop for seniors writing theses. Especially for topics in development or health economics, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis are required.

***Economics 985m. Research in Labor, Education, and Public Economics**
Catalog Number: 23048
Anne Nathalie LeBrun
Full course. Hours to be arranged.
Workshop for seniors writing theses. Especially for topics in labor, education, or public economics, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis are required.

***Economics 985n. Research in Applied Microeconomics**
Catalog Number: 43294
Jane Leber Herr
Full course. Fall: W., 2–4.
Workshop for seniors writing theses. Especially for any applied work in microeconomics, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis are required.

***Economics 985o. Research in Macro and International Economics**
Catalog Number: 98646
Kiran Gajwani
Full course. Fall: F., 10–12, and a weekly section to be arranged.
Workshop for seniors writing theses. Especially for topics in macroeconomics or international economics, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis are required.

***Economics 985p. Research in Finance, Behavioral, and Experimental Economics**
Catalog Number: 26105
Kiran Gajwani
Full course. Hours to be arranged.
Workshop for seniors writing theses. Especially for topics in finance, behavioral economics, or experimental economics, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis are required.

***Economics 990. Tutorial — Senior Year**
Catalog Number: 7342
Jeffrey A. Miron and members of the Department
Full course. Hours to be arranged.
For students writing a senior thesis out of sequence.
Note: Students who are writing a senior thesis out of sequence (i.e., beginning in the spring) must enroll in Economics 990 in the spring and complete the course in the fall. Students must write a 25-page paper at the end of the first term of Economics 990. Students currently enrolled in Economics 985 may not enroll in Economics 990.

General Economics; Economic Theory; History of Economics

For Undergraduates and Graduates

Economics 10a (formerly Economics 10). Principles of Economics
Catalog Number: 3660
N. Gregory Mankiw and members of the Department
Half course (fall term). M., W., F., at 12. Sections also meet at 9, 10, 11, 12, 1, or 2. EXAM GROUP: 5
Introduction to economic issues and basic principles and methods of microeconomics: how markets work, market efficiency and market failure, firm and consumer behavior, policy issues such as taxation, international trade, the environment, and the distribution of income.
Note: Microeconomics (taught in the fall term) is a prerequisite for macroeconomics (taught in the spring term). Students may elect to take only the fall microeconomics course and receive a half-course credit. Taught in a mixture of lectures and small sections. No calculus is used, and there is no mathematics background requirement. Designed for both potential Economics concentrators and those who plan no further work in the field. The Department of Economics strongly encourages students considering concentration to take the full-year course in their freshman year. This is a required course for all economics concentrators and a prerequisite for higher level courses in economics. This course, when taken for a letter grade together with Economic 10b, meets the General Education requirement for either Empirical and Mathematical Reasoning or United States in the World, but not both. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Economics 10b. Principles of Economics
Catalog Number: 48492
N. Gregory Mankiw and members of the Department
Half course (spring term). M., W., F., at 12. EXAM GROUP: 5
Economic growth, inflation, unemployment, the business cycle, the financial system, international capital flows and trade imbalances, and the impact of monetary and fiscal policy. The Department of Economics strongly encourages students considering a concentration in economics to take both Ec10a and Ec10b in their freshman year. These courses are required for all economics concentrators and are prerequisites for higher level courses in economics. These courses, when both are taken for a letter grade, meet the General Education requirement for either Empirical and Mathematical Reasoning or United States in the World, but not both.
Note: This course, when taken for a letter grade together with Economic 10a, meets the General

Education requirement for either Empirical and Mathematical Reasoning or United States in the World, but not both. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.
Prerequisite: Ec10a or permission of the instructor.

Economics 1000a. Growth, Technology, Inequality, and Evolution - *(New Course)*
Catalog Number: 44292 Enrollment: Limited to 75.
Benjamin M. Friedman and James Engell
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
An economist and a humanist, together with professors from the natural sciences, analyze familiar conceptual and policy-relevant issues from viewpoints of their respective disciplines. For example, how do we measure inequality, and at what point does it become problematic (and how do we know)? How then should it be addressed (e.g., tax code, minimum wage)? What are the best policies to confront job losses from technology? What does sustainable growth mean? The goal is not merely to examine four intertwined issues "growth, technology, inequality, and evolution" but also to understand the distinct concerns and methods of the humanities, social sciences, and natural sciences.
Note: Students who wish to receive economics concentration credit must enroll in Econ 1000a. For secondary credit students must take Econ 1000a. Econ 1000a has an Ec 10a prerequisite.
Prerequisite: For Economics concentrators: Economics 10a. For others: Ec 10a or completion of General Education EMR requirement or equivalent.

Economics 1000b. Growth, Technology, Inequality, and Evolution - *(New Course)*
Catalog Number: 13465 Enrollment: Limited to 75.
Benjamin M. Friedman and James Engell
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
An economist and a humanist, together with professors from the natural sciences, analyze familiar conceptual and policy-relevant issues from viewpoints of their respective disciplines. For example, how do we measure inequality, and at what point does it become problematic (and how do we know)? How then should it be addressed (e.g., tax code, minimum wage)? What are the best policies to confront job losses from technology? What does sustainable growth mean? The goal is not merely to examine four intertwined issues "growth, technology, inequality, and evolution" but also to understand the distinct concerns and methods of the humanities, social sciences, and natural sciences.
Note: Students who wish to receive economics concentration credit must enroll in Econ 1000a. For secondary credit students must take Econ 1000a. Econ 1000a has an Ec 10a prerequisite.

Economics 1010a1. Microeconomic Theory
Catalog Number: 58552
Jeffrey A. Miron
Half course (fall term). Tu., Th., 10–11:30; and a one-hour weekly section to be arranged. EXAM GROUP: 12, 13
Focuses on the optimizing behavior of individual consumers and firms and coordination of individual decisions through markets, including the evaluation of market outcomes.
Note: Econ 1010a1 is the same as Economics 1010a2; only one may be taken for credit. Economics 1010a1 fulfills the intermediate microeconomic theory requirement for Economics



concentrators. Students may take either Economics 1010a1 or Economics 1011a for credit. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Social Analysis.
Prerequisite: Economics 10 and Mathematics 1a or their equivalents.

Economics 1010a2. Microeconomic Theory
Catalog Number: 73659
Marc J. Melitz
Half course (spring term). Tu., Th., 10–11:30; . EXAM GROUP: 12, 13
Focuses on the optimizing behavior of individual consumers and firms and coordination of individual decisions through markets, including the evaluation of market outcomes.
Note: Econ 1010a2 is the same as Economics 1010a1; only one may be taken for credit. Economics 1010a2 fulfills the intermediate microeconomic theory requirement for Economics concentrators. Students may take either Economics 1010a2 or Economics 1011a for credit. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Social Analysis.
Prerequisite: Economics 10 and Mathematics 1a or their equivalents.

Economics 1010b. Macroeconomic Theory
Catalog Number: 2924
Christopher L. Foote
Half course (spring term). M., W., F., at 9, and a one-hour weekly section to be arranged. EXAM GROUP: 2
Theories and evidence on economic growth and fluctuations. Determination of gross domestic product, investment, consumption, employment, and unemployment. Analysis of interest rates, wage rates, and inflation. Roles of fiscal and monetary policies.
Note: Economics 1010b fulfills the intermediate macroeconomic theory requirement for Economics concentrators. Students may take either Economics 1010b or Economics 1011b for credit. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Social Analysis.
Prerequisite: Social Analysis 10. While no specific mathematics course is required, knowledge of calculus at the level of Mathematics 1a is assumed.

Economics 1011a. Microeconomic Theory
Catalog Number: 7230
Edward L. Glaeser
Half course (fall term). Tu., Th., 11:30-1. EXAM GROUP: 13, 14
Economics 1011a is similar to Economics 1010a, but more mathematical and covers more material. The course teaches the basic tools of economics and to apply them to a wide range of human behavior.
Note: Economics 1011a fulfills the intermediate microeconomic theory requirement for Economics concentrators. Students may take either Economics 1010a or Economics 1011a for credit. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Social Analysis.
Prerequisite: Mathematics 21a or permission of the instructor.

Economics 1011b. Macroeconomic Theory
Catalog Number: 6993
Philippe Aghion and Paul Willen
Half course (spring term). Tu., Th., 10-11:30, and a one-hour weekly section to be arranged.
EXAM GROUP: 12, 13
The same topics as in 1010b, but with a more mathematical approach.
Note: Economics 1011b fulfills the intermediate macroeconomic theory requirement for Economics concentrators. Students may take either Economics 1010b or Economics 1011b for credit. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Social Analysis.
Prerequisite: 1011a or 1010a and Mathematics 21a, or permission of the instructor.

[Economics 1017. A Libertarian Perspective on Economic and Social Policy]
Catalog Number: 1197 Enrollment: Limited to 200.
Jeffrey A. Miron
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Analyses the libertarian perspective on economic and social policy. This perspective differs from both liberal and conservative views, arguing for minimal government in most arenas. Policies addressed include drug prohibition, gun control, and public education.
Note: Expected to be given in 2014–15. Analyses the libertarian perspective on economic and social policy. This perspective differs from both liberal and conservative views, arguing for minimal government in most arenas. Policies addressed include drug prohibition, gun control, public education, abortion rights, gay marriage, income redistribution, and campaign finance regulation.
Prerequisite: Ec 10a and Ec 10b.

Economics 1018. Cultural Economics
Catalog Number: 1775
Alberto F. Alesina
Half course (fall term). Tu., Th., 10–11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
Explores the importance of culture on economic outcomes, focusing on how heterogeneity of preferences affects economic choices and where those differences come from. Theoretical topics include group identity, social interactions and networks, evolutionary selection
Note: Explores the importance of culture on economic outcomes, focusing on how heterogeneity of preferences affects economic choices and where those differences come from. Theoretical topics include group identity, social interactions and networks, evolutionary selection, the importance of the family. Empirical applications include international investment, savings, occupational choices, ethical norms, economic development, fertility decisions.
Prerequisite: Economics 1010a1, 1010a2, or 1011a, and Economics 1123.

Economics 1030. Psychology and Economics
Catalog Number: 4709 Enrollment: Limited to 100.
David I. Laibson and Tomasz Strzalecki
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Psychological concepts include social preferences, impulsivity, bounded rationality, loss-

aversion, over-confidence, self-serving biases, hedonics, and neuroscience. Economic concepts include arbitrage, equilibrium, rational choice, utility maximization, Bayesian beliefs, game theory.
Note: Psychological concepts include social preferences, impulsivity, bounded rationality, loss-aversion, over-confidence, self-serving biases, hedonics, and neuroscience. Economic concepts include arbitrage, equilibrium, rational choice, utility maximization, Bayesian beliefs, game theory. Integrates these psychological and economic concepts to understand behavioral phenomena such as portfolio choice, saving, procrastination, addiction, asset pricing, auction bidding, labor supply, cooperation, persuasion.
Prerequisite: Ec 10a and Ec 10b and knowledge of univariate calculus.

[Economics 1051. Introduction to Game Theory]
Catalog Number: 3692
Drew Fudenberg
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Presents an introduction to the modern game theory, focusing on its use in economics. Main ideas of game theory are introduced and illustrated using examples from industrial organization, labor economics, and macroeconomics.
Note: Expected to be given in 2014–15. Students may not take both Economics 1051 and Economics 1052 for credit.
Prerequisite: Economics 1010a1, 1010a2, or 1011a.

Economics 1052. Game Theory and Economic Applications
Catalog Number: 2634
Drew Fudenberg
Half course (fall term). Tu., Th., 10–11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
Introduction to game theory and its economic applications with more rigor than in Economics 1051. Topics include extensive-form and strategic-form games, Nash equilibrium, subgame-perfect equilibrium, Bayesian equilibrium, and applications to long-term cooperation, auctions, bargaining, and mechanism design.
Note: Students may not take both Economics 1051 and Economics 1052 for credit.
Prerequisite: Economics 1010a1, 1010a2, or 1011a, and Mathematics 21a. Some exposure to basic probability theory and simple proofs will be useful as well.

[Economics 1056. Market Design]
Catalog Number: 69207 Enrollment: Limited to 40.
Instructor to be determined
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
This course studies the design of organized markets, focusing on efficient organization and the incentives created by market rules. Applications include online auction markets, government auctions of natural resources, procurement auctions, matching markets (students to classes or schools, medical residents to hospitals, kidneys to recipients). The analysis relies on a mix of documenting the rules of real-world markets, game theoretic analysis, empirical analysis, and experimental work. A research paper is optional with advance permission of instructor.
Note: Expected to be given in 2014–15.

Prerequisite: Economics 1011a and either 1051, 1052, 1060, 1070, 1640, or 1641, or permission of instructor.

[Economics 1059 (formerly Theories of Decisionmaking in Economics). Decision Theory]
Catalog Number: 1322
Tomasz Strzalecki
Half course (spring term). M., W., 1-2:30, and a weekly section to be arranged.
An introduction to formal models of decision making in economics, including both classical and psychologically-motivated approaches. Topics include risk, uncertainty, ambiguity, and temptation.
Note: Expected to be given in 2014–15.
Prerequisite: Economics 1010a1, 1010a2, or 1011a and Mathematics 21a.

Economics 1060. Firms, Contracts, Financial Structure
Catalog Number: 3267
Oliver S. Hart
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
Explores theoretical and empirical work on incentive problems within and between firms (with more emphasis on the theory). Topics include agency problems arising from moral hazard and asymmetric information, executive compensation; boundaries of the firm; the financial structure of public companies; venture capital contracts; financial distress and bankruptcy; non-standard forms of organization.
Note: This course offers an optional writing requirement which if completed will satisfy the concentration writing requirement.
Prerequisite: Economics 1010a1, 1010a2, or 1011a, Mathematics 20.

[Economics 1070. Normative Economics]
Catalog Number: 5972
Jerry R. Green
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
Voting theory, social choice, mechanism design, bargaining theory, cooperative game theory, equitable cost allocation, fair division, welfare analysis of taxation, public expenditures and risk bearing. This course offers a rigorous approach to normative economics. Students should have an interest and ability to work with abstract mathematics and axiomatic reasoning.
Note: Expected to be given in 2014–15. Optional writing Requirement: This course offers an optional writing requirement which if completed will satisfy the concentration writing requirement.
Prerequisite: Mathematical sophistication and interests in abstract reasoning is required, but there are no specific prerequisites.

Economics 1776. Religion and the Rise of Capitalism
Catalog Number: 30419
Benjamin M. Friedman
Half course (fall term). M., W., F., at 10 and a review section to be arranged. EXAM GROUP: 3
Examines the influence of religious thinking on the intellectual revolution, associated with Adam Smith and others, that created economics as we know it as an independent discipline; also

examines how the lasting resonances from these early religious influences continue to shape discussion of economic issues and debates about economic policy down to our own day.
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.
Prerequisite: Ec 10a and Ec 10b.

Economics 1936. Keynes
Catalog Number: 14325
Stephen A. Marglin
Half course (fall term). Tu., Th., 4–6; F., at 10; M., at 7 p.m.; F., at 11. EXAM GROUP: 3, 5, 13, 18
This course explores the birth, death, and resurrection of The General Theory of Employment, Interest and Money from the Great Depression (1929-1939) to the Great Recession (2008-?). A major goal is to lay out a coherent argument that, for all its theoretical innovation, The General Theory did not deliver: the argument why a market system, even an idealized system with all of the warts removed, may fail to provide jobs for willing workers. In the process we will examine the orthodoxy that Keynes attacked and that resurfaced in the 1960s and 70s; the key concepts underlying the models implicit in The General Theory; and the attempts of the Keynesian mainstream to make peace with both Keynes and orthodoxy. We will also explore the applicability of The General Theory to the long run. A final section will view the present economic difficulties through a Keynesian lens.
Prerequisite: Economics 1010b or 1011b, or permission of instructor; a year of college calculus allowing students to understand mathematical notation and concepts (derivatives, maximization, etc.) even though mathematics will be used very sparingly.

Cross-Listed Courses

Computer Science 186. Economics and Computation

Primarily for Graduates

Economics 2001. Research in Behavior in Games and Markets
Catalog Number: 8732
David I. Laibson, Drew Fudenberg, Jerry R. Green, and Tomasz Strzalecki
Full course (indivisible). W., 11:30–1. EXAM GROUP: 4, 5
Presents current research in Theory, Behavioral Economics, and Experimental Economics

Economics 2005hf. Research in Contracts and Organizations
Catalog Number: 11493
Oliver S. Hart
Half course (throughout the year). Tu., at 12. EXAM GROUP: Fall: 14
Participants discuss recent research in contracts and organizations and present their own work in progress. Open to doctoral students in economics.

***Economics 2010a. Economic Theory**
Catalog Number: 8656
Edward L. Glaeser and Eric S. Maskin
Half course (fall term). Tu., Th., 10-11:30, and a 90-minute weekly section to be arranged.
EXAM GROUP: 12, 13
Covers the theory of individual and group behavior. Topics include consumer theory, producer theory, behavior under uncertainty, externalities, monopolistic distortions, game theory, oligopolistic behavior, and asymmetric information.
Note: Enrollment is limited to students in the Economics and Business Economics PhD programs.
Prerequisite: Mathematics 116 or equivalent; can be taken concurrently.

Economics 2010b. Economic Theory
Catalog Number: 8659
Oliver S. Hart and Jerry R. Green
Half course (spring term). Tu., Th., 10-11:30, and a 90-minute weekly section to be arranged.
EXAM GROUP: 12, 13
Topics include social choice theory, signaling, mechanism design, general equilibrium, the core, externalities, and public goods.
Prerequisite: Economics 2010a.

Economics 2010c. Economic Theory
Catalog Number: 4431
David I. Laibson and Philippe Aghion
Half course (fall term). Tu., Th., 1-2:30, and a 90-minute weekly section to be arranged. EXAM GROUP: 15, 16
Topics include discrete-time and continuous-time dynamic programming, consumption, investment, economic growth, and business cycles.
Note: Enrollment is strictly limited to PhD students in the Economics Department, Business Economics program, and PEG program. Qualified Harvard undergraduates may also enroll. No other students may take the course for credit or as auditors.

Economics 2010d. Economic Theory
Catalog Number: 2041
Susanto Basu and Kenneth Rogoff
Half course (spring term). M., W., 8:30-10, and a 90-minute section to be arranged. EXAM GROUP: 1, 2
A basic course in graduate macroeconomics, including models of business fluctuations, analyses of monetary and fiscal policy, and introduction to open economy macroeconomic issues.
Note: Enrollment is strictly limited to PhD students in the Economics Department, Business Economics program, and PEG program. Qualified Harvard undergraduates may also enroll. No other students may take the course for credit or as auditors.
Prerequisite: Mathematics 116 or the equivalent; can be taken concurrently.

***Economics 2020a. Microeconomic Theory I**
Catalog Number: 0339 Enrollment: Limited to 102.

Maciej Kotowski
Half course (fall term). M., W., 8:30-10 and a weekly section to be arranged. EXAM GROUP: 1, 2
A comprehensive course in economic theory designed for doctoral students in all parts of the university. Topics include consumption, production, behavior toward risk, markets, and general equilibrium theory. Also looks at applications to policy analysis, business decisions, industrial organization, finance, and the legal system. Undergraduates with appropriate background are welcome, subject to the instructor's approval.
Note: Students may receive credit for both API-111 and API-101/API-105 only if API-101/105 is taken first. API-111 and API-109 cannot both be taken for credit. Also offered by Harvard Kennedy School as API-111 and by the Business School as HBS 4010. Please note that the first day of class for this course will be on Friday, September 6, in L-230 at the regular meeting time, 8:30 a.m. - 10 a.m. Thereafter the course will be on Mondays and Wednesdays.
Prerequisite: Multivariate calculus and one course in probability theory. Thorough background in microeconomic theory at the intermediate level.

***Economics 2020b. Microeconomic Theory II**
Catalog Number: 4058
Christopher N. Avery (Kennedy School) and Elon Kohlberg (Business School)
Half course (spring term). M., W., 8:30-10 and a weekly section to be arranged. EXAM GROUP: 1, 2
A continuation of Economics 2020a. Topics include game theory, economics of information, incentive theory, and welfare economics.
Note: Offered jointly with the Kennedy School as API-112 and with the Business School as 4011.
Prerequisite: Economics 2010a or 2020a.

Economics 2030. Psychology and Economics
Catalog Number: 3828
Sendhil Mullainathan, David I. Laibson, and Andrei Shleifer
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
Explores economic and psychological models of human behavior. Topics include bounded rationality, intertemporal choice, decision making under uncertainty, inference, choice heuristics, and social preferences. Economic applications include asset pricing, corporate finance, macroeconomics, labor, development, and industrial organization.
Note: Primarily for graduate students but open to undergraduates.
Prerequisite: Knowledge of multivariable calculus and econometrics.

Economics 2040. Experimental Economics
Catalog Number: 8485 Enrollment: Limited to 48.
Armin Falk
Half course (fall term). F., 9–12. EXAM GROUP: 2, 3, 4
This course discusses techniques of experimental economics and illustrates design and methodological issues in discussing recent topics in behavioral economics. At the end of the course students should be able to design their own experiments. For students who are familiar with experiments and who are already running experiments I will offer an opportunity to discuss

their design ideas and to receive detailed feedback. The suggested topics include (1) an introduction to lab experiments, potential objections against lab evidence, generalizability and experimental methods, (2) classic experimental designs (markets, bargaining, public goods), (3) morality, (4) sorting, (5) formation of preferences and personality, (6) psychology of incentives (7) preferences for consistency, (8) reference dependent preferences and labor supply, and (9) non-binding default rules. Students' task for the course is to prepare a proposal for an experiment.
Note: Open to undergraduates with permission of the instructor. Offered jointly with the Business School as 4160.

[Economics 2041. Field Experiments]
Catalog Number: 2427
Nava Ashraf (Business School)
Half course (spring term). Tu., 4:30–6. EXAM GROUP: 18
Students will design and run field experiments as a research methodology. Students will refine their own experimental designs and be able to run them by the end of the course, leading to an academic paper.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. Offered jointly with the Business School as 4430. Enrollment is limited to Doctoral students intending to run a field experiment in the near future.

Economics 2050. Behavioral Economics, Law and Public Policy - *(New Course)
Catalog Number: 15203 Enrollment: Please send a statement of interest and your resume to Kevin Doyle at (kdoyle@law.harvard.edu).
Cass Robert Sunstein (Law School)
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
This seminar will explore a series of issues at the intersection of behavioral economics and public policy. Potential questions will involve climate change; energy efficiency; health care; and basic rights. There will be some discussion of paternalism and the implications of neuroscience as well.
Note: Offered jointly with the Kennedy School as API-305 and with the Law School at 2589.
Prerequisite: Instructor permission is required.

Economics 2052. Game Theory I: Equilibrium Theory
Catalog Number: 3690
Drew Fudenberg
Half course (spring term). M., 4–7 p.m. EXAM GROUP: 9
Equilibrium analysis and its applications. Topics vary, but typically include equilibrium refinements (sequential equilibrium), the equilibria of various classes of games (repeated games, auctions, signaling games) and the definition and application of common knowledge.
Prerequisite: Economics 2010a or permission of the instructor.

[Economics 2056a. Market Design and Electronic Marketplaces]
Catalog Number: 3634
Peter Coles (Business School) and Benjamin Edelman (Business School)
Half course (fall term). F., 9–12. EXAM GROUP: 2, 3, 4

Explores the theory and practice of market design, with prominent examples drawn from auctions, labor markets, prediction markets and kidney exchange. In this year's version of the course, we'll emphasize online markets, including online advertising, Internet infrastructure, and collecting and analyzing data from the web. The prerequisite is Game Theory.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. Open to undergraduates with permission of the instructors. Offered jointly with the Business School as 4150.
Prerequisite: Game Theory.

Economics 2056b. Topics in Market Design
Catalog Number: 0402
Stephen Morris
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Studies topics in market design, focusing on auctions, auction-based marketplaces and platform markets. Covers methods and results from theory, empirical work, econometrics and experiments, highlighting practical issues in real-world design.

[Economics 2057. Rationality and Choice]
Catalog Number: 3755 Enrollment: Limited to 25.
Amartya Sen
Half course (spring term). Hours to be arranged.
The course involves critical examination of alternative approaches to rationality, which is a central concept in economics, politics and the other social sciences, moral and political philosophy, and legal theory, including law and economics.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

[Economics 2058. Networks and Social Capital]
Catalog Number: 2872
Instructor to be determined
Half course (spring term). Hours to be arranged.
Provides a rigorous theoretical introduction into network models. Discusses the emerging empirical literature on economic and social networks. Topics include the role of networks in technological progress, buyer-supplier networks, and social capital.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

Economics 2059. Decision Theory
Catalog Number: 3825
Tomasz Strzalecki
Half course (fall term). F., 9–12. EXAM GROUP: 2, 3, 4
The course focuses on classical models of choice in abstract settings, as well as uncertain and intertemporal environments. We will also study recent models that incorporate insights from psychology, such as temptation and self-control.

Economics 2060. Contract Theory
Catalog Number: 1404
Oliver S. Hart and Philippe Aghion

Half course (fall term). M., W., 10–11:30.
Recent developments in contract theory. Includes hidden action and hidden information models, dynamic agency issues, incomplete contracts, and applications of contract theory to theories of the firm and corporate financial structure.

[Economics 2065. Designing Allocation Rules]
Catalog Number: 20876
William L. Thomson
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The goal is to identify, for each decision problem in a class of interest, the "most desirable" rules. Included are standard exchange economies, classical problems of fair division, public good production, cost allocation ("airport" problems, minimal cost spanning tree problems), rationing, bankruptcy, object allocation, priority-augmented object allocation ("school choice"), matching, one-to-one and several-to-one, time division, and cake division. The principles are punctual fairness principles, intra- and inter-personal (including lower and upper bounds on welfare, as well as requirements of robustness under permutations, or other operations, performed on assignments), and relational fairness principles, having to do with possible changes in the resources available, population, and preferences. The strategic branch of the literature will also be covered, criteria of robustness under misrepresentation of preferences or manipulation of resources being included.

[*Economics 2070. Normative Economics]
Catalog Number: 5647
Jerry R. Green
Half course (fall term). Hours to be arranged.
This course offers a rigorous approach to normative economics. Voting, bargaining, cooperative game theory, social choice, mechanism design, equitable cost allocation, fair division, welfare analysis of taxation, and more. Students should have an interest and ability to work with abstract mathematics and axiomatic reasoning.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

Economics 2080. Economics and Politics: The Foundations of Economics in Political Theory
Catalog Number: 6576
Benjamin M. Friedman and Richard Tuck
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Offers graduate students in relevant disciplines the chance to study the historical origins of central ideas in modern economics and to discuss their philosophical character.
Prerequisite: A basic knowledge of economics is assumed.

[Economics 2082. Social Choice Theory]
Catalog Number: 50769 Enrollment: Limited to 20.
Amartya Sen and Eric S. Maskin
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
A basic course in social choice theory and its analytical foundations. The subject matter will include possibility theorems in voting and in welfare economics. Attention will be paid to

implementation theory, the theory of justice, and the analysis of liberties and rights.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

[Economics 2085. Economics of Inequality and Poverty]
Catalog Number: 16767 Enrollment: Limited to 25.
Amartya Sen
Half course (fall term). Hours to be arranged.
A general course on the evaluation and axiomatic measurement of inequality and poverty, and on the analysis of contemporary economic problems in that light.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

***Economics 2087hfr (formerly *Economics 2087hf). Advanced Topics in Theory**
Catalog Number: 32489
Drew Fudenberg
Half course (throughout the year). F., 3–5. EXAM GROUP: Fall: 8, 9
The class will read and discuss current research in economics with a focus on game theory and decision theory. Students will be expected to make a verbal presentation.
Note: Course will start in late October.
Prerequisite: Economics 2010a or permission of the instructor.

[*Economics 2091. History of Economic Thought I]
Catalog Number: 89713 Enrollment: Open to all graduate students in economics and to graduate students in related fields with the permission of the instructor.
Jerry R. Green
Half course (fall term). W., 5:30–8:30 p.m. EXAM GROUP: 9
Covers the history and philosophy of economic thought from the classics to the present. Some readings explore the relationship to other social sciences, to mathematics, biology, and physics. Others examine the way in which historical events have affected the evolution of economics.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. Jointly offered with the Business School as 4811.

[Economics 2092. History of Economic Thought II]
Catalog Number: 63648
Jerry R. Green
Half course (spring term). Hours to be arranged.
A continuation of Economics 2091.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. Offered jointly with the Business School as 4812.

Economics 2099. Topics in Economic Theory
Catalog Number: 9529
Yuliy Sannikov
Half course (spring term). F., 9–12. EXAM GROUP: 2, 3, 4
This class explores the use of continuous-time stochastic methods in economics and finance. Several lectures will be dedicated to the mathematical background: martingales. Ito's lemma, Girsanov's theorem, optimization, filtering, Kolmogorov equations. The rest of the class will

focus on classic applications, as well as recent research. Topics will include option pricing, optimal portfolio choice, economies with financial frictions, dynamic contracts and repeated games. Stochastic calculus can make dynamic models significantly more tractable. Continuous-time asset pricing is a clear evidence of that. The Black-Scholes formula significantly simplifies pricing, in comparison to the discrete-time methods based on binomial trees. There is tremendous potential to apply continuous-time methods in other areas of economics as well. Applications can be found in many fields, including corporate finance, macroeconomics, market microstructure and industrial organizations.
Prerequisite: Graduate-level course in microeconomic theory. Ec 2010a and b, Ec 2020a and b, or equivalent.

Cross-listed Courses

Computer Science 284r. Topics on Computation in Networks and Crowds - *(New Course)*
Computer Science 285. Multi-Agent Systems
Computer Science 286r. Topics at the Interface between Computer Science and Economics
Mathematics 265x. Reasoning via Models - *(New Course)*

Econometrics and Quantitative Methods

For Undergraduates and Graduates

Economics 1123a1 (formerly Economics 1123). Introduction to Econometrics
Catalog Number: 0813
Eric Chaney (fall term) and Jeffrey Zabel (spring term)
Half course (fall term; repeated spring term). Fall: Tu., Th., 11:30-1, and a weekly section to be arranged; Spring: M., W., 10-11:30, and a weekly section to be arranged. EXAM GROUP: Fall: 13, 14; Spring: 3, 4
An introduction to multiple regression techniques with focus on economic applications. Discusses extensions to discrete response, panel data, and time series models, as well as issues such as omitted variables, missing data,
Note: Only Economics 1123 or Economics 1126 can serve as concentrators' econometrics requirement. Students can receive credit for both courses, regardless of which is taken first. Students will not receive economics concentration credit for Statistics 139. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical reasoning or Core requirement for Quantitative Reasoning.
Prerequisite: Statistics 100.

Economics 1123a2. Introduction to Econometrics - *(New Course)*
Catalog Number: 27248
Ali Yurukoglu
Half course (fall term). Tu., Th., 10–11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
An introduction to multiple regression techniques with focus on economic applications. Discusses extensions to discrete response, panel data, and time series models, as well as issues such as omitted variables, missing data.

Note: Only Economics 1123 or Economics 1126 can serve as concentrators' econometrics requirement. Students can receive credit for both courses, regardless of which is taken first. Students will not receive economics concentration credit for Statistics 139. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning.
Prerequisite: Statistics 100

Economics 1126. Quantitative Methods in Economics
Catalog Number: 4076
Gary Chamberlain and Maximilian Kasy
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Topics include elements of statistical decision theory and related experimental evidence; some game theory and related experimental evidence; maximum likelihood; logit, normal, probit, and ordered probit regression models; panel data models with random effects
Note: Both Economics 1123 and Economics 1126 may be taken for credit, regardless of which is taken first. This course, when taken for a letter grade, meets the Core requirement for Quantitative Reasoning. Students who fulfill the econometrics requirement with Economics 1126 and who intend to pursue Honors should note that the Honors exam assumes knowledge of the material covered in Economics 1123.
Prerequisite: Statistics 100 or preferably Statistics 110, and Math 18/21a/Applied Math 21a.

[Economics 1127. Statistical Methods for Evaluating Causal Effects]
Catalog Number: 9967
Cassandra Pattanayak
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Statistical methods discussed for inferring causal effects from data from randomized experiments or observational studies. Students will develop expertise to assess the credibility of causal claims and the ability to apply the relevant statistical methods for causal analyses. Examples will come from many disciplines: economics, education, other social sciences, epidemiology, and biomedical science. Evaluations of job training programs, educational voucher schemes, changes in laws such as minimum wage laws, medical treatments, smoking, military service.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Statistics 100; Mathematics 21a,b or permission of instructor.

[Economics 1144. Advanced Applied Econometrics]
Catalog Number: 24563
Ariel Pakes
Half course (spring term). M., W., 11:30–1. EXAM GROUP: 4, 5
An introduction to the theory and application of recently developed econometric techniques used in advanced applied work. Simulation techniques, estimation subject to inequality restrictions, as well as semiparametric and nonparametric tools will be studied in a variety of empirical contexts.
Note: Expected to be given in 2014–15.
Prerequisite: Economics 1123

Cross-listed Courses

Statistics 100. Introduction to Quantitative Methods for the Social Sciences and Humanities
Statistics 104. Introduction to Quantitative Methods for Economics
Statistics 110. Introduction to Probability
Statistics 186. Statistical Methods for Evaluating Causal Effects - *(New Course)*

Primarily for Graduates

Economics 2110. Econometrics I
Catalog Number: 7213
Gary Chamberlain and Maximilian Kasy
Half course (fall term). M., W., 10–11:30. EXAM GROUP: 3, 4
First half: Review of probability; statistical decision theory and asymptotic frequentist inference; applications to the estimation of income inequality, as well as to experimental evidence on the effect of class size reductions. Second half: Develop linear predictors as a way of describing population relationships and omitted variable bias; the role of panel data in dealing with omitted variable bias; random effects models, motivated by the measurement of classroom effects and teacher effects. The population models imply moment conditions, which are used for inference.
Note: Enrollment limited to PhD candidates in economics, business economics, health policy, public policy, and political economy and government (PEG).
Prerequisite: Probability (Stat 110), Linear Algebra and Calculus (Math 21a and 21b), and Real Analysis (Math 112).

Economics 2120. Introduction to Applied Econometrics
Catalog Number: 2352
Gary Chamberlain
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Introduction to methods employed in applied econometrics, including linear regression, instrumental variables, panel data techniques, generalized method of moments, and maximum likelihood.
Note: Enrollment limited to PhD candidates in economics, business economics, health policy, public policy, and political economy and government (PEG).
Prerequisite: Economics 2110.

Economics 2140. Econometric Methods
Catalog Number: 7210
Alberto Abadie (Kennedy School)
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Econometric methods for cross-section and panel data. Topics include maximum likelihood, generalized method of moments, bootstrapping, discrete choice models, duration models, nonparametric methods, quantile regression, panel data, and treatment effects estimators.
Prerequisite: Economics 2120 or equivalent.

Economics 2142. Time Series Analysis
Catalog Number: 4414
James Hamilton
Half course (fall term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11

A survey of modern time series econometrics. Topics include univariate models, vector autoregressions, linear and nonlinear filtering, frequency domain methods, unit roots, structural breaks, empirical process theory asymptotics, forecasting, and applications to macroeconomics and finance.

[Economics 2144. Advanced Applied Econometrics]
Catalog Number: 7686
Ariel Pakes
Half course (spring term). M., W., 11:30–1. EXAM GROUP: 4, 5
An introduction to the theory and application of recently developed econometric techniques used in advanced applied work. Simulation techniques, estimation subject to inequality restrictions, as well as semiparametric and nonparametric tools will be studied in a variety of empirical contexts.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

[Economics 2146. Topics in Financial Econometrics]
Catalog Number: 8715
Instructor to be determined
Half course (fall term). F., 4–7 p.m. EXAM GROUP: 9
A seminar course in financial econometrics. The topics covered include testing stylized facts in finance, robust inference, testing return predictability and market efficiency, inference in consumption-based asset pricing models and applications to real data.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Economics 2120 or equivalent.

Economics 2148. Topics in Econometrics - *(New Course)*
Catalog Number: 67608
Maximilian Kasy
Half course (spring term). W., 9:30–11:30. EXAM GROUP: 2, 3, 4
This course will cover several topics in micro-econometrics; the selection depends on student interest. Topics that might be covered include: Debates about "structural" and "reduced form" methods. "What can we get" - nonparametric identification using instrumental variables, panel data, and regression discontinuity designs. "What do we want" - optimal policy and parameters of interest. Estimation of policy effects on outcome distributions and economic inequality. Bayesian decision theory and nonparametric Bayesian methods. Experiments and experimental design.

Economics 2149. Computational Economics
Catalog Number: 7236
Che-lin Su
Half course (fall term). W., 2:30–5:30. EXAM GROUP: 7, 8, 9
Graduate introduction to computational approaches for solving economic models. Formulate economic problems in computationally tractable form and use techniques from numerical analysis to solve them. Computational techniques in the current economics literature will be examined. Topics include solving dynamic optimization problems, computing equilibria of games and estimating structural models.

Economics 2162. Research in Econometrics
Catalog Number: 2372
Maximilian Kasy, Alberto Abadie (Kennedy School), Gary Chamberlain, Dale W. Jorgenson, Neil Shephard (spring term), and James H. Stock (spring term)
Full course (indivisible). M., at 12:30. EXAM GROUP: Fall: 5, 6
Participants discuss recent research in econometrics and present their own work in progress. Open to doctoral students in economics.
Note: This course must be taken Sat/Unsat.

Cross-listed Courses

Economic History; Development Economics

For Undergraduates and Graduates

[Economics 1310. The Economy of China]
Catalog Number: 66384
Richard N. Cooper
Half course (spring term). Hours to be arranged.
This course critically examines China's remarkable economic performance in the post-Mao era and places this performance in historical and comparative context. Topics covered include China's economic structure, institutions, inequality, trade, population, and public policy.
Note: Expected to be given in 2014–15. Writing requirement: A research paper is required. This course meets the concentration writing requirement.
Prerequisite: Ec 10a and Ec 10b.

Economics 1340. World Economic History
Catalog Number: 4025 Enrollment: Limited to 80.
James Robinson
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
This course provides an overview of world economic history since the Neolithic revolution. It analyzes the main theories which have been proposed to explain these facts. Questions discussed are: why did the Neolithic revolution
Prerequisite: Social Analysis 10 or Ec 10a and Ec 10b.

[Economics 1341. The Historical Origins of Middle Eastern Development]
Catalog Number: 9328
Eric Chaney
Half course (fall term). Hours to be arranged.
Middle Eastern countries enjoyed world economic leadership during the Middle Ages, and continue to play an important role in the world economy. This course will explore the historical development of Middle Eastern economies. Topics include the effects of colonialism, natural resource endowments and religion on economic growth. The course will emphasize how these and other historical factors continue to influence development prospects in the region today.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. A research paper is

required. This course meets the concentration writing requirement.
Prerequisite: Ec 10a and Ec 10b.

[Economics 1356. Economics of Work and Family]
Catalog Number: 17685
Claudia Goldin
Half course (fall term). M., W., 11:30–1.
How are the most personal choices and life transitions decided? When and whom do you marry, how many children do you have, how much education should you obtain, and which careers or jobs will you pursue? Much will be explored in terms of change over time, particularly concerning the economic emergence of women and the growing role of government. Readings draw on economic theory, empirical analyses, history, and literature from the 19th century to the present.
Note: Expected to be given in 2014–15. Writing requirement: A research paper is required. This course meets the concentration writing requirement. This course cannot be taken Pass/Fail. This course, when taken for a letter grade, meets the General Education requirement for United States in the World or the Core area requirement for Social Analysis.
Prerequisite: Economics 1010a1, 1010a2, or Economics 1011a or equivalent, and Economics 1123 or Economics 1126 or equivalent or permission of instructor.

Economics 1357. Historical Perspectives on Economic Ascendancy
Catalog Number: 7554
Richard A. Hornbeck
Half course (fall term). M., W., 10–11:30. EXAM GROUP: 3, 4
An exploration of research in economic history, focusing on economic growth and development. Topics include: institutions and property rights; technological change and industrialization; migration and labor markets; local economic stimulus; and adaptation to the environment. The course emphasizes students learning to generate and implement ideas for new research.
Note: Concentrators may not take pass/fail. This course satisfies the concentration writing requirement.
Prerequisite: Ec 10a and Ec 10b or permission of the instructor.

[Economics 1370. Media, Democracy and Economics]
Catalog Number: 45985 Enrollment: Limited to 30.
Philippe Aghion and Benedicte Berner
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course will analyze the role of media in political and economic development. Topics covered are the history of the relationship between media and the state, media and democracy today, laws governing the media and its practice, legal and political pressures on the media, media as an economic object, ownership of media and its effects, media coverage on elections and in developing countries, competition and truth in the market for news, the current mainstream media, and journalistic ethics.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Ec 10a and Ec 10b.

Economics 1389. Economics of Global Health
Catalog Number: 1900
Guenther Fink and Margaret McConnell (Public Health)
Half course (spring term). M., W., 8:30–10. EXAM GROUP: 1, 2
This course examines health issues in developing countries from the standpoint of applied microeconomic research. Specific topics include: identifying the effect of health on growth and development and identifying the causal relationships between income, poverty, and health. We will also discuss health care delivery and human resource issues, the challenges of healthcare financing and health insurance, and the tension between equity and efficiency in the allocation of health resources.
Note: Offered jointly with the Kennedy School as SUP-518.
Prerequisite: Economics 1010a1, 1010a2, (or 1011a) and 1123 (or 1126).

Economics 1393. Poverty and Development
Catalog Number: 6516
Nathan J. Nunn
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
We will consider a number of important questions in the field of development economics: Why are some countries so rich and others so poor? What factors have determined which countries prosper? Which are the root causes and which are the proximate causes of economic underdevelopment? Can these factors be changed with specific economic policies? If so, what are they and how are they best implemented? Are there country-specific characteristics that determine economic fate? Or, is prosperity just the result of luck? Does the enjoyment of the rich somehow depend on the continuing suffering of the poor? We will consider these questions and more. The course is intended to not only provide a general overview of the dominant views about economic development and policy, but to also provide students a sense of the most recent research in the field. For this reason, the course will go beyond the usual textbook summary of the field. Students will also examine recent journal articles that have made important contributions to the field of development economics. In the course, a particular effort is made to link the theories and empirical evidence to the real world.
Note: Writing requirement: A research paper is required. This course meets the concentration writing requirement.
Prerequisite: Economics 1010a1, 1010a2, (or 1011a) and 1010b (or 1011b). It is recommended that students have taken Economics 1123 or equivalent.

Cross-listed Courses

Government 1197. The Political Economy of Africa

Primarily for Graduates

Economics 2325. Comparative Historical Economic Development
Catalog Number: 8510
Nathan J. Nunn and James Robinson
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
The course examines the historical origins of differences in the economic and social

development of societies. Participants discuss recent research in the field and present their own work in progress.
Note: This course is targeted to second-year Ph.D. students in economics. It is not open to undergraduate or Masters students. The course fulfills the distribution requirement.

[Economics 2327. Economic Development: Theory, Policy, and Evidence]
Catalog Number: 8092
Dani Rodrik (Kennedy School) and Rema N. Hanna (Kennedy School)
Half course (fall term). M., W., 11:40-1, and a weekly section, F., 1-2:30. EXAM GROUP: 4, 5
Provides a graduate-level overview of the theory of and evidence on economic development from a policy-oriented perspective. Aim is to allow students to analyze policy debates surrounding development from a broad and rigorous analytical base.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. Offered jointly with the Kennedy School as PED-101.

[Economics 2328. The Emergence of Modern Economic Growth: A Comparative and Historical Analysis]
Catalog Number: 9475
James Robinson
Half course (fall term). Hours to be arranged.
Overview and analysis of comparative economic development during the last half millennia. Examines the emergence of modern economic growth in Europe after 1500, and the forces that led to the great divergence in prosperity in the 19th century. Also considered: colonialism, communism, fascism, and revolution.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

[Economics 2330. History and Human Capital]
Catalog Number: 2588
Claudia Goldin and Lawrence F. Katz
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
Explores a range of subjects concerning human capital, historically and comparatively. Topics include fertility, mortality, health, immigration, women's work, child labor, retirement, education, inequality, slavery, unionization, and governmental regulation of labor, all within the broader context of economic history.
Note: Expected to be given in 2014–15. Satisfies the graduate distribution requirement. Open to undergraduates on a limited basis with permission of instructor.

Economics 2332hfc. Research in Development Economics - *(New Course)*
Catalog Number: 66405
Nathan J. Nunn, Melissa Lynne Dell (fall term), Richard A. Hornbeck, and Michael R. Kremer (fall term)
Half course (throughout the year). M., at 2:45. EXAM GROUP: 7, 8
Participants discuss recent research in economic development and present their own work in progress. Popularly known as the Development Tea.
Note: Primarily, but not exclusively, for doctoral students in economics who have passed their oral examinations.

Economics 2333. Historical Perspectives on Current Economic Issues
Catalog Number: 6800
Robert Margo
Half course (spring term). F., 9–12. EXAM GROUP: 2, 3, 4
Comparative economic history emphasizing sources of economic growth and development. Topics include technological change and industrialization, institutions, the Great Depression and financial regulation, migration and adjustment to economic shocks, public infrastructure, labor markets and wage inequality, and health. Each topic is motivated by a current concern and develops methods for historical analysis to inform modern economic questions.
Note: Satisfies the graduate distribution requirement. Open to undergraduates on a limited basis with permission of instructor.

***Economics 2339r. Economic History Lunch**
Catalog Number: 8183
Claudia Goldin, Eric Chaney, Richard A. Hornbeck, Robert Margo, and Nathan J. Nunn
Full course (indivisible). Fall: M., 4–5:30; Spring: F., 12:30–2. EXAM GROUP: Fall: 9; Spring: 5, 6
Participants discuss recent research in economic history and present their own work in progress.
Note: Primarily, but not exclusively, for doctoral students in economics who have passed their oral examinations. Popularly known as The History Tea.

Economics 2342. China Economy Seminar - *(New Course)*
Catalog Number: 98259
Richard B. Freeman
Half course (spring term). W., 1–2:30. EXAM GROUP: 6, 7
This seminar provides a forum for faculty, graduate students, and research fellows in economics and other fields to present and discuss research and scholarship on the economic and social transformation of China. The seminar will give special attention to the environmental, technological, and social changes that are accompanying China's extraordinary economic development and to the links between Chinese and US economies.

Economics 2350. Workshop in Religion, Political Economy, and Society
Catalog Number: 0815
Edward L. Glaeser
Half course (spring term). Th., 1–2:30.
Topics on the interplay between religion and the social sciences.

Economics 2390b. Development Economics I: Microeconomic Issues
Catalog Number: 2990
Sendhil Mullainathan and Richard A. Hornbeck
Half course (fall term). W., 3–5; M., 3–5. EXAM GROUP: 8, 9
Topics include agricultural issues such as peasant behavior, land tenancy, interlinked markets; credit and insurance market problems and institutions; health, nutrition, and productivity; gender bias; education; and technology adoption.

Economics 2390c. Development Economics II: Macroeconomic Issues
Catalog Number: 0388
Nathan J. Nunn and Michael R. Kremer
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
The first part will cover macro-economic topics including aggregative and non-aggregative growth models, growth and development accounting and models of technology diffusion and choice. The second part will evaluate the role of governance/institutional design in affecting development.
Note: Offered jointly with the Kennedy School of Government as PED-319.

***Economics 2390dhf. Research in Economic Development**
Catalog Number: 1926
Sendhil Mullainathan, Philippe Aghion, Richard A. Hornbeck, Asim I. Khwaja (Kennedy School), and Michael R. Kremer
Half course (throughout the year). Th., 12–1:30. EXAM GROUP: 14, 15
Participants discuss recent research in development economics and present their own work in progress. Open to doctoral students in economics who have passed their oral examinations.
Note: Popularly known as the Development Lunch.

[Economics 2393. The Design of Development Policy: From Research to Practice]
Catalog Number: 62879
Sendhil Mullainathan and Rohini Pande (Kennedy School)
Half course (spring term). Hours to be arranged.
Development research is fascinating in part because it has a direct impact on public policy. Yet the pathways to impact are very different, from shaping how we evaluate public and non-profit programs to setting countrywide goals. This course will take a micro-economic perspective and critically review the distinct ways in which research affects and is affected by public policy. General topics will include: the debate over randomized evaluations, the creation and diffusion of policy innovations, the tension between micro and macro policy approaches and the role of theory. Specific areas covered will include Finance, Education and Public health and Governance.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. The course will presumes knowledge of an advanced statistics course. Open to undergraduates with permission of the instructor. Jointly listed with the Kennedy School as PED-330.

Cross-listed Courses

[*History 2331. Adam Smith: Philosophy and Political Economy: Seminar]
Philosophy 272. Foundations of Justice - *(New Course)

Monetary and Fiscal Theory and Policy; Public Sector Economics

For Undergraduates and Graduates

Economics 1400 (formerly Societies of the World 48). The Future of Globalization: Issues, Actors, and Decisions

Catalog Number: 5906
Lawrence H. Summers (University Professor; Economics) and Robert Z. Lawrence (Harvard Kennedy School)
Half course (spring term). Tu., Th., 11:30–1 and a weekly section to be arranged. EXAM GROUP: 13, 14
What is the right balance between national sovereignty and international integration? Is the US equipped to sustain its role as a global leader? Should we regulate multi-national companies who move their factories to countries with lower labor standards? How should the IMF respond to financial crises in Europe and the developing world? How will the rise of China affect global inequality? These are all questions posed by globalization. This course uses basic economic logic to illuminate the choices faced by businesses, governments, international institutions and citizens as the global economy evolves. Policy issues are debated in class by the professors and students play the role of public and private actors in simulation exercises in order to experience the importance of the decisions made by individual actors for the evolution of the global system.
Note: Jointly offered with the Kennedy School as ITF-225. This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Social Analysis.
Prerequisite: Ec 10a, or equivalent economics background, or permission of instructor.

Economics 1410. Public Economics: Designing Government Policy
Catalog Number: 6136
Martin Feldstein and Raj Chetty
Half course (spring term). M., W., (F.), 2:00-3:30, and a weekly section to be arranged. EXAM GROUP: 7, 8
This course analyzes what role the government should play in a market economy. It covers topics such as tax and welfare policy, unemployment insurance, environmental protection, education policy, social security
Note: Students should have some knowledge of basic calculus and statistics, but there is no formal mathematics prerequisite. Offered jointly with the Kennedy School as SUP-125. This course offers an optional writing requirement which if completed will satisfy the concentration writing requirement.
Prerequisite: Economics 1010a1, 1010a2, or 1011a or permission of instructor.

Economics 1415. Analytic Frameworks for Policy
Catalog Number: 93229
Richard J. Zeckhauser (Kennedy School)
Half course (fall term). Tu., Th., 1:10–2:30; Review Sessions F., 1:10-2:30. EXAM GROUP: 15, 16
This course develops abilities in using analytic frameworks in the formulation and assessment of public policies. It considers a variety of analytic techniques, particularly those directed toward uncertainty and interactive decision problems. It emphasizes the application of techniques to policy analysis, not formal derivations. Students encounter case studies, methodological readings, modeling of current events, the computer, a final exam, and challenging problem sets.
Note: Jointly offered with the Kennedy School as API-302.
Prerequisite: Economics 1011a or permission of instructor.

Economics 1420. American Economic Policy
Catalog Number: 8110
Martin Feldstein, Jeffrey B. Liebman (Kennedy School), and Lawrence H. Summers
Half course (spring term). M., W., F., at 10, and a weekly section to be arranged. EXAM GROUP: 3
Analyzes major issues in American economic policy including taxation, Social Security, health care reform, budget policy, monetary and fiscal policy, and exchange rate management. Current economic issues and policy options discussed
Note: Offered jointly with the Kennedy School as API-126. This course offers an optional writing requirement which if completed will satisfy the concentration writing requirement.
Prerequisite: Economics 1010a1, 1010a2, or 1011a, or permission of instructor.

Economics 1425. Political Economics
Catalog Number: 68084 Enrollment: Limited to 20.
Andrei Shleifer
Half course (spring term). Th., 2:30–4:30. EXAM GROUP: 16, 17, 18
Discusses several research areas in political economy, including the origins of the state, comparative political systems, theories of economic reform, fiscal problems in democracies, rule of law, privatization, and regulation.
Note: A research paper is required. This course meets the concentration writing requirement.
Prerequisite: Economics 1010a1, 1010a2, or 1011a.

Economics 1430. Economic Growth
Catalog Number: 5549
Robert J. Barro
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Topics include the political economy of economic growth, including the roles of democracy and legal institutions; inflation, monetary policy, and fiscal policy; interplay between religion and political economy; and analyses of economic and monetary unions.
Prerequisite: Economics 1010b or 1011b, or permission of the instructor.

Economics 1432. Economics of European Integrations
Catalog Number: 29276 Enrollment: Limited to 40.
Johann-helmut Kotz
Half course (fall term). Tu., Th., 10–11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
The aim of the course is to give students familiarity with a broad range of European policy issues: integration of markets (for goods, services, and labor), monetary union (ECB) and its consequences for fiscal policy, financial sector regulation as well as supervision. It is offered for students who would like to employ the tools they have learned in principles of economics and introductory micro and macro courses on real world cases. This implies to write and present a paper (mandatory writing requirement).
Note: Writing requirement: A research paper is required. This course meets the concentration writing requirement.
Prerequisite: Ec 10a and ec 10b.

[Economics 1435. Macroeconomic Policy in the Global Economy]
Catalog Number: 73396
Emmanuel Farhi
Half course (spring term). Tu., Th., 1–2:30.
Examines fiscal policy, monetary policy, exchange rate policy, and financial regulation. Emphasizes both short-term stabilization goals and longer-term policy objectives. Considerable attention to recent policy.
Note: Expected to be given in 2014–15.
Prerequisite: Students taking this course should have taken an intermediate macroeconomics class (1010b or 1011b). Knowledge of univariate calculus and basic statistics will be assumed.

[Economics 1450r. Religion and Political Economy]
Catalog Number: 43748
Robert J. Barro
Half course (fall term). W., 2–4:30. EXAM GROUP: 7, 8, 9
Recent research on religion has stressed social-science approaches. Parts of the work assess effects of economic and other forces on religious participation and beliefs. This topic includes models of secularization and of competition among alternative forms of religion, including analyses of the Reformation. Religious conversion and the club model of religious participation will be considered. Other aspects of the research analyze effects of religiosity on microeconomic variables, including work effort, thrift, education, health, and violence. Parts consider the impact of religion on macroeconomic outcomes, including economic growth. Additional work considers the interplay between religion and political institutions, including the role of state religion and interactions with Communism and democracy.
Note: Satisfies writing requirement.
Prerequisite: Intermediate Macroeconomics and Microeconomics: Economics 1010a1, 1010a2, or 1011a and Economics 1010b or 1011b.

Economics 1460. Economics of Health Care Policy
Catalog Number: 4540
Joseph P. Newhouse (Kennedy School, Public Health, Medical School)
Half course (spring term). M., W., 8:30–10. EXAM GROUP: 1, 2
Policy issues related to the following: the demand for medical care services, especially as a function of insurance; the demand for insurance and issues of selection; reimbursement policies of Medicare and other payers toward health plans, hospitals, and physicians; effects of health maintenance organizations and managed care; and malpractice and tort reform. Focus on federal policy, although state and local perspectives will receive some attention.
Note: Students may not take both Economics 1460 and Quantitative Reasoning 24: Health Economics and Policy for credit. Offered jointly with the Kennedy School as SUP-572. This course offers an optional writing requirement which if completed will satisfy the concentration writing requirement.
Prerequisite: Economics 1010a or 1011a. A statistics course is highly desirable.

Economics 1490. Growth and Crisis in the World Economy
Catalog Number: 35497 Enrollment: Limited to 30.
Dale W. Jorgenson

Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This course assesses the future of the tri-polar world economy - Asia, Europe, and North America. The course analyzes the resurgence of the US economic growth, the emergence of asset pricing bubbles, and the ensuing financial and economic crisis. We will discuss the sources of Asian growth miracles and the convergence and subsequent divergence of Europe and North America. What growth rate is sustainable and who will lead? What are the forces that threaten long-term prosperity?
Note: This course satisfies the Economics concentration writing requirement. Students who would like to enroll should submit the application form available on the course website.
Prerequisite: Economics 1010a1, 1010a2, or 1011a and Economics 1010b or 1011b.

Cross-listed Courses

Empirical and Mathematical Reasoning 20 (formerly Quantitative Reasoning 24). The Business and Politics of Health

Primarily for Graduates

Economics 2410 (formerly Economics 2410hfc). Macroeconomics After the Crisis: Models with Lack of Commitment
Catalog Number: 1746
Aloisio Araujo
Half course (spring term). Tu., Th., 4–5:30. EXAM GROUP: 18
The course will start by motivating the importance of general equilibrium models with limited commitment. We present the main characteristics of the following models: penalty in the utility function, collateral, bankruptcy and exclusion from the market. In the collateral models we present application to regulation of financial markets and non-conventional monetary policy. In bankruptcy law we study the features to protect lenders and preservation of firm's value in order to maximize welfare. In exclusion from the market we study models of international default and justification of currency unions.

Economics 2410a. Topics in Macroeconomics
Catalog Number: 7072
Robert J. Barro
Half course (spring term). W., 2–5. EXAM GROUP: 7, 8, 9
Investigates the effect of financial market imperfections on aggregate investment and asset prices. Topics include financial persistence and amplification mechanisms, fire sales and limits to arbitrage, leverage cycles, asset price bubbles, financial fragility and financial contagion.

Economics 2412a. Political Economics
Catalog Number: 47596
Alberto F. Alesina
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Discusses several research areas in political economy, including the origins of the state, comparative political systems, theories of economic reform, fiscal problems in democracies, rule of law, privatization, regulation, and elections and the economy.

[Economics 2412b. Law, Economics, and Politics]
Catalog Number: 62703
Andrei Shleifer and Elias Papaioannou
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
The course will discuss a range of topics covering political economy and law and economics. The topics will include: determinants of economic growth, social capital, legal systems and traditions, regulation, courts, public and private ownership, and economic transition.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

[Economics 2412c. Introduction to Formal Political Economy]
Catalog Number: 59539
Instructor to be determined
Half course (spring term). Hours to be arranged.
This class tries to familiarize students with the basics in formal political economy, and give a sense of the research frontier. Topics include models of collective choice, information aggregation in elections, legislative decision-making, and lobbying.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

***Economics 2420hf. Research in Macroeconomics**
Catalog Number: 5946
Philippe Aghion, Alberto F. Alesina, Robert J. Barro, Emmanuel Farhi, Benjamin M. Friedman, David I. Laibson, and N. Gregory Mankiw
Half course (throughout the year). Tu., 11:30–1.
Participants discuss recent research in macroeconomics and present their own work in progress. Open to doctoral students in economics who have passed their oral examinations.
Note: Popularly known as the Macro Lunch.

[Economics 2421. Reading Course in Monetary and Fiscal Policy]
Catalog Number: 97507
Benjamin M. Friedman
Half course (spring term). W., 2:30–4. EXAM GROUP: 7, 8
A reading course that allows students to discuss and evaluate recent research in the analysis of monetary and fiscal policies. Students will be expected to participate in formally presenting, and critiquing, unpublished or newly published papers.
Note: Expected to be given in 2014–15. Students taking the course for credit will also be expected to undertake research papers of their own.

Economics 2450a. Public Economics and Fiscal Policy I
Catalog Number: 1339
Raj Chetty
Half course (fall term). M., W., (F.), 11:30–1. EXAM GROUP: 4, 5
This course covers basic issues in the optimal design of tax and social insurance policies, with emphasis on combining theoretical models with empirical evidence. Topics include efficiency costs and incidence of taxation, income taxation, transfer and welfare programs, public goods and externalities, optimal social insurance, and welfare analysis in behavioral models.
Prerequisite: Economics 2010a and 2010b or Economics 2020a and 2020b.

Economics 2450b. Public Economics and Fiscal Policy II
Catalog Number: 6478
Nathaniel Hendren
Half course (spring term). M., W., 11:30–1; F., 11:30–1. EXAM GROUP: 4, 5
This course covers theoretical and empirical applications of public economics to policy debates. Topics include education, local public finance, fiscal federalism, housing policy, corporate and international taxation, social security, and macroeconomic stabilization using fiscal policy.
Prerequisite: Economics 2010a and 2010b or Economics 2020a and 2020b. Students are strongly encouraged to take Economics 2450a before taking 2450b.

Economics 2460. Health Economics Workshop
Catalog Number: 7617
Amitabh Chandra (Kennedy School), David M. Cutler, and Joseph P. Newhouse (Kennedy School, Public Health, Medical School)
Half course (spring term). W., 4–6. EXAM GROUP: 9
Focuses on theory, econometric models, and public policy of health care. Frontier work in health economics presented and discussed by instructors and outside speakers.
Note: May be taken for credit only by dissertation students writing a research paper. Offered jointly with the Kennedy School as SUP-951.

Economics 2465. Health Economics
Catalog Number: 83396
David M. Cutler
Half course (spring term). Tu., Th., 2:30–4 and F., 1-2:30. EXAM GROUP: 16, 17
This course surveys topics in health economics. It touches on public sector issues, the industrial organization of health care markets, interactions between health and labor markets, and health in developing countries. Theory and empirical work are presented.
Prerequisite: Economics 2010a, or Econ 2020a and Econ 2020b.

Economics 2480. Research in Public Economics and Fiscal Policy: Research Seminar
Catalog Number: 6834
Raj Chetty, David M. Cutler, and Martin Feldstein
Full course. Tu., 1–2:30. EXAM GROUP: 15, 16
Participants discuss recent research in public economics and fiscal policy and present their own work in progress. Open to doctoral students in economics who have passed their oral examinations.

***Economics 2490. The Economics of National Security Seminar**
Catalog Number: 9061
Martin Feldstein
Half course (spring term). Tu., 6–9 p.m. EXAM GROUP: 18
Considers a range of issues relating to national security, including bioterrorism, the market for nuclear weapons, the defense industry, the dependence on imported oil, intelligence, sanctions, etc.
Note: Speakers will be both experts with experience in this field and economists doing research

on these issues. Seminar participants will be economics department faculty and selected graduate students.

Economics 2510. Inside Government: Making Public Policy - *(New Course)
Catalog Number: 46583 Enrollment: Please send a statement of interest and your resume to Kevin Doyle at (kdoyle@law.harvard.edu).
Cass Robert Sunstein (Law School) and Lawrence H. Summers
Half course (spring term). Tu., 5–7 p.m. EXAM GROUP: 18
This seminar will explore an assortment of issues, ranging from environmental regulation (including climate change) to financial regulation to public health, at the intersection of theory and practice. Among other things, the seminar will discuss the role of cost-benefit analysis, legal limits on regulation, and both standard and behavioral economics.
Note: Jointly offered with the Kennedy School as BGP-300 and the Law School as 2623.
Prerequisite: Instructor permission is required.

International Economics

For Undergraduates and Graduates

[Economics 1530. International Monetary Economics]
Catalog Number: 2269
Richard N. Cooper
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
This is an intermediate level international finance and macroeconomics course that uses a mix of theoretical, empirical and policy frameworks to analyze topical problems in international finance. The topics include exchange rate determination, currency interventions, monetary policy coordination, capital flows and currency crises.
Note: Writing requirement: A research paper is required. This course meets the concentration writing requirement. May not be taken for credit with Economics 1531.
Prerequisite: Economics 1010b or 1011b.

[Economics 1531. Economics of International Financial Policy]
Catalog Number: 7018
Gita Gopinath
Half course (spring term). Hours to be arranged.
This course examines the macroeconomics of open economies. It covers models appropriate to major industrialized countries. Topics include the foreign exchange market, devaluation, and import and export elasticities; simultaneous determination of the trade balance, national income, balance of payments, money flows, and price levels; capital flows and our increasingly integrated financial markets; monetary and fiscal policy in open economies; international macroeconomic interdependence; supply relationships and monetary policy targets; exchange rate determination; and international portfolio diversification.
Note: Offered jointly with the Kennedy School as ITF-220. May not be taken for credit with Economics 1530.
Prerequisite: Economics 1010/1011. Knowledge of international trade theory and econometric techniques is also desirable, but not essential. Students must be very comfortable with algebra.

Economics 1535. International Trade and Investment
Catalog Number: 2557
Pol Antràs
Half course (spring term). M., W., 2–3:30. EXAM GROUP: 7, 8
Analyzes the causes and consequences of international trade and investment. Focuses on the interplay of economic theory and empirical descriptions of foreign trade and direct investment patterns.
Prerequisite: Economics 1010a1, 1010a2, or 1011a.

[Economics 1540. Topics in International Trade]
Catalog Number: 7470
Pol Antràs
Half course (spring term). Hours to be arranged.
Covers advanced topics in international economics with a special emphasis on an analytical approach to the recent process of globalization. Topics include the role of multinational firms in the global economy, the effect of international outsourcing on wages, and trade and industrial development.
Note: This course offers an optional writing requirement which if completed will satisfy the concentration writing requirement.
Prerequisite: Economics 1535 and basic knowledge of calculus and econometrics.

[Economics 1542. International Trade Policy]
Catalog Number: 2613
Elhanan Helpman
Half course (fall term). Hours to be arranged.
Provides a discussion of the economic impacts of international trade policies and the political economy of trade policy formation. The course will focus on analytical methods and therefore requires knowledge of calculus.
Prerequisite: Economics 1010a1, 1010a2, or 1011a, or permission of instructor.

Economics 1544. Foundations of International Macroeconomic Policy - *(New Course)*
Catalog Number: 83909
Gita Gopinath
Half course (spring term). M., W., 10:30–12. EXAM GROUP: 3, 4
This is an intermediate level international finance and macroeconomics course that uses a mix of theoretical, empirical, and policy frameworks to analyze topical problems in international finance. The core objective of the course is to develop simple macroeconomic models of open economies that can be usefully applied to international economic phenomena. We will examine the balance of payments, the determination of exchange rates, the effect of fiscal and monetary policies under fixed and floating exchange rate regimes, balance of payment crisis, international macroeconomic dependence, financial globalization, and the challenges facing developing economies. Recent issues such as the crisis in the Euro area and the sustainability of the Euro, the global transmission of the financial crisis, global imbalances, China's exchange rate policy, among others, will receive attention. Note: May not be taken for credit with Economics 1530 or 1435.

Prerequisite: Economics 1010b or 1011b. Students must be very comfortable with algebra and basic calculus.

Economics 1545. International Financial and Macroeconomic Policy
Catalog Number: 5166
Kenneth Rogoff
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Advanced theoretical and empirical analysis of contemporary international macroeconomic policy issues in both industrialized and developing economies. Topics include exchange rates, international capital flows, debt crises, growth, and policy coordination.
Prerequisite: Economics 1010b or 1011b.

Primarily for Graduates

Economics 2530a. International Trade
Catalog Number: 4537
Elhanan Helpman
Half course (fall term). M., W., 8:30–10. EXAM GROUP: 1, 2
Provides a broad overview of theory and evidence concerning international trade, direct foreign investment, and trade policy.
Note: Strongly recommended as preparation for Economics 2530b. Open to undergraduates only with permission of instructor.
Prerequisite: Economics 2010a and 2010b.

Economics 2530b. International Finance
Catalog Number: 7144
Gita Gopinath
Half course (spring term). M., W., 8:30–10. EXAM GROUP: 1, 2
Financial aspects of growth and income determination in open economies. Topics include international business cycle, monetary and exchange rate regimes, capital flows, and current issues in international macroeconomic policy.
Prerequisite: Economics 2530a provides extremely useful background.

Economics 2535. Advanced Topics in International Trade
Catalog Number: 6410
Pol Antràs
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
Covers advanced theoretical and empirical topics concerning the determinants of world trade patterns.
Prerequisite: Economics 2530a or permission of instructor.

***Economics 2540hf. Research in International Economics**
Catalog Number: 4008
Kenneth Rogoff and members of the Department
Half course (throughout the year). W., at 12. EXAM GROUP: Fall: 5
Participants discuss recent research in international economics and present their own work in

progress. Open to doctoral students in economics who have passed their oral examinations.
Note: Popularly known as the International Lunch.

Industrial Organization and Regulation; Environmental Economics

For Undergraduates and Graduates

[*Economics 1620. Industry Structure, Strategy, and Public Policy]
Catalog Number: 90055
F. M. Scherer (Kennedy School)
Half course (spring term). M., W., 1:10–2:30. EXAM GROUP: 6, 7
Provides a systematic economic and historical framework for evaluating industrial policies such as agricultural crop price supports, international dumping and subsidy rules, energy policy, technology policy, competition policy (antitrust), public regulation, and corporate bailouts. It proceeds through a series of 10 industry case studies, in order: agriculture, crude petroleum, petroleum refining, steel, integrated circuits, computers, the Internet, automobiles, pharmaceuticals (domestic and international), and beer. Grading will be on the basis of two short policy papers and a final examination. A longer industry study can be substituted for the final exam.
Note: Expected to be given in 2014–15. Jointly offered with the Kennedy School as BGP-201.

[Economics 1640. Industrial Organization: Theory and Applications]
Catalog Number: 7875 Enrollment: Limited to 30.
Instructor to be determined
Half course (spring term). Hours to be arranged.
Theoretical and empirical analysis of contemporary topics in industrial organization. Uses economic theory to analyze important issues facing firms, and examines the practical challenges of empirical applications of theory.
Note: Students may not take both Economics 1640 and Economics 1641 for credit.
Prerequisite: Economics 1010a1, 1010a2, or 1011a.

Economics 1642. Advanced Industrial Organization
Catalog Number: 9613
Gregory M. Lewis
Half course (spring term). M., W., 4–5:30. EXAM GROUP: 9
Theory and modern empirical techniques in industrial organization. Topics may include static analysis and estimation of market equilibrium; dynamic models of entry and investment; price discrimination, collusion, mergers and vertical control, with applications to antitrust policy; and issues in auctions and market design.
Note: Optional writing Requirement: This course offers an optional writing requirement which if completed will satisfy the concentration writing requirement. This is a hands-on course, and students will be expected to use Stata or other statistical software to perform data analysis.
Prerequisite: Economics 1010a1, 1010a2, or 1011a; Economics 1123 or 1126.

[Economics 1661. Fundamentals of Environmental Economics and Policy]
Catalog Number: 2115

Robert N. Stavins (Kennedy School)
Half course (spring term). M., W., 1-2:30 and an optional review section F., 1-2:30. EXAM GROUP: 6, 7
Provides a survey, from the perspective of economics, of environmental and natural resource policy. Combines lectures on conceptual and methodological topics with examinations of public policy issues.
Note: Expected to be given in 2014–15. Optional writing Requirement: This course offers an optional writing requirement which if completed will satisfy the concentration writing requirement. Offered jointly with the Kennedy School as API-135. Expected to be bracketed in 2013-14.
Prerequisite: Ec 10a and Ec 10b or permission of instructor.

Economics 1687. Advanced Economics of the Environment, Natural Resources, and Climate Change
Catalog Number: 44432
Martin L. Weitzman
Half course (spring term). M., W., 1-2:30; and a weekly recitation F., 1-2:30. EXAM GROUP: 6, 7
Survey of foundations and applications of the modern theory of environmental and natural-resource economics. What are the basic models and what are they suggesting about policy? Externalities, public goods, common property, strategies for controlling pollution. Dynamics of renewable resources (fisheries, forestry) and dynamics of non-renewable resources (minerals like oil). Discounting, uncertainty, cost-benefit analysis, investment criteria for environmental projects, green accounting, sustainability. Basic economic analysis of climate change as prototype example.
Note: Students from other concentrations are welcome to take this course for credit.
Prerequisite: Economics 1010a1 or 1010a2.

Primarily for Graduates

Economics 2610. Industrial Organization I
Catalog Number: 3766
Ariel Pakes
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Applied work in industrial organization. Static analysis (theory, estimation): demand systems, cost functions, and game theoretic concepts of equilibrium and their application. Dynamic analysis (theory, computation, estimation): single agent problems, dynamic games and their application.

Economics 2611. Industrial Organization II
Catalog Number: 2302
Gregory M. Lewis
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Application of industrial organization to problems of public policy. Applied analysis of antitrust policy, network industries, vertical relationships, auctions, and other topics depending on

interest.
Note: Students are urged to take Economics 2610 before Economics 2611.

Economics 2612. Dynamic Topics in Industrial Organization - *(New Course)*
Catalog Number: 83893
Ariel Pakes and Ali R. Yurukoglu
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
Econ 2612 covers the specification, computation, and estimation of dynamic models of consumer and firm behavior in Industrial Organization. Topics include: dynamic single agent problems, dynamic models of oligopoly, estimation of dynamic models by traditional and two-step methods, and dynamic games with asymmetric information. These concepts are applied to study regulation, intellectual property, horizontal mergers, collusion, and technological change across a variety of industries including pharmaceuticals, power generation, and airlines.

***Economics 2640hf. Research in Industrial Organization**
Catalog Number: 5981
Ariel Pakes, and Gregory M. Lewis
Half course (throughout the year). Tu., 11:30–1. EXAM GROUP: 13, 14
Participants present their own research in progress in an informal setting. Open to doctoral students in economics who have passed their general examinations and are in the early stages of their dissertations.

[Economics 2665. The Economics of Organizations Workshop]
Catalog Number: 9819
Oliver S. Hart
Half course (throughout the year). Hours to be arranged.
Speakers present current research in the field in a seminar setting.
Note: Expected to be given in 2014–15. Offered jointly with the Business School as 4230.

[Economics 2670. Organizational Economics]
Catalog Number: 6913
Instructor to be determined
Half course (spring term). Hours to be arranged.
Theoretical and empirical work on organizations. Topics include agency problems inside organizations, boundaries of the firm, relational contracting, authority, hierarchies, delegation, decentralization, and nonstandard organizational arrangements (including joint ventures, venture capital, and public ownership).
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. Offered jointly with the Business School as 4180.
Prerequisite: Economics 2020.

Economics 2680. Environmental, Natural Resource, and Climate Change Economics
Catalog Number: 6529
Martin L. Weitzman
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Basic theory and models. Externalities, common property, public goods, pollution control,

renewable and non-renewable resources, discounting, uncertainty, cost-benefit analysis, green accounting, sustainability, climate change.
Note: Students welcome from other departments and programs. There is a choice of a research paper or final exam.
Prerequisite: Graduate price theory at level of Economics 2010 or 2020.

***Economics 2690hf. Environmental Economics and Policy Seminar**
Catalog Number: 4324
Robert N. Stavins (Kennedy School) and Martin L. Weitzman
Half course (throughout the year). W., 4–5:30. EXAM GROUP: 9
Selected topics in environmental and resource economics. Emphasizes theoretical models, quantitative empirical analysis, and public policy applications. Includes invited outside speakers.
Note: Primarily for graduate students in economics or related fields with environmental interests. Offered jointly with the Kennedy School as API-905Y.
Prerequisite: Graduate-level course in microeconomic theory.

Financial Economics

For Undergraduates and Graduates

Economics 1723. Capital Markets
Catalog Number: 1917
John Y. Campbell
Half course (fall term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
An introduction to the economic analysis of investment decisions and financial markets. Concepts include time discounting, market efficiency, risk, and arbitrage. These concepts are applied to fixed-income securities, equities, and derivative securities.
Prerequisite: Statistics 100 and Economics 1010a1, 1010a2, or 1011a.

Economics 1745. Corporate Finance
Catalog Number: 5889
Fausto Panunzi
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Introduction to corporate finance, including capital budgeting, capital structure of firms, dividend policy, corporate governance, and takeovers.
Prerequisite: Economics 1010a1, 1010a2, or 1011a, Mathematics 20, and Statistics 100.

Economics 1760. Behavioral Finance
Catalog Number: 77458
Owen A. Lamont
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Theory and evidence on mispricing in financial markets due to investor psychology or institutional constraints. Broad themes are the practical limits of arbitrage, models of psychological behavior, and predictability of security returns. Specific topics may include market bubbles and crashes, closed end funds, value vs. growth, momentum, the money management

industry, and short sale constraints.
Prerequisite: Econ 1723

Cross-Listed Courses

Statistics 123. Applied Quantitative Finance
Statistics 170. Quantitative Analysis of Capital Markets

Primarily For Graduates

Economics 2723. Asset Pricing I
Catalog Number: 2847
John Y. Campbell
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
An introduction to financial economics emphasizing discrete-time models and empirical applications. Reviews basic asset pricing theory. Discusses empirical topics including predictability of stock and bond returns, the equity premium puzzle, and intertemporal equilibrium models.
Note: Offered jointly with the Business School as 4209.
Prerequisite: Economics 2010a or 2020a, or permission of instructor.

Economics 2725. Corporate Finance
Catalog Number: 1427
David S. Scharfstein (Business School) and Robin Marc Greenwood (Business School)
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Theory and empirical evidence on capital structure, dividends, investment policy, and managerial incentives. Topics include banking, corporate governance, and mergers.
Note: Offered jointly with the Business School as 4223.
Prerequisite: Economics 2060.

Economics 2726. Theoretical and Empirical Perspective on Entrepreneurship: Economics and Finance
Catalog Number: 4451
William Robert Kerr (Business School) and Joshua Lerner (Business School)
Half course (spring term). Hours to be arranged.
Entrepreneurship is a complex phenomenon that has attracted little academic attention. This course explores the emerging work in this area. Students taking the course for credit will be expected to complete two referee reports and a paper.
Note: Offered jointly with the Business School as 4350.

Economics 2727. Empirical Methods in Corporate Finance
Catalog Number: 9055
Paul Gompers (Business School), Samuel Gregory Hanson, Victoria Izashina, and Adi Sunderam
Half course (spring term). Th., 2:30–5:30. EXAM GROUP: 16, 17, 18
Examines empirical research in corporate finance. Covers empirical research methodology, financial institutions, and financial policy. Major emphasis is on how to do well-executed and

persuasive research in corporate finance.
Note: Structured to minimize overlap with Economics 2725. Seminar format; students write referee reports and a research paper. Offered jointly with the Business School as 4220.

Economics 2728. Behavioral Finance
Catalog Number: 8633
Andrei Shleifer
Half course (spring term). W., 1:30–3:30. EXAM GROUP: 6, 7, 8
Deals with theoretical and empirical approaches to the study of financial markets using psychological or behavioral ideas. Topics include limited arbitrage, predictability of security returns, and trading volume.

***Economics 2770hf. Research in Financial Economics**
Catalog Number: 1379
John Y. Campbell
Half course (throughout the year). F., 12–1:30.
Participants discuss recent research in financial economics and present their own work in progress. Open to doctoral students in economics who have passed their oral examinations.
Note: Offered jointly with the Business School as 4601.

Labor, Human Resources, and Income Distribution; Urban Economics

For Undergraduates and Graduates

[Economics 1815. Social Problems of the American Economy]
Catalog Number: 3130
Lawrence F. Katz
Half course (spring term). Hours to be arranged.
Examines selected social and economic problems of the US and evaluates market and governmental solutions. Topics include discrimination, income and wage inequality, welfare reform, antipoverty strategy (including education and training programs), homelessness, crime, and charitable behavior.
Note: Expected to be given in 2014–15. A research paper is required. This course meets the concentration writing requirement.
Prerequisite: Ec 10a and Ec 10b or permission of the instructor.

[Economics 1816. Race in America]
Catalog Number: 2483 Enrollment: Limited to 40.
Roland G. Fryer
Half course (fall term). M., W., 1–2:30.
Examines the causes and consequences of racial inequality in America and evaluates the efficacy of various market and non-market solutions. Topics include: the racial achievement gap in education, the impact of crack cocaine on inner cities, racial differences in health, crime and punishment, labor market discrimination, social interactions and the effects of peer groups, affirmative action, and more.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. Optional writing

Requirement: This course offers an optional writing requirement which if completed will satisfy the concentration writing requirement. Offered in alternate years.
Prerequisite: Ec 10a and Ec 10b.

Economics 1818. Economics of Discontinuous Change
Catalog Number: 3029
Richard B. Freeman
Half course (spring term). Tu., Th., 1-2:00, and a weekly section to be arranged.
Explores discontinuous changes in the economic position of groups and countries and presents mathematical and computer simulation models designed to illuminate these changes. Examples include growth/decline of trade unions, segregation of groups, development of linkages on the internet, changes in corporate work culture, growth of social pathologies in neighborhoods, and Malthusian concerns about the environment. Models include nonlinear simulations, neural networks, finite automata, evolutionary stable strategies, causal conjunctures, agent-based simulations, and genetic algorithms.
Note: Writing requirement: A research paper is required. This course meets the concentration writing requirement. Students should have some mathematical background, but there is no prerequisite.
Prerequisite: Ec 10a and Ec 10b.

Economics 1820. Education Reform in America
Catalog Number: 52303
Roland G. Fryer
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
Introduces students to the methods and the research frontier in the economics of education. The first quarter of the course will cover common statistical methods in applied microeconomics, including instrumental variable models, regression discontinuities, difference-in-differences, and randomized inference. With these tools in hand, the course will critically survey the economics of education literature, placing particular emphasis on policies and practices designed to raise achievement among vulnerable populations. Topics will include achievement gaps, the role of incentives, the rise of charter schools, school turnaround efforts, and education's role in determining economic outcomes.
Note: Writing requirement: A research paper is required. This course meets the concentration writing requirement.
Prerequisite: Courses in introductory statistics, econometrics, and/or microeconomics would be useful preparation, but there are no official prerequisites. A non-trivial amount of math fluency is expected, however.

Primarily for Graduates

Economics 2810a. Labor Market Analysis
Catalog Number: 4862
Lawrence F. Katz
Half course (fall term). M., W., 10–11:30. EXAM GROUP: 3, 4
Theoretical and empirical research on labor markets. Wage determination covers equalizing

differences, human capital, job mobility, and incentive models. Labor supply covers life-cycle models. Labor demand includes minimum wage and union models.

[Economics 2810b. Labor Economics and Labor Market Institutions]
Catalog Number: 3206
Amanda D. Pallais
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
Examines the operation of the labor market and evaluation of labor market policies. Topics: labor econometrics, theories of wage determination, changes in the wage structure, unemployment, labor market institutions, and globalization and the labor market.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

Economics 2811. Social Economics
Catalog Number: 5188
Roland G. Fryer
Half course (spring term). M., W., 8–9:30. EXAM GROUP: 1, 2
Applies the tools of economics to explore social issues including crime, discrimination, racial and gender differences, poverty, family structure, urban problems, social interactions and peer effects, and intergenerational mobility.

***Economics 2812hf. Research in Labor Economics**
Catalog Number: 0230
Lawrence F. Katz, Roland G. Fryer, Edward L. Glaeser, Claudia Goldin, and Amanda D. Pallais
Half course (throughout the year). Tu., 1–2:30.
Participants discuss recent research in labor economics and present their own work in progress. Open to doctoral students in economics who have passed their oral examinations.

Economics 2880. Economics of Science
Catalog Number: 7488
Richard B. Freeman
Half course (spring term). Th., 2:30–5:30. EXAM GROUP: 16, 17, 18
Analyzes economic issues regarding the role of science and RD in the economy and in the deployment and productivity of scientists, engineers, and highly skilled technical workers. Topics include: wage levels/employment prospects; stipend policy, education/recruitment, student unionization/post-doc organization, career choices/trajectories, with reference to women; scientific competition/collaboration.
Note: Primarily for graduates, but open to undergraduates with instructor's permission. Undergraduates are recommended to attend Economics 2888r seminar as well.

Economics 2888r. Economics of Science and Engineering Workshop
Catalog Number: 6311
Richard B. Freeman
Half course (fall term; repeated spring term). F., 12–1:30. EXAM GROUP: 5, 6
Focus on work force and career issues. Topics include: Effects of globalization on work force and innovation, growth of networks in work; impact of career incentives on productivity;

university policies; mobility between academe and industry; link between ideas and outputs.
Note: Primarily for graduates. Primarily for graduates. Undergraduates enrolled in Economics 2880 can take Economics 2888r for credit as well, with instructors' permission. Offered jointly with the Business School as 4245.

Graduate Courses of Reading and Research

***Economics 3000. Research Paper**
Catalog Number: 4174
Members of the Department
Intended to fulfill the Research Paper Requirement for the PhD degree in Economics.
Note: Ordinarily, this course is taken during the spring term of the second year of graduate study.

***Economics 3005. Reading and Research**
Catalog Number: 3493
Philippe Aghion 1263, Alberto F. Alesina 2074, Robert J. Barro 1612, John Y. Campbell 1230, Gary Chamberlain 1745, Richard N. Cooper 7211, David M. Cutler 2954, Martin Feldstein 1509, Richard B. Freeman 4127, Benjamin M. Friedman 3787, Drew Fudenberg 3460, Edward L. Glaeser 3219, Claudia Goldin 2667 (on leave 2013-14), Gita Gopinath 5042, Jerry R. Green 1539 (on leave fall term), Oliver S. Hart 3462, Elhanan Helpman 2334, Richard A. Hornbeck 6423, Dale W. Jorgenson 2000, Lawrence F. Katz 1480 (on leave spring term), Michael R. Kremer 2112 (on leave 2013-14), Gregory M. Lewis 5868, N. Gregory Mankiw 1118, Stephen A. Marglin 1505, Jeffrey A. Miron 5067, Sendhil Mullainathan 5139, Ariel Pakes 1774, Rohini Pande (Kennedy School) 5786, Dwight H. Perkins 2300, Dani Rodrik (Kennedy School) 2394, Kenneth Rogoff 1746, Amartya Sen 1705 (spring term only), Andrei Shleifer 2772, Robert N. Stavins (Kennedy School) 2093, Martin L. Weitzman 2262, and Jeffrey G. Williamson 7680
Individual work or work in small groups (with a professor or lecturer in residence) in preparation for the general examination for the PhD degree, or work on special topics not included in course offerings.

***Economics 3010. Direction of Doctoral Dissertations**
Catalog Number: 4579
Members of the Department
Note: In all cases, the dissertation topic must have been formally submitted to, and approved by, a dissertation adviser.

***Economics 3011. The Behavioral and Experimental Economics Workshop**
Catalog Number: 0109
Jerry R. Green 1539 (on leave fall term), David I. Laibson 1241 (on leave fall term), and Tomasz Strzalecki 6294
Half course (fall term; repeated spring term). Tu., 2:30–4.
For students with an interest in economic theory. Faculty presentations by Harvard and MIT economists and invited guests. The location alternates between Harvard and MIT.
Prerequisite: Economics 2010a (or 2020a) and 2010b (or 2020b).

***Economics 3086. The Theory Workshop**
Catalog Number: 53875
Drew Fudenberg 3460, Jerry R. Green 1539 (on leave fall term), and Tomasz Strzalecki 6294
Half course (fall term; repeated spring term). Th., 4–6.
For students with an interest in economic theory. Faculty presentations by Harvard and MIT economists and invited guests. The location alternates between Harvard and MIT.

***Economics 3087. Applied Theory: Research Workshop**
Catalog Number: 13964
Oliver S. Hart 3462, Philippe Aghion 1263 (spring term only), and Andrei Shleifer 2772
Half course (fall term; repeated spring term). M., 5:30–7 p.m. EXAM GROUP: 9
Presentations of current research in the Applied Theory Field.

***Economics 3163hf. The Econometrics Workshop**
Catalog Number: 4392
Gary Chamberlain 1745, Dale W. Jorgenson 2000, and Maximilian Kasy 6990
Half course (throughout the year). Th., 4:30–6.
Outside speakers and faculty present current research topics in theory and applications of econometrics.

***Economics 3336hfr. Economic History Workshop**
Catalog Number: 0639
Claudia Goldin 2667 (on leave 2013-14), Eric Chaney 6129, and Nathan J. Nunn 5838
Half course (throughout the year). F., 2–3:30.
Intended for students writing dissertations related to economic history themes and/or methodology and for others with interests in economic history. Discusses research papers presented by scholars at Harvard and elsewhere.

***Economics 3390hf. Economic Development Workshop**
Catalog Number: 2532
Michael R. Kremer 2112 (on leave 2013-14), Shawn Cole (Business School) 1228, Richard A. Hornbeck 6423, Asim I. Khwaja (Kennedy School) 3994, and Sendhil Mullainathan 5139
Half course (throughout the year). Fall: Tu., 2:30–4; Spring: W., 2:30–4.
Fall speakers cover issues in growth and development. Spring speakers alternate between "growth and institutions," focusing on the macro aspects of growth and development, and "labor and development," focusing on the micro aspects.

***Economics 3410 (formerly Economics 2420). The Monetary and Fiscal Policy Seminar**
Catalog Number: 2126
Alberto F. Alesina 2074, Philippe Aghion 1263, Robert J. Barro 1612, Emmanuel Farhi 5715 (on leave 2013-14), Benjamin M. Friedman 3787, David I. Laibson 1241 (on leave fall term), and N. Gregory Mankiw 1118
Full course (indivisible). M., 2–4.
Seminar speakers present papers on macroeconomic topics, including issues relating to monetary and fiscal policies, economic growth, the role of institutions, and other research issues in the

field.
Note: Popularly referred to as the Macro Seminar.

***Economics 3450hf. The Public Economics and Fiscal Policy Seminar**
Catalog Number: 3436
David M. Cutler 2954, Raj Chetty 6276, Edward L. Glaeser 3219, and Lawrence F. Katz 1480 (on leave spring term)
Half course (throughout the year). M., 4–6.
Invited speakers present theoretical and empirical research on a broad range of topics related to the design of government policy.

***Economics 3460c. Research in Health Economics**
Catalog Number: 5309
Joseph P. Newhouse (Kennedy School, Public Health, Medical School) 2425
Half course (fall term). .
Participants discuss recent research in health economics. Course may also include presentation of original research by participants. Open to doctoral students only.

***Economics 3530hf. The International Economics Workshop**
Catalog Number: 5777
Pol Antràs 4666, Richard N. Cooper 7211, Gita Gopinath 5042, Elhanan Helpman 2334, and Joseph P. Newhouse (Kennedy School, Public Health, Medical School) 2425
Half course (throughout the year). W., 4–6.
Outside speakers and faculty present research papers in all aspects of international economics, including theory, econometrics, and policy.

***Economics 3650hf. The Industrial Organization Workshop**
Catalog Number: 3318
Gregory M. Lewis 5868, and Ariel Pakes 1774
Half course (throughout the year). M., 2:30–4.
Speakers present current research in the field in a seminar setting.

***Economics 3660hf. The Law, Economics, and Organizations Workshop**
Catalog Number: 4325
Lucian A. Bebchuk (Law School) 2042, Oliver S. Hart 3462, Louis E. Kaplow (Law School) 3223, Joshua Lerner (Business School) 1601, and Andrei Shleifer 2772
Half course (throughout the year). M., 12:30–2.
The presentation of work in progress in the field of law, economics, and organizations. Presentations by members of the various Harvard faculties, outside speakers, and graduate students.
Note: Offered jointly with the Law School as 96250-11 and with the Business School as 4670.

***Economics 3680hf. Research in Environmental Economics**
Catalog Number: 1227
Robert N. Stavins (Kennedy School) 2093
Half course (throughout the year). Fall: F., at 12; Spring: F., 12–1:30.

Participants discuss recent research in environmental and natural resource economics and present their own work in progress.
Note: Open to doctoral students only.

***Economics 3723hfr. The Financial Economics Workshop**
Catalog Number: 4107
John Y. Campbell 1230 and Jeremy C. Stein 3752 (on leave 2013-14) (spring term only)
Half course (throughout the year). W., 4–5:30.
Outside speakers present current research in the field in a seminar setting.

***Economics 3810chfr. The Labor Economics Workshop**
Catalog Number: 4066
Lawrence F. Katz 1480 (on leave spring term), Roland G. Fryer 5523, and Amanda D. Pallais 1652 (on leave 2013-14)
Half course (throughout the year). W., 4–5:30.
Outside speakers present research concerning the operation of labor markets.

Engineering Sciences

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the School of Engineering and Applied Sciences Offering Instruction in Engineering Sciences

Joanna Aizenberg, Amy Smith Berylson Professor of Materials Science
Beth Altringer, Lecturer on Innovation and Design
James G. Anderson, Philip S. Weld Professor of Atmospheric Chemistry
Michael J. Aziz, Gene and Tracy Sykes Professor of Materials and Energy Technologies *(Director of Undergraduate Studies in Mechanical Engineering)*
Katia Bertoldi, Assistant Professor of Applied Mechanics, Associate Professor of Applied Mechanics
Sujata K. Bhatia, Lecturer on Biomedical Engineering *(Assistant Director for Undergraduate Studies in Biomedical Engineering)*
Paul Blake Bottino, Lecturer on Innovation and Entrepreneurship
John Briscoe, Gordon McKay Professor of the Practice of Environmental Engineering, and Visiting Professor of Environmental Engineering *(FAS),*
Federico Capasso, Robert L. Wallace Professor of Applied Physics and Vinton Hayes Senior Research Fellow in Electrical Engineering
Anas Chalah, Lecturer on Engineering Sciences

David R. Clarke, Extended Tarr Family Professor of Materials
Kenneth B. Crozier, Associate Professor of Electrical Engineering on the Gordon McKay Endowment
David A. Edwards, Gordon McKay Professor of the Practice of Idea Translation
Daniela Faas, Senior Preceptor in Design Instruction
Brian F. Farrell, Robert P. Burden Professor of Meteorology
Roy G. Gordon, Thomas Dudley Cabot Professor of Chemistry and Professor of Materials Science *(on leave 2013-14)*
Fawwaz Habbal, Senior Lecturer on Applied Physics
Donhee Ham, Gordon McKay Professor of Electrical Engineering and Applied Physics *(Director of Undergraduate Studies in Electrical Engineering)*
Kathryn Ann Hollar, Lecturer on Engineering Sciences
Robert D. Howe, Abbott and James Lawrence Professor of Engineering, Area Dean for Bioengineering
Evelyn Hu, Tarr-Coyne Professor of Applied Physics and of Electrical Engineering
Peter John Huybers, Professor of Earth and Planetary Sciences and of Environmental Science and Engineering
Donald E. Ingber, Professor of Bioengineering
Daniel J. Jacob, Vasco McCoy Family Professor of Atmospheric Chemistry and Environmental Engineering
Neel S. Joshi, Associate Professor of Chemical and Biological Engineering
Navin Khaneja, Gordon McKay Professor of Electrical Engineering *(on leave 2013-14)*
H. T. Kung, William H. Gates Professor of Computer Science and Electrical Engineering *(on leave fall term)*
Jennifer Lewis, Hansjorg Wyss Professor of Biologically Inspired Engineering
Christopher Joseph Lombardo, Lecturer on Engineering Sciences *(Assistant Director for Undergraduate Studies in Engineering Sciences)*
Marko Loncar, Tiantsai Lin Professor of Electrical Engineering
Yue Lu, Assistant Professor of Electrical Engineering
L. Mahadevan, Lola England de Valpine Professor of Applied Mathematics, of Organismic and Evolutionary Biology, and of Physics
Amirhamed Majedi, Visiting Associate Professor in Engineering Sciences
Vinothan N. Manoharan, Gordon McKay Professor of Chemical Engineering and Professor of Physics *(on leave 2013-14)*
Scot T. Martin, Gordon McKay Professor of Environmental Chemistry *(on leave 2013-14)*
Donatello Materassi, Lecturer on Engineering Sciences
Richard McCullough, Professor of Materials Science and Engineering
Michael B. McElroy, Gilbert Butler Professor of Environmental Studies
Harold McGee, Visiting Lecturer on Science and Cooking
Karena A. McKinney, Lecturer on Environmental Science and Engineering
David J. Mooney, Robert P. Pinkas Family Professor of Bioengineering
Cherry Murray, John A. and Elizabeth S. Armstrong Professor of Engineering and Applied Sciences, Professor of Physics, and Dean of the School of Engineering and Applied Sciences
Venkatesh Narayanamurti, Benjamin Peirce Professor of Technology and Public Policy *(on leave fall term)*
Daniel Joseph Needleman, Associate Professor of Applied Physics and of Molecular and

Cellular Biology
Kevin K. Parker, Tarr Family Professor of Bioengineering and Applied Physics *(on leave spring term)*
Shriram Ramanathan, Associate Professor of Materials Science
James R. Rice, Mallinckrodt Professor of Engineering Sciences and Geophysics
Daniel P. Schrag, Sturgis Hooper Professor of Geology and Professor of Environmental Science and Engineering
Margo I. Seltzer, Herchel Smith Professor of Computer Science
Maurice A. Smith, Thomas D. Cabot Associate Professor of Bioengineering
Frans A. Spaepen, John C. and Helen F. Franklin Professor of Applied Physics
Peter RH Stark, Visiting Associate Professor in Engineering Sciences
Zhigang Suo, Allen E. and Marilyn M. Puckett Professor of Mechanics and Materials, Area Dean for Materials Sciences & Mechanical Engineering
Vahid Tarokh, Perkins Professor of Applied Mathematics and Vinton Hayes Senior Research Fellow of Electrical Engineering, Area Dean for Electrical Engineering
Patrick D. Ulrich, Lecturer on Environmental Science and Engineering *(Assistant Director for Undergraduate Studies in Environmental Sciences and Engineering)*
Avinash Raj Uttamchandani, Preceptor in Design Instruction, Preceptor in Electrical Engineering
Chad D. Vecitis, Assistant Professor of Environmental Engineering
Joost J. Vlassak, Abbott and James Lawrence Professor of Materials Engineering *(on leave fall term)*
Conor J. Walsh, Assistant Professor of Mechanical and Biomedical Engineering
Gu-Yeon Wei, Gordon McKay Professor of Electrical Engineering and Computer Science
David A. Weitz, Mallinckrodt Professor of Physics and of Applied Physics
Steven C. Wofsy, Abbott Lawrence Rotch Professor of Atmospheric and Environmental Science, Area Dean for Environmental Science and Engineering, *fall term (on leave spring term)*
Robert J. Wood, Charles River Professor of Engineering and Applied Sciences *(on leave 2013-14)*
Woodward Yang, Gordon McKay Professor of Electrical Engineering and Computer Science
Michael Denis Young, Gough Whitlam and Malcolm Fraser Visiting Professor of Australian Studies
Todd Zickler, William and Ami Kuan Danoff Professor of Electrical Engineering and Computer Science *(Director of Undergraduate Studies in Engineering Sciences)*

Other Faculty Offering Instruction in Engineering Sciences

David Eric Abrams, Visiting Lecturer on Engineering Sciences
William J. Anderson, Senior Lecturer on Stem Cell and Regenerative Biology
Roger W. Brockett, An Wang Professor of Electrical Engineering and Computer Science, Emeritus
Paul Horowitz, Professor of Physics and of Electrical Engineering, Emeritus
John W. Hutchinson, Abbott and James Lawrence Professor of Engineering and Gordon McKay Professor of Applied Mechanics, Emeritus
Nancy Kleckner, Herchel Smith Professor of Molecular Biology
Zhiming Kuang, Gordon McKay Professor of Atmospheric and Environmental Science
Joseph B. Lassiter, Professor of Management Practice *(Business School)*

Panagiotis Michalatos, Assistant Professor of Architectural Technology *(Design School)*
Ralph Mitchell, Gordon McKay Professor of Applied Biology, Emeritus
John Nastasi, Lecturer in Architecture *(Design School)*
Mara Prentiss, Mallinckrodt Professor of Physics
Peter P. Rogers, Gordon McKay Professor of Environmental Engineering, Emeritus
Shmuel Rubinstein, Assistant Professor of Applied Physics
William Andrews Sahlman, Dimitri V. D'Arbeloff-MBA Class of 1955 Professor of Business Administration *(Business School)*

The School of Engineering and Applied Sciences (www.seas.harvard.edu) offers undergraduate and graduate courses in Applied Mathematics, Applied Physics, Computer Science, Earth and Planetary Sciences, and Engineering Sciences. Engineering and Applied Sciences faculty also offer several courses in the section entitled Freshman Seminars, Extra-Departmental Courses, and House Seminars.

For information concerning concentration in Engineering Sciences, please consult the Director of Undergraduate Studies or the Office of Student Affairs, School of Engineering and Applied Sciences, Pierce Hall 110.

Primarily for Undergraduates

[Engineering Sciences 1. Introduction to Engineering Sciences]
Catalog Number: 0314
Todd Zickler and Sujata K. Bhatia
Half course (spring term). M., W., 1-2:30, and a weekly lab section to be arranged. EXAM GROUP: 6, 7
An integrative introduction to engineering sciences. Combines classroom discussion with activity-based learning, and emphasizes concepts that span multiple disciplines. Covers topics having direct societal impact, and presents them in historical context. Involves qualitative and quantitative analysis, mathematical modeling, and design. Introduces common engineering software and hardware tools.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for either Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.

Engineering Sciences 6. Environmental Science and Technology
Catalog Number: 2969
Chad D. Vecitis, Anas Chalah, and Patrick D. Ulrich
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
An introduction to the role of technology in the environmental sciences, with foci on energy and water topics. The basic scientific principles underlying human use and control of the environment are emphasized. The course includes several field trips.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science B.

Prerequisite: The course presumes basic knowledge in chemistry, physics, and mathematics at the high school level.

***Engineering Sciences 20. How to Create Things and Have Them Matter**
Catalog Number: 9676 Enrollment: Limited to 40.
David A. Edwards
Half course (spring term). M., W., 1–3. EXAM GROUP: 6, 7
Students in this year's "How to Create Things & Have Them Matter" class will form groups around art, design and engineering ideas that help address biodiversity and manage the incredible jellyfish blooms that have begun to accelerate the demise of our oceans. Students will learn to generate, develop and realize breakthrough ideas while learning basic skills of engineering design, brainstorming, prototyping, and public presentations. These ideas will be brainstormed with artist Mark Dion, whose 2014/2015 exhibition at Le Laboratoire Paris -- and the new Laboratoire Cambridge -- will give students the chance to participate in, and contribute to, a major art installation. The class will include opportunities for a jellyfish expedition in the Boston Harbor, a working trip to Cape Town, South Africa, an innovation workshop at Le Laboratoire, Paris, and funding for continued project development following the course.
Note: Open to all students by permission of instructor. All completely passionate students (any concentration) welcomed - no prior experience necessary.

***Engineering Sciences 21. The Innovator's Practice: Finding, building and leading good ideas with others**
Catalog Number: 70925 Enrollment: Limited to 25. Permission of instructor required.
Beth Altringer
Half course (fall term). M., W., 9–11. EXAM GROUP: 2, 3
Students gain experience overcoming many under-represented challenges of becoming an innovator, including: identifying your intrinsic motivations, finding related good ideas, working effectively with others to develop them, and leading innovative professional projects to implementation. Students apply human-centered design processes (observing, interpreting, ideating, testing, refining, planning) to stimulate innovation, negotiate, strategize, and build and lead cooperative teams. Features guest speakers from industry, academia, and involves collaborating with cutting-edge companies.
Note: Offered jointly with the Design School as SCI-06271.

***Engineering Sciences 22. Design Survivor: Experiential Lessons in Designing for Desirability**
Catalog Number: 87699 Enrollment: Limited
Beth Altringer
Half course (spring term). M., W., 9–11. EXAM GROUP: 2, 3
Multi-disciplinary course for students interested in designing products and services that are simple, irresistible, delightful, cool, covetable, viral, and, increasingly in today's day and age, much more likely to be successful. Students study real world cases of how organizations (e.g., Apple, Gucci, Swarovski) strategically design for desirability. In weekly design challenges, students use analogical transfer to apply these insights to diverse industries and target markets (e.g., health literacy campaigns, declining technologies, the future of luxury). Weekly critique panels with experts enable students to develop their own design point of view and to finish with

a diverse design portfolio.
Note: Permission required for all students. Offered jointly with the Design School as SCI-06276.

Engineering Sciences 27. Design By Committee. Digital Interfaces for Collaborative and Participatory Design - *(New Course)
Catalog Number: 33688
Panagiotis Michalatos (Design School)
Half course (fall term). F., 1–4.
This Seminar/Workshop will look into the design and technical challenges involved in the development of web based interfaces for collaborative and participatory design scenarios where more than one agents are involved. The designer in a sense is given the chance to design and experiment with the communication architecture and temporality of the design process itself. Students will be introduced to web technologies for front end and back end development [javascript, webGL, nodeJS, MongoDB].
Note: Offered jointly with the Graduate School of Design as GSD-6468. Meets at GSD.

Engineering Sciences 28. Material Systems: Designing Composites for the Architectural Envelope - *(New Course)
Catalog Number: 15582 Enrollment: Limited
John Nastasi
Half course (spring term). W., 11:30–2. EXAM GROUP: 4, 5, 6
Digital design and fabrication methods available to composite material manufacturing have been employed by the automotive, marine, and aerospace industries for some time, allowing significant advancements in performance. Not yet a material system commonly employed by the construction industry, contemporary architecture is positioned to benefit from the adoption of this material system and the highly customizable opportunities it offers. Offered as a limited enrollment seminar/workshop, this course will focus on designing and prototyping envelope systems constructed of resin-infused fiber composite parts. Particular interest will be placed on controlling the direct correlation between geometry and material performance within the design solution. Workshops addressing the related material processes and necessary digital design tools will be offered as part of the weekly course content.
Note: Offered jointly with the Graduate School of Design as GSD-6437. Meets at GSD.

Engineering Sciences 29. Introduction to Computational Design - *(New Course)
Catalog Number: 78467
Panagiotis Michalatos (Design School)
Half course (fall term). Th., 9–11:30, Tu., 10–11:30.
This is an introductory course to computational design and the prerequisite for a spring course that deals with more advanced topics in the field. This course is primarily intended for designers with little background in programming who are interested in developing their skills in order to be able to better understand, interface with and customize the digital tools they are using, or develop their own software and interactive applications. The course introduces students to fundamental concepts and techniques in computational design. By the term "computational design" we mean an ad hoc set of methods borrowed from computer science, computational geometry and other fields, and adapted to specific design problems such as design development, fabrication, analysis,

interaction and communication.
Note: Offered jointly with the Graduate School of Design as GSD-6338. Meets at GSD.

Engineering Sciences 50. Introduction to Electrical Engineering
Catalog Number: 4499
Marko Loncar and Evelyn Hu
Half course (spring term). M., W., 2–3:30. EXAM GROUP: 7, 8
A discussion of topics of central importance to the fields of electronics, communications and intelligent systems. The material concerns both qualitative and quantitative analysis, as well as laboratory experiments and computer simulations. Examples of topics to be discussed range from relatively simple modules such as analog amplifiers and digital adders, to complex devices such as cell-phones and their supporting infrastructure.
Note: Students who have taken 100-level courses in electrical engineering will not be allowed to enroll in Engineering Sciences 50. This course, when taken for a letter grade, meets the General Education requirement for either Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.

***Engineering Sciences 51. Computer-Aided Machine Design**
Catalog Number: 0322 Enrollment: Limited to 60.
Conor J. Walsh (fall term), Robert D. Howe and Daniela Faas (spring term)
Half course (fall term; repeated spring term). Fall: M., W., F., at 10; Spring: M., W., F., at 12. EXAM GROUP: Fall: 3; Spring: 5
A first course in the design and construction of mechanical and electromechanical devices. Engineering graphics and sketching; dimensions and tolerances. Introduction to materials selection and structural design. Machine elements and two-dimensional mechanisms; DC motors. Design methodology. Emphasis on laboratory work and design projects using professional solid modeling CAD software and numerically controlled machine tools.
Note: Intended for freshmen and sophomores. This course, when taken for a letter grade, meets the Core requirement for Science A.
Prerequisite: Mathematics 1b (may be taken concurrently); high school physics.

Engineering Sciences 52. The Joy of Electronics - Part 1 - *(New Course)*
Catalog Number: 50605
David Eric Abrams
Half course (fall term; repeated spring term). Fall: M., W., 2:30–5:30, or Tu., Th., 2:30–5:30; Spring: M., W., at 10, and M., W., 2:30–4:30, or Tu., Th., 2:30-4:30. EXAM GROUP: Fall: 7, 8, 9; Spring: 3
Introduction to designing circuits to solve real problems. Three-hour sessions that meet twice a week blend instruction with hands-on lab work to emphasize building and testing circuits. The course incorporates useful design experiences from day one. Covered topics include amplication, feedback, impedance, stability, filtering, switching, digital logic, microcontrollers, and more. The class ends with an open ended project that challenges students to build on core concepts.

Engineering Sciences 53. Quantitative Physiology as a Basis for Bioengineering
Catalog Number: 3604

Maurice A. Smith and Sujata K. Bhatia
Half course (fall term). M., W., F., at 12. EXAM GROUP: 5
A foundation in human organ systems physiology, including cardiac, respiratory, renal, gastrointestinal, and neural systems. Quantitative description of organ systems function and control in terms of physical principles and physiologic mechanisms. Simple mathematical models representing key aspects of organ systems function. Emphasis will be given to understanding the ways in which dysfunction in these systems gives rise to common human disease processes.
Note: Open to freshmen.

***Engineering Sciences 91r. Supervised Reading and Research**
Catalog Number: 1113
Patrick D. Ulrich and Christopher Joseph Lombardo
Half course (fall term; repeated spring term). Hours to be arranged.
Guided reading and research.
Note: Normally open to candidates accepted for work on a specific topic by a member of the teaching staff of the School of Engineering and Applied Sciences. Normally may not be taken for more than two terms; may be counted for concentration in Engineering Sciences if taken for graded credit. Applicants should file a project sheet before study cards are filed. Project sheets may be obtained from the Student Affairs Office, Pierce Hall 110.

***Engineering Sciences 95r. Startup R & D**
Catalog Number: 60126 Enrollment: Limited
Paul Blake Bottino
Half course (fall term; repeated spring term). W., 2–4.
Students do field-based work to develop their existing startups or explore new ideas and opportunities for startup design. The course is for students seeking actual experience as a founder of a startup, whether commercial, social or another type of innovative project. Students may work individually; teams are preferred. Requires self-directed, independent work and active search for and outreach to mentors, customers, and partners for guidance and feedback in addition to that provided by the instructor. Students will share their work regularly and engage in peer-to-peer feedback forum.
Note: Enrollment limited; permission of instructor required.

***Engineering Sciences 96. Engineering Problem Solving and Design Project**
Catalog Number: 8461
Fall term: David J. Mooney; Spring term: Woodward Yang, Fawwaz Habbal, James G. Anderson, and Karina McKinney
Half course (fall term; repeated spring term). Fall: M., W., 9–11; Spring: Section 1: M., Th., 4–6; Section 2: Tu., Th., 1–3.
Semester-long team project that provides engineering experience working with clients on real-world problems. Projects provide exposure to problem definition, performance measurement, quantitative analysis, modeling, generation of creative solutions, engineering design trade-offs, and documentation/communication skills. Ordinarily taken in the junior year.
Note: Preference given to SB candidates.

Cross-listed Courses

Earth and Planetary Sciences 52. Introduction to Global Geophysics
***Freshman Seminar 21s. Germs**

For Undergraduates and Graduates

Additional courses of interest to students in Electrical Engineering include: Computer Sciences 141, 143, and 148.

***Engineering Sciences 100. Engineering Design Projects**
Catalog Number: 4268
Gu-yeon Wei, Woodward Yang, and Daniela Faas
Half course (fall term; repeated spring term). Th., 4–6. EXAM GROUP: Spring: 18
Individual design projects, with multiple realistic constraints, selected to provide experience in the processes and practice of engineering design. Requires proficiency in electronic circuit construction, mechanical fabrication techniques, or software engineering. Students will develop a solution to an open-ended engineering problem which will be demonstrated at the end of the course.
Note: Ordinarily taken in the senior year. This one-term version of Engineering Sciences 100hf is open only to students in special circumstances. Enrolled students are required to file a proposed project form with the Student Affairs Office, Pierce 110, early in the term. Project approval rests with the SEAS Design Advisory Committee.
Prerequisite: *Engineering Sciences 96.

***Engineering Sciences 100hf. Engineering Design Projects**
Catalog Number: 7535
Gu-yeon Wei, Woodward Yang, and Daniela Faas
Half course (throughout the year). Th., 4–6. EXAM GROUP: 18
Individual design projects, with multiple realistic constraints, selected to provide experience in the processes and practice of engineering design. Requires proficiency in electronic circuit construction, mechanical fabrication techniques, or software engineering. Students will develop a solution to an open-ended engineering problem which will be demonstrated at the end of the course.
Note: Ordinarily taken in the senior year. Enrolled students are required to file a proposed project form with the Student Affairs Office, Pierce Hall 110, early in the term. Project approval rests with the SEAS Design Advisory Committee.
Prerequisite: *Engineering Sciences 96.

[Engineering Sciences 103. Spatial Analysis of Environmental and Social Systems]
Catalog Number: 9277
Instructor to be determined
Half course (spring term). Tu., Th., 11:30–1.
Introduces the fundamental statistical and mapping tools needed for analysis of environmental systems. Topics will be linked by environmental and social themes and will include GIS concepts; data models; spatial statistics; density mapping; buffer zone analysis; surface

estimation; map algebra; suitability modeling. Students will acquire technical skills in both mapping and spatial analysis. Software packages used will include ArcGis. There will be guest lectures by researchers and practitioners who use GIS for spatial analysis.
Note: Expected to be given in 2014–15.
Prerequisite: Applied Mathematics 21 or equivalent.

[Engineering Sciences 110. Science, Engineering, and the Community]
Catalog Number: 0452 Enrollment: Limited to 15.
Vinothan N. Manoharan
Half course (fall term). M., 5–7:30 p.m.
Activity-based course for beginning/intermediate science and engineering undergraduates. Combines readings and discussions on techniques for learning science and engineering design with implementation in an 8th grade science class in Cambridge. Students work directly with the 8th graders to guide how they learn. Students apply what they discover to improve their own understanding of college-level science and engineering.
Note: Expected to be given in 2014–15. Offered in alternate years.
Prerequisite: Interest in science, engineering, learning, and outreach.

Engineering Sciences 111r. Quantum Materials: From the Lab to the Classroom - *(New Course)*
Catalog Number: 24049
Kathryn Ann Hollar
Half course (spring term). Tu., 3–6. EXAM GROUP: 17, 18
In this activity-based course, students will work in teams to develop laboratory modules, table-top demonstrations, or multimedia projects on the topic of quantum materials for electronics and photonics. Students will explore pedagogical and communication strategies, working with faculty from the Center for Integrated Quantum Materials.
Prerequisite: Some background in electricity and magnetism and quantum mechanics, through courses or research.

Engineering Sciences 120. Introduction to the Mechanics of Solids
Catalog Number: 1493
Joost J. Vlassak
Half course (spring term). M., W., F., at 1. EXAM GROUP: 6
A first course in the mechanical sciences which introduces elements of continuum mechanics and explains how materials and structures stretch, bend, twist, shake, buckle, and break. Stress-strain behavior of materials. Statically determinate and indeterminate structures. Stress and strain, equations of motion or equilibrium, strain-displacement relations. Torsion. Beam theory with applications to beam deflections, vibrations, and buckling. Three laboratory sessions required.
Prerequisite: Physics 11a or 15a, and Applied Mathematics 21a or Mathematics 21a (previously) and Applied Mathematics 21b or Mathematics 21b (previously or concurrently).

Engineering Sciences 123. Introduction to Fluid Mechanics and Transport Processes
Catalog Number: 8323
Shmuel Rubinstein and Daniel Joseph Needleman

Half course (spring term). M., W., F., at 10, and laboratory. EXAM GROUP: 3
Dimensional analysis. Basic elements of steady and unsteady thermal conduction and mass diffusion. Statics and dynamics of fluids. Buoyancy-stability and hydrostatics. Laminar viscous flows, potential flows, origin of lift, and basic aspects of boundary layers. Navier-Stokes and continuity equations. Applications in aerodynamics, chemical, environmental, and mechanical engineering, and physics.
Prerequisite: Applied Mathematics 21a,b or Mathematics 21a,b.

Engineering Sciences 125. Mechanical Systems
Catalog Number: 7274
Katia Bertoldi
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Modeling and analysis of mechanical and electromechanical systems. Topics include 3D rigid body dynamics, resonance, damping, frequency response, Laplace transform methods, Lagrange's equations, multiple degree-of-freedom systems and an introduction to nonlinear vibration, continuous systems, and control. Analytical modeling will be supplemented with numerical simulations and lab experiments. Laboratory exercises will explore vibration, stabilization, and nonlinear systems using data acquisition systems.
Prerequisite: Applied Mathematics 21a,b or Mathematics 21a,b or Mathematics 23a,b; Physics 11a or 15a.

Engineering Sciences 128. Computational Solid and Structural Mechanics
Catalog Number: 0359
Katia Bertoldi
Half course (spring term). Tu., Th., 1–2:30 and a weekly section to be arranged. EXAM GROUP: 15, 16
Introduction to finite element methods for analysis of steady-state and transient problems in solid, structural, fluid mechanics, and heat transfer. Implementation of simple MATLAB codes and use of existing general-purpose programs (ABAQUS and COMSOL).
Note: Offered alternate years.
Prerequisite: Engineering Sciences 120 or equivalent introduction to the mechanics of deformable materials and fluids. Engineering Sciences 123 may be taken concurrently.

Engineering Sciences 135. Physics and Chemistry: In the Context of Energy and Climate at the Global and Molecular Level
Catalog Number: 98766 Enrollment: Limited to 30.
James G. Anderson
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
A solution to the problems set by the intersection of global energy demand and climate feedbacks requires the teaching of physics and chemistry in that context. Core topics include thermodynamics, free energy, entropy, acid-base and oxidation-reduction reactions, electrochemistry, electromagnetic induction, circuit theory, AC and DC circuits, the nature of photons and of electromagnetic radiation, photochemistry, materials, catalysis, kinetics, molecular bonding, and biological processes for energy conversion and storage.
Note: ES 135 is also offered as EPS 135. Students may not take both EPS 135 and ES 135 for

credit.
Prerequisite: Physical Sciences 1, or Physical Sciences 11, or permission of instructor.

Engineering Sciences 139. Innovation in Science and Engineering: Conference Course
Catalog Number: 0994
David A. Weitz
Half course (fall term). Th., 3–5. EXAM GROUP: 17, 18
Explores factors and conditions contributing to innovation in science and engineering; how important problems are found, defined, and solved; roles of teamwork and creativity; and applications of these methods to other endeavors. Students receive practical and professional training in techniques to define and solve problems, and in brainstorming and other individual and team approaches.
Note: Offered jointly with the Design School as SCI-06272. Taught through a combination of lectures, discussions, and exercises led by innovators in science, engineering, arts, and business.

Engineering Sciences 150. Introduction to Probability with Engineering Applications
Catalog Number: 8997
Yue Lu
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This course introduces students to probability theory and statistics, and their applications to physical, biological and information systems. Topics include: random variables, distributions and densities, conditional expectations, Bayes' rules, laws of large numbers, central limit theorems, Markov chains, Bayesian statistical inferences and parameter estimations. The goal of this course is to prepare students with adequate knowledge of probability theory and statistical methods, which will be useful in the study of several advanced undergraduate/graduate courses and in formulating and solving practical engineering problems.
Prerequisite: Mathematics 21a or Applied Mathematics 21a, and Mathematics 21b or Applied Mathematics 21b.

Engineering Sciences 151. Applied Electromagnetism
Catalog Number: 5742
Marko Loncar
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Electromagnetism and its applications in science and technology. Topics: Maxwell's equations; electromagnetic waves (e.g., light, microwaves, etc.); wave propagation through media discontinuity; transmission lines, waveguides, and microwave circuits; radiation and antennae; interactions between electromagnetic fields and matters; optics of solids; optical devices; origin of colors; interference and diffraction; lasers and masers; nuclear magnetic resonance and MRI; radio astronomy; wireless networking; plasmonic wave (charge density wave).
Prerequisite: Basic electromagnetism (Physics 11b or 15b or equivalent), basic vector calculus (Applied Math 21a or equivalent), basic differential equations (Applied Math 21b or equivalent) and familiarity with Fourier analysis (Applied Math 21b or equivalent).

Engineering Sciences 154. Electronic Devices and Circuits
Catalog Number: 6319
Donhee Ham

Half course (fall term). Tu., Th., 2:30–4, and a laboratory to be arranged. EXAM GROUP: 16, 17
Design of electronic circuits (including integrated circuits) using semiconductor transistors. Topics: the physics of electrical conduction; the physics of semiconductors; bipolar transistors; field effect transistors; single- and multi-stage amplifiers; operational amplifiers; frequency responses and stability; feedback circuits; the physics of noise; self-sustained oscillators; phase-locked loops.
Prerequisite: Familiarity with differential equations and Fourier analysis (Applied Mathematics 21b or Mathematics 21b), familiarity with basic electricity (Physics 11b or 15b).

[Engineering Sciences 155. Biological Signal Processing]
Catalog Number: 63833
Vahid Tarokh
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
General properties of common biosignals, Bioelectrical (electrophysiological), Biomechanical, Biomagnetic , and Biochemical signals, Bioelectrical acquisition process. Brief discussion of bio-signals obtained from tomography and inverse imaging. Brief introduction to underlying principles of MRI, Ultrasound, CT-Scan, PET, and SPECT, and their associated signals, inverse imaging, ill-posed problems and regularization. Non-transformed and transformed methods for biosignal processing. Structural and Graphical descriptions. Overview of Fourier transforms, Sine and cosine transform, Wavelet transform, Principle Component Analysis, dimension reduction techniques. Blind Source Separation, Representation models based on the statistical independence of the underlying sources, Independent component analysis (ICA), Dependent component analysis, Independent Subspace separation, Pattern Recognition, neural networks, clustering, and genetics algorithms. Applications to Biosignal Processing, and Human computer interaction.
Note: Expected to be given in 2014–15.
Prerequisite: AM21a (knowledge of AM21b can be helpful).

Engineering Sciences 156. Signals and Systems
Catalog Number: 6284
Vahid Tarokh
Half course (spring term). Tu., Th., 10-11:30, and weekly one hour Matlab section and one hour problem section to be arranged. EXAM GROUP: 12, 13
Time and frequency domain representations and analysis of signals and systems. Convolution and linear input-output systems in continuous and discrete time. Fourier transforms and Fourier series for continuous- and discrete-time signals. Laplace and Z transforms. Analog and digital filtering. Modulation. Sampling. FFT. Applications in circuit analysis, communication, control, and computing.
Prerequisite: Applied Mathematics 21b or Mathematics 21b.

[Engineering Sciences 159. Introduction to Robotics]
Catalog Number: 3126
Robert J. Wood
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Introduction to computer-controlled robotic manipulators. Topics include coordinate frames and

transformations, kinematic structure and solutions, statics and dynamics of serial and parallel chain manipulators, control and programming, introduction to path planning, introduction to teleoperation, robot design, and actuation and sensing devices. Laboratory exercises provide experience with industrial robot programming and robot simulation and control.
Note: Expected to be given in 2014–15. Offered in alternate years.
Prerequisite: Computer Science 50, and either Engineering Sciences 125 or 156.

Engineering Sciences 162. Hydrology and Environmental Geomechanics
Catalog Number: 4163
James R. Rice
Half course (spring term). M., W., F., at 11, for three one-hour lecture sessions and 1 and a half hour lab session or section for discussion of assigned problems. EXAM GROUP: 4
Study of water as a critical resource and as a factor in Earth surface and near-surface processes. Focus on development of relevant mechanics and physics. Hydrologic cycle, surface and groundwater, evapotranspiration, soil physics. Flow in porous media, Darcy law, contaminant transport, remediation strategies. Poroelasticity, subsidence, well hydraulics. Seepage forces, landslides, dam failures, sediment liquefaction. Glacial processes. Stream flows, turbulence concepts. Gravity waves, flood control; tsunamis; erosion and sediment transport.
Note: Engineering Sciences 162 is also offered as Earth and Planetary Sciences 162. Students may not take both Engineering Sciences 162 and Earth and Planetary Sciences 162 for credit.
Prerequisite: Applied Mathematics 21a,b or Mathematics 21a,b and Physics 11a,b or 15a,b.

Engineering Sciences 163. Pollution Control in Aquatic Ecosystems - *(New Course)*
Catalog Number: 72571
Patrick D. Ulrich
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
This course is focused on aspects of environmental engineering related to the fate, transport, and control of pollution in aquatic ecosystems. The course will cover human impacts to water resources; the sources and ecological impacts of environmental contaminants; quantitative models of the fate and transport of pollutants in natural aquatic ecosystems; best management practices for the prevention and control of pollution; and sustainable natural treatment systems for water quality improvement.
Prerequisite: Applied Mathematics 21b (or equivalent); Engineering Sciences 6 (or equivalent)

Engineering Sciences 164. Environmental Chemistry (formerly Soil and Environmental Chemistry)
Catalog Number: 4099
Karena A. McKinney
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Basic concepts, principles, and applications of environmental chemistry for students in Earth and environmental sciences. We will investigate a variety of chemistry topics relevant for environmental systems, including water chemistry, acids and bases, redox reactions, precipitation/dissolution, sorption, gas solubility, and aqueous and atmospheric reaction rates and mechanisms. The principal goal is to explore and apply the fundamental principles of chemical thermodynamics and kinetics to understand Earth processes and solve complex environmental problems.

Note: Cannot be taken for credit by students who have already taken ENG-SCI 264.
Prerequisite: Physical Sciences 1 or permission of the instructor.

Engineering Sciences 165. Water Engineering
Catalog Number: 4274
Chad D. Vecitis and Anas Chalah
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Introduces the fundamentals of water biology, chemistry, physics and transport processes needed to understand water quality and water purification technologies. Practical instruction in basic water analyses concluding with a final water treatment project in place of exam.
Note: Offered jointly with the Design School as SCI-06273.
Prerequisite: Physical Sciences 1 or Physical Sciences 10 or equivalent and Engineering Sciences 6 or equivalent or with permission of instructor.

[Engineering Sciences 169. Seminar on Global Pollution Issues: Case Study of Lead Biogeochemistry]
Catalog Number: 59143
Elynor M. Sunderland (School of Public Health)
Half course (fall term). M., W., 2:30–4. EXAM GROUP: 7, 8
This course provides a cross-disciplinary overview of environmental science and how research contributes to public policy and human health risk assessment through a case study of a global pollution issue: lead biogeochemistry. The scientific foundations of environmental research methods are discussed (i.e., analytical chemistry, ecology, use of environmental archives, environmental modeling). Experience conducting multidisciplinary environmental research and data analysis will be provided. Course Activities: Lectures, discussions, case studies, field/lab visits.
Note: Expected to be given in 2014–15.
Prerequisite: Two semesters of undergraduate chemistry including Physical Sciences 1 or Physical Sciences 11; Mathematics 1a & 1b. Knowledge of basic statistics is also helpful.

Engineering Sciences 170. Applied Quantum Mechanics - *(New Course)*
Catalog Number: 51087
Amirhamed Majedi
Half course (fall term). M., W., 2:30–4. EXAM GROUP: 7, 8
Quantum mechanics provides not only an essential tool for engineers, material scientists and biologists to study and control objects in nano and atomic scales but also radical ways to do information processing, sensing, and fabrication. Advances in nanotechnology and quantum information processing raise growing interests in engineering students to learn applied quantum mechanics that is also essential for understanding modern devices and systems in electronics photonics. Topics of this course will cover topics ranging from solution of Schrodinger equation in quantum confined nano-structures and most recent topics such as quantum circuits and entanglement. Examples, problems and numerical simulation are designed to address the applications of the course contents to real problems in semiconductor electronics, optoelectronics, photonics, quantum information processing and superconducting electronics.
Prerequisite: Applied Mathematics 21b and Applied Physics 50 a or b.

Engineering Sciences 173. Introduction to Electronic and Photonic Devices
Catalog Number: 3490
Evelyn Hu and Christopher Lombardo
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
This course will focus on physical principles underlying semiconductor devices: electrons and holes in semiconductors , energies and bandgaps, transport properties of electrons and holes, p-n junctions, transistors, light emitting diodes, lasers, solar cells and thermoelectric devices.
Prerequisite: Physics 11a and b, or Physics 15a and b or equivalent (mechanics; electromagnetism); undergraduate level quantum mechanics highly useful, but not required.

Engineering Sciences 175. Photovoltaic Devices - *(New Course)
Catalog Number: 15494 Enrollment: 20 students, upper level undergraduates, and graduate students.
Christopher Lombardo
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
The course will provide an overview of the solid state device physics and p-n junction operation necessary to understand the operation. Several different solar architectures will be discussed including crystalline and amorphous silicon, multijunction, CdTe, CIGS, organic, dye sensitized as well as additional related topics light management, building integrated devices, and policy and economic issues relating to adoption.
Note: Engineering Sciences 175 is also offered as Applied Physics 275. Students may not take both for credit.
Prerequisite: Engineering Sciences 173 or equivalent, or permission from instructor.

***Engineering Sciences 176. Introduction to MicroElectroMechanical System**
Catalog Number: 20243 Enrollment: Limited to 25.
Fawwaz Habbal and Anas Chalah
Half course (fall term). Tu., 5:30–7:30 p.m. EXAM GROUP: 18
This course introduces student to the rapidly emerging, multi-disciplinary and exciting field of MicroElectroMechanical Systems (MEMS). It teaches fundamentals of micro machining and Micro fabrication techniques, including planar thin-film process technologies, photolithography and soft-lithography techniques, deposition and etching techniques, and surface, bulk, and electroplating micro machining technologies.
Prerequisite: Physics 11a,b or 15a,b; College Chemistry at the level of Life Sciences 1a and Physical Sciences 1.

***Engineering Sciences 177. Microfabrication Laboratory**
Catalog Number: 96807 Enrollment: Limited to 12.
Kenneth B. Crozier
Half course (spring term). M., at 10, and weekly 3-hour laboratory. EXAM GROUP: 3
Introduction to micro- and nanofabrication processes used for photonic and electronic devices. Students use state-of-the-art cleanroom in Center for Nanoscale Systems to fabricate transistors and light-emitting diodes (LEDs). Lectures on fabrication processes, including lithography, deposition, etching, oxidation, implantation, diffusion and electrical characterization.
Prerequisite: Physics 11a and Physics 11b; or Physics 15a and 15b or equivalent.

Engineering Sciences 181. Engineering Thermodynamics
Catalog Number: 3889
Michael J. Aziz
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Introduction to classical engineering thermodynamics. Topics: Zeroth Law and temperature. Properties of single-component gases, liquids, and solids. Equations of state for ideal and simple nonideal substances. First Law, heat and heat transfer, work, internal energy, enthalpy. Second Law, Third Law, entropy, free energy, exergy. Heat engines and important engineering applications such as refrigerators, power cycles. Properties and simple models of solutions. Phase and chemical equilibrium in multicomponent systems; chemical potential. Electrochemistry, batteries, fuel cells. Laboratory included.
Prerequisite: One semester of calculus-based college-level physics. Chemistry at the high school Advanced Placement level.

Engineering Sciences 183. Introduction to Heat Transfer
Catalog Number: 16727
David R. Clarke
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The macroscopic description of the fundamentals of heat transfer and applications to practical problems in energy conversion, electronics and biological systems with an emphasis on developing a physical and analytical understanding of conductive, convective and radiative heat transfer. Emphasis will also be given to problem solving skills based on applying governing principles, mathematical models and physical intuition. Monthly laboratory sessions.
Prerequisite: Applied Math 21a (Mathematical Methods in Science) and Engineering Sciences 181 (Engineering Thermodynamics).

Engineering Sciences 190. Introduction to Materials Science and Engineering
Catalog Number: 6973
Shriram Ramanathan
Half course (fall term). M., W., 11–12:30. EXAM GROUP: 4, 5
Introduction to the structure, properties, and applications of materials. Crystal structure and defects. Phase transformations: phase diagrams, diffusion, nucleation and growth. Mechanisms of deformation and fracture. Effect of microstructure on properties. Examples from a variety of engineering applications including alternate energy and electronics will be discussed.
Prerequisite: Physical Sciences 12a,b, and Applied Mathematics 21a,b or Mathematics 21a,b.

[Engineering Sciences 198r. Probability Applications in Social Engineering]
Catalog Number: 66894
Kevin K. Parker
Half course (spring term). M., 11–2. EXAM GROUP: 4, 5, 6
Introductory statistical methods for students in the applied sciences and engineering with a focus on social networks. Random variables and probability distributions; the concept of random sampling, including random samples, statistics, and sampling distributions; role of statistics in social network analysis; mathematical interpretation of social networks; connections and homophily, propinquity, mutuality/reciprocity, multiplexity, network closure; distributions and bridges, distance, centrality, density; segmentation and cliques, cohesion, clustering; graph

theory and adjacency matrices; Erdos-Rényi model; Watts-Strogatz Small World model; Barabási -Albert (BA) Preferential Attachment model; special topics in social network analysis.
Note: Expected to be given in 2014–15.
Prerequisite: Applied Mathematics 21b or Mathematics 21b or equivalent.

Cross-listed Courses

Biomedical Engineering 110 (formerly Engineering Sciences 145). Physiological Systems Analysis
***Biomedical Engineering 121 (formerly *Engineering Sciences 122). Cellular Engineering**
Biomedical Engineering 125 (formerly Engineering Sciences 130). Tissue Engineering
[Biomedical Engineering 130 (formerly Engineering Sciences 149). Neural Control of Movement]
Earth and Planetary Sciences 133. Atmospheric Chemistry
Earth and Planetary Sciences 135. Physics and Chemistry: In the Context of Energy and Climate at the Global and Molecular Level
Physics 129. Energy Science
[Physics 136. Physics of Medical Imaging]
Societies of the World 47. Contemporary South Asia: Entrepreneurial Solutions to Intractable Social & Economic Problems

Primarily for Graduates

Additional courses of interest to graduate students in Electrical Engineering includes Computer Sciences 246r. Additional courses of interest to graduate students in Decision, Control, and Communication include Economics 2010a, 2010b, 2010c, 2120, 2140; Statistics 110, 171.

Engineering Sciences 201. Decision Theory
Catalog Number: 2362
Donatello Materassi
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
Mathematical analysis of decision making. Bayesian inference and risk. Maximum likelihood and nonparametric methods. Algorithmic methods for decision rules: perceptrons, neural nets, and back propagation. Hidden Markov models, Blum-Welch, principal and independent components.
Prerequisite: Applied Mathematics 21a,b or Mathematics 21a,b, and Statistics 110 or equivalents.

Engineering Sciences 202. Estimation and Control of Dynamic Systems
Catalog Number: 5080
Donatello Materassi
Half course (fall term). M., W., 4–5:30. EXAM GROUP: 9
Study of dynamical systems with deterministic and stochastic inputs. Controllability and observability, linear quadratic control, dynamic programming and the Pontryagin maximum principle, Stochastic models and Kalman-Bucy filtering. Applications from engineering and economics.

Prerequisite: Linear differential equations, matrix algebra, and introductory probability as covered in Mathematics 21a, b and Engineering Sciences 150 or equivalents.

[Engineering Sciences 203. Stochastic Control]
Catalog Number: 6982
Instructor to be determined
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Introduction to the theory of stochastic differential equations based on Wiener processes and Poisson counters, and an introduction to random fields. The formulation and solution of problems in nonlinear estimation theory. The Kalman-Bucy filter and nonlinear analogues. Identification theory. Adaptive systems. Applications.
Note: Expected to be given in 2014–15.
Prerequisite: Applied Mathematics 104 (formerly Applied Mathematics 105a), Applied Mathematics 105 (formerly Applied Mathematics 105b), or equivalent. Some prior exposure to probability; Engineering Sciences 202 desirable but not essential.

[*Engineering Sciences 207. Communicating Science]
Catalog Number: 5993 Enrollment: Limited to 12.
Cornelia Dean
Half course (fall term). M., 1–4. EXAM GROUP: 6, 7, 8
Climate change, health insurance reform, space exploration, the teaching of science and a host of other issues - today Americans confront more and more important public debates in which the argument hangs on technical issues. On the whole, however, they have difficulty dealing with these issues, in large part because the scientists and engineers who could help them are missing from the debate. This course is designed for graduate students in engineering and the biological and physical sciences who are interested in learning how to engage with the public on these and other issues. It also offers useful guidance on how to explain their own work - writing, speaking and online - intelligently and intelligibly.
Note: Expected to be given in 2014–15.

[Engineering Sciences 209. Nonlinear Control Systems]
Catalog Number: 1194
Instructor to be determined
Half course (fall term). Tu., Th., 10–11:30.
Study of nonlinear input-output systems including controllability, observability, uniqueness of models, stability, and qualitative behavior of nonlinear dynamical systems. Differential geometry and Lie theory methods developed to study control of classical and quantum mechanical systems.
Note: Expected to be given in 2014–15.

Engineering Sciences 211. Microphysiological Systems - *(New Course)*
Catalog Number: 71979
Kevin K. Parker
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
A sophisticated perspective on the design, construction, and testing of model physiological systems recapitulated with tissue engineering and lab on a chip technologies. Topics include

organ and multiorgan physiology and pathophysiology; in vitro disease models; and design tools and fabrication techniques for lab on a chip technologies.

[Engineering Sciences 212. Quantitative Cell Biology: Self-Organization and Cellular Architecture]
Catalog Number: 30956
Instructor to be determined
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Cell biology – from foundations to current research topics. Intended for students without cell/molecular biology training. Cell architecture, molecular and phenomenological aspects, signaling, organelle form/function, trafficking, quantitative experimental techniques, models of cellular organization and dynamics.
Note: Expected to be given in 2014–15. Offered in alternate years.

Engineering Sciences 220. Fluid Dynamics
Catalog Number: 2759
L. Mahadevan
Half course (fall term). Tu., Th., 10–11:30, and a supplementary weekly meeting for problem discussion (or make-up sessions), M. at 3 pm. EXAM GROUP: 12, 13
Continuum mechanics; conservation of mass and momentum, energy; stress, kinematics, and constitutive equations; vector and tensor calculus. Dimensional analysis and scaling. Navier-Stokes equations, Reynolds number. Solutions for simple flow states. Low Reynolds number flows; porous media flows; lubrication theory; gravity currents. Inviscid flows, Kelvin circulation theorem, Bernoulli integrals, Vortical flows. Waves in fluids; acoustics, shocks, water waves. Airfoil theory. Boundary layers. Flow instabilities. Mixing, and turbulence in unbounded and bounded flows.
Note: For 2013-14, students who enroll in ES 220 may not enroll concurrently in Physics 220.
Prerequisite: Familiarity with dynamics, vectors, multivariable calculus, and partial differential equations. An undergraduate course in fluid dynamics or other continuum mechanics is strongly recommended.

Engineering Sciences 221. Drug Delivery
Catalog Number: 8223
Sujata K. Bhatia
Half course (spring term). M., W., 2:30–4.
Methods to deliver molecules to the human body. Physiological obstacles and engineering solutions. Characterization techniques for drug delivery synthesis and in vitro analysis. Case studies of current pharmaceutical products.
Prerequisite: Mathematics 21a,b or Applied Mathematics 21a,b, and Chemistry 5 or Life Sciences 1a.

***Engineering Sciences 222. Advanced Cellular Engineering**
Catalog Number: 0696
Neel S. Joshi
Half course (fall term). M., W., F., at 9. EXAM GROUP: 2
This is a combined introductory graduate/upper-level undergraduate course that focuses on

examining modern techniques for manipulating cellular behavior and the application of these techniques to problems in the biomedical and biotechnological arenas. Topics will include expanding the genetic code, genetic circuits, rewiring signaling pathways, controlling behavior through cell-matrix interactions, and directed differentiation of stem cells. Lectures will review fundamental concepts in cell biology before delving into topical examples from current literature. Students will work individually and in teams to determine the boundaries of existing cellular engineering techniques using scientific literature and propose original research to address unmet technological needs.
Note: This course does not have a laboratory section, but it is taught concurrently with Biomedical Engineering 121. Students interested in gaining hands-on experience with cell culture experiments should enroll in Biomedical Engineering 121.
Prerequisite: At least one semester of college-level organic chemistry and molecular/cellular biology. Physics at the level of Physics AP50 or Physics 12.

Engineering Sciences 224. Laboratory in Engineering and Physical Biology
Catalog Number: 4136
Nancy Kleckner and Mara Prentiss
Half course (spring term). M., W., 1–5. EXAM GROUP: 6, 7, 8, 9
A project-oriented laboratory course which will integrate genetic, molecular, biochemical and cytological approaches from the life sciences with optical, magnetic and mechanical approaches from the physical sciences. Interesting and original experiments will be organized around a common theme which, this year, will be "Biomechanics of E. coli."
Note: Intended primarily for first year graduate students in the EPB PhD track but available to other graduate students and advanced undergraduates as space and resources permit.

[Engineering Sciences 226r. Special Topics in Neural Engineering: Learning and Memory in Neural Systems]
Catalog Number: 3086
Maurice A. Smith
Half course (spring term). Tu., 2:30–5.
Course will present classical findings and new research that give insight into mechanisms of learning and memory formation in neural systems. Learning and memory will be studied both as neurobiological phenomena and as computational challenges.
Note: Expected to be given in 2014–15. Offered in alternate years.
Prerequisite: Applied Mathematics 105a and 105b, probability and statistics.

***Engineering Sciences 227. Medical Device Design**
Catalog Number: 73679 Enrollment: Limited to 16.
Conor J. Walsh
Half course (spring term). M., W., 2–3:30. EXAM GROUP: 7, 8
Project-based course on the design of medical devices to address needs identified by hospital-based clinicians. Students work in teams with physicians to develop a novel device. The design process includes: needs finding; problem identification; prior art searches; strategy and concept generation; estimation; sketching; sketch modeling; machine elements, ergonomics and prototyping.

Prerequisite: Engineering Sciences 51 or machine design experience. Graduate course, but open to qualified junior and senior undergraduates.

[Engineering Sciences 228. Biomaterials]
Catalog Number: 49617
Neel S. Joshi
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Overview of materials for biomedical devices and therapies. Polysaccharide- and protein-based polymers as building blocks. Biological templating of inorganic structures. Emerging frontiers in protein and DNA self-assembly. Molecular scale origin of materials properties for naturally occurring biological materials and the use of this information to rationally design new biomaterials for specific applications.
Note: Expected to be given in 2014–15.
Prerequisite: Organic chemistry, cell biology, physics at the level of 11a.b. Suggested courses include molecular biology.

***Engineering Sciences 229. Survey of Energy Technology**
Catalog Number: 94822
Michael J. Aziz
Half course (spring term). W., F., 2:30–4. EXAM GROUP: 7, 8
Principles governing energy generation and interconversion. Current and projected world energy use. Selected important current and anticipated future technologies for energy generation, interconversion, storage, and end usage.
Note: This course must be taken Sat/Unsat. Cannot be used for SEAS concentration credit. Students may not take both Engineering Sciences 229 and Engineering Sciences 231 for credit.
Prerequisite: Calculus of a single variable, one semester of college-level physics, and familiarity with chemistry at the high school advanced placement level.

Engineering Sciences 230. Advanced Tissue Engineering
Catalog Number: 5718
David J. Mooney
Half course (spring term). Tu., Th., 1–2:30; and a weekly laboratory scheduled the first week of class (4 hr/week). EXAM GROUP: 15, 16
Fundamental engineering and biological principles underlying field of tissue engineering, along with examples and strategies to engineer specific tissues for clinical use. Student design teams prepare a research proposal and participate in a weekly laboratory.
Note: Credit may be earned for either Engineering Sciences 230 or Biomedical Engineering 125, but not both.
Prerequisite: Biochemistry or cell biology background.

***Engineering Sciences 231. Energy Technology**
Catalog Number: 1486
Michael J. Aziz
Half course (spring term). W., F., 2:30–4. EXAM GROUP: 7, 8
Principles governing energy generation and interconversion. Current and projected world energy use. Selected important current and anticipated future technologies for energy generation,

interconversion, storage, and end usage.
Note: Students may not take both Engineering Sciences 231 and Engineering Sciences 229 for credit.
Prerequisite: One semester of college-level calculus-based physics and familiarity with chemistry at the high school advanced placement level.

[*Engineering Sciences 233a. Innovating in Health Care]
Catalog Number: 67397
Margo I. Seltzer and Regina E. Herzlinger (Business School)
Half course (fall term). Tu., 1:30–4:30; plus 3 hours of section M., W., 3–4:30. EXAM GROUP: 15, 16, 17, 18
This course helps students to create successful entrepreneurial health care ventures by enabling them to: 1) Identify the alignment between an entrepreneurial health care venture and the six forces that shape health care - structure, financing, technology, consumers, accountability, and public policy; and 2) Create a product and business model that responds appropriately to any misalignments. The course covers four modules: The analytic framework, case studies of the six forces, case studies of firms responses to the forces, and student presentation of business plans.
Note: Expected to be given in 2014–15. Must be taken concurrently with ES233b. Offered jointly with the Business School as 6340.

[*Engineering Sciences 233b. Health Care Computer-Assisted Innovations]
Catalog Number: 59443
Margo I. Seltzer and Regina E. Herzlinger (Business School)
Half course (fall term). M., W., 1:30–3; plus one hour of section Th., at 3. EXAM GROUP: 6, 7
This is a field study course in which students undertake significant external research in the in-depth development of a business plan for a health-care and technology business venture. Students will learn to develop such a business plan, evaluate and select appropriate technologies, define a new technology based product in the health-care space, and develop appropriate prototypes for presentation to customers and investors.
Note: Expected to be given in 2014–15. Must be taken concurrently with ES233a. Offered jointly with the Business School as 6180.

Engineering Sciences 238. Introduction to Innovation and Entrepreneurship - *(New Course)*
Catalog Number: 73624 Enrollment: Limited to 65.
Joseph B. Lassiter (Business School), William Andrews Sahlman (Business School)
Half course (spring term). Tu., 2:30–5:30. EXAM GROUP: 16, 17, 18
This course is designed for those who want to understand the role of start-ups and venture capital in the creation of new products and services in the for-profit and not-for-profit sectors. It is intended to help students identify areas in which changes in science and technology, consumer and social attitudes, or political and regulatory processes support the creation of new businesses and organizations in independent ventures or within established organizations. Margo Seltzer and Bill Anderson are supporting the course by supervising projects in their respective areas of expertise.
Note: Open to undergraduates. May not be taken concurrently with SCRB 235. May not be taken concurrently with SCRB 335qc. Credit may be earned for either Engineering Sciences 238 or

SCRB 235, but not both. This course will be held at the i-lab at HBS. The course is limited to 15 HBS cross-registration students, 25 students enrolling through Engineering Sciences and 25 students enrolling through SCRB.

Engineering Sciences 239. Advanced Innovation in Science and Engineering: Conference Course
Catalog Number: 8303
David A. Weitz
Half course (fall term). Th., 3–5.
Students are expected to meet all the requirements of Engineering Sciences 139 and in addition are required to prepare an individual term project with significant analytic emphasis in an area of scientific or technological innovation.
Note: Offered jointly with the Design School as SCI-06272.

Engineering Sciences 240. Solid Mechanics
Catalog Number: 2984
Zhigang Suo
Half course (fall term). M., W., F., at 10, and a weekly section to be arranged. EXAM GROUP: 3
Foundations of continuum mechanics, development of elasticity theory, and introduction to plasticity and creep. Elastic waves. Basic elasticity solutions. Variational principles.
Prerequisite: Applied Mathematics 105 (formerly Applied Mathematics 105b) or equivalent; introduction to solid mechanics at the level of Engineering Sciences 120, or Earth and Planetary Sciences 108 or 166, or Applied Physics 293.

[Engineering Sciences 241. Advanced Elasticity]
Catalog Number: 6711
Zhigang Suo
Half course (spring term). Tu., Th., 10–11:30.
Finite deformation; instabilities; thermodynamics; thermoelasticity; poroelasticity; electroactive polymers, hydrogels, polyelectrolyte gels
Note: Expected to be given in 2014–15. Offered in alternate years.
Prerequisite: Engineering Sciences 240 and Applied Mathematics 201 or equivalents.

[Engineering Sciences 242r. Solid Mechanics: Advanced Seminar]
Catalog Number: 5379
Katia Bertoldi
Half course (spring term). Tu., Th., 1:30–3. EXAM GROUP: 15, 16
Finite elements for analysis and design. The key goal of this class is the application of the finite element method to classical and state-of-the-art modeling and design problems. We introduce a commercial finite element program - ABAQUS - and demonstrate how to use it in modeling and analysing design problems. Topics include the implementations of user-defined subroutines (UMAT and VUMAT), instability analyses, analysis of waves propagation, fluid-structure interactions.
Note: Expected to be given in 2014–15.
Prerequisite: Engineering Sciences 240 or equivalent. To take this course, basic knowledge and

general interest in finite elements, mathematics, strength of materials, structural and solid mechanics is highly recommended.

[Engineering Sciences 246. Plasticity]
Catalog Number: 4271
Zhigang Suo
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Phenomenological theories for strain hardening materials; flow and deformation theories. Variational principles and other general theorems. Mechanisms of plastic deformation, physical theories for strain hardening materials, and polycrystals. Ideal plasticity. Boundary value problems, plastic collapse, buckling of structures.
Note: Expected to be given in 2014–15.
Prerequisite: Engineering Sciences 240, or equivalent.

Engineering Sciences 247. Fracture Mechanics
Catalog Number: 7152
Zhigang Suo
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Fundamentals of fracture with applications in materials and structural mechanics. Micromechanics of fracture in ceramics, metals, and polymers. Fracture of composite materials. Interfacial fracture mechanics. Fatigue crack propagation.
Prerequisite: Engineering Sciences 240 or equivalent.

[Engineering Sciences 249. Advanced Neural Control of Movement]
Catalog Number: 3145
Maurice A. Smith
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Students expected to meet all of the requirements of Engineering Sciences 149 and in addition to submit a term project with significant analytic content.
Note: Expected to be given in 2014–15. Offered in alternate years.
Prerequisite: Mathematics 21b or Applied Mathematics 21b or equivalent, probability and statistics, Physics 11a or equivalent.

[Engineering Sciences 250. Information Theory]
Catalog Number: 8606
Patrick J. Wolfe
Half course (fall term). Tu., Th., 1–2:30.
Fundamental concepts of information theory and applications to signal processing, communications, statistics. Entropy, differential entropy, mutual information; data compression and rate distortion theory; channel capacity, coding, the Gaussian channel. Contemporary research topics as time permits.
Note: Expected to be given in 2014–15.
Prerequisite: Probability theory in Engineering Sciences 150, Statistics 110, or equivalent; or permission of instructor.

[Engineering Sciences 252r (formerly Engineering Sciences 252). Advanced Topics in Robotics Research]
Catalog Number: 0239
Robert D. Howe
Half course (spring term). Tu., Th., 11:30–1.
A graduate seminar course on advanced topics in robotics research. Students read and present research papers and undertake a research project. Spring 2013 will focus on robot design and manipulation.
Note: Expected to be given in 2014–15.
Prerequisite: Engineering Sciences 159/259 or equivalent, or permission of instructor.

Engineering Sciences 255. Statistical Inference with Engineering Applications (formerly Detection and Estimation Theory and Applications)
Catalog Number: 9816
Yue Lu
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Statistical decision theory; hypothesis testing; linear and non-linear estimation; maximum likelihood and Bayes approaches; graphical models and message passing algorithms; large deviation analysis and asymptotic methods in statistics; stochastic processes and systems; Wiener and Kalman filtering; Markov chain Monte-Carlo methods; applications to physical, chemical, biological and information systems.
Prerequisite: Knowledge of probability theory and calculus.

[Engineering Sciences 259. Advanced Introduction to Robotics]
Catalog Number: 3671
Robert J. Wood
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Course requirements are similar to Engineering Sciences 159, with the exception that students enrolled in Engineering Sciences 259 are required to prepare a term project analyzing current research in a specific problem area within Robotics.
Note: Expected to be given in 2014–15. Offered in alternate years.
Prerequisite: Computer Science 50 and either Engineering Sciences 125 or 156.

Engineering Sciences 260. Water and Economic Development - *(New Course)*
Catalog Number: 96956
John Briscoe
Half course (spring term). M., W., 4:30–6. EXAM GROUP: 9
The course focuses on the engineering, infrastructure and institutions needed to manage water on a basin and city scale. The course does this using the case study method. All cases are presented by practitioners who have had deep engagement with the cases.
Note: Offered jointly with the Kennedy School as IGA 435 and with Public Health as EH524.

[Engineering Sciences 265. Advanced Water Treatment]
Catalog Number: 20731
Instructor to be determined
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8

Advanced Water Treatment will give students detailed instruction in emerging technologies for municipal wastewater treatment, industrial wastewater treatment, wastewater reclamation and reuse, desalination, and groundwater remediation. The course will begin by introducing wastewater quality, effluent water quality endpoints, and conventional treatment methodologies. The theoretical focus of the course will be on the fundamental biology, chemistry, and physics of processes including nanofiltration, reverse osmosis, membrane bioreactors, denitrification and phosphate removal, ozonolysis, UV photolysis, photocatalysis, and sonolysis. We will also discuss wastewater-to-energy processes including microbial fuel cells, anaerobic digestion, and electrochemical waste-to-hydrogen.
Note: Expected to be given in 2014–15. Offered in alternate years.
Prerequisite: Engineering Sciences 165

[Engineering Sciences 267. Aerosol Science and Technology]
Catalog Number: 4446
Instructor to be determined
Half course (fall term). Tu., Th., 11:30–1.
Physics and chemistry of aerosol particles. Concepts: size, shape, and density; number size distributions; uniform, accelerated, and Brownian motion; electrical properties; measurement instrumentation; condensation/evaporation; coagulation; and optical properties. Taught by reference to topical problems.
Note: Expected to be given in 2014–15. Offered in alternate years.

[Engineering Sciences 268. Chemical Kinetics]
Catalog Number: 8711
Instructor to be determined
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Time rate of change of chemical species. Rate constants. Formulating a coupled chemical system. Numerical analysis of complex systems.
Note: Expected to be given in 2014–15. Offered in alternate years.

[Engineering Sciences 269. Environmental Nanotechnology]
Catalog Number: 57068
Instructor to be determined
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
Introduces students to the environmental aspects of nanoscience and nanotechnology. We will study the fundamental physical chemical properties, characterization, environmental implications, and environmental applications of nanoparticles and nanomaterials. Case studies from recent publications on engineered carbon nanomaterials such as fullerenes, carbon nanotubes, and graphene will be discussed.
Note: Expected to be given in 2014–15.
Prerequisite: College-level chemistry course or equivalent and Physical Sciences 1 or equivalent.

Engineering Sciences 271r. Topics in Mixed-Signal Integrated Circuits
Catalog Number: 1158
Gu-Yeon Wei

Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
A seminar course that reviews research and development of various topics in integrated circuits and systems for low-power and/or high-performance computing.
Prerequisite: Computer Science 148 or equivalent, and Computer Science 146 or equivalent, or with permission of instructor.

Engineering Sciences 272. RF and High-Speed Integrated Circuits
Catalog Number: 5157
Donhee Ham
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Design of RF and high speed integrated communication circuits at both transistor and system levels.
Prerequisite: Solid-state devices and analog circuits (Engineering Sciences 154 or equivalent), basic electromagnetism (Physics 11b or 15b or some part of Engineering Sciences 151 or equivalent), basic differential equations (Applied Mathematics 21b or equivalent), and Fourier analysis (some part of Applied Mathematics 105a or Engineering Sciences 156 or equivalent).

[Engineering Sciences 273. Optics and Photonics]
Catalog Number: 8382
Marko Loncar
Half course (fall term). M., W., 2:30–4. EXAM GROUP: 7, 8
Topics include: review of electromagnetism, negative index materials, optical beams and free-space optics, guided wave optics (including optical fiber), optical resonators, perturbation and couple mode theory, transfer matrix methods, periodic optical structures, plasmons, nonlinear optics.
Note: Expected to be given in 2014–15. Open to graduate students and advanced undergraduates.

Engineering Sciences 274. Quantum Technology I
Catalog Number: 5645
Federico Capasso
Half course (spring term). W., F., 1–2:30. EXAM GROUP: 6, 7
Covers concepts of device physics, including semiconductors, photonic devices, related quantum concepts. Seminconductor heterostructures: band structure engineering. Quantum wells, superlattices; resonant tunneling; Stark effect. Diode lasers; quantum well lasers, modulators and detectors; quantum cascade lasers.
Prerequisite: Undergraduate level quantum mechanics such as Physics 143a or equivalent.

Engineering Sciences 275. Nanophotonics
Catalog Number: 9815
Kenneth B. Crozier
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Recent developments in micro- and nano-photonic materials, devices and microscopy. Computational electromagnetics. Photonic crystals. Optical properties of metal nanostructures. Optical forces. Scanning near-field optical microscopy. Term-long research project.
Note: Open to graduate students and advanced undergraduates.
Prerequisite: Electromagnetism (Physics 11b or 15b or Engineering Sciences 151 or equivalent).

***Engineering Sciences 276. Introduction to MicroElectroMechanical System**
Catalog Number: 54441 Enrollment: Limited to 25.
Fawwaz Habbal
Half course (fall term). Tu., 5:30–7:30 p.m. EXAM GROUP: 18
This course introduces student to the rapidly emerging, multi-disciplinary and exciting field of MicroElectroMechanical Systems (MEMS). It teaches fundamentals of micro machining and Micro fabrication techniques, including planar thin-film process technologies, photolithography and soft-lithography techniques, deposition and etching techniques, and surface, bulk, and electroplating micro machining technologies.
Prerequisite: Physics 11a,b or 15a,b; College Chemistry at the level of Life Sciences 1a and Physical Sciences 1.

***Engineering Sciences 277. Microfabrication Laboratory**
Catalog Number: 48852 Enrollment: Limited to 12.
Kenneth B. Crozier
Half course (spring term). M., at 10, and weekly 3-hour laboratory. EXAM GROUP: 3
Content and requirements are similar to ENG-SCI 177, with the exception that students enrolled in ENG-SCI 277 are assigned more demanding problem sets and are required to prepare a term project.
Prerequisite: Physics 11a and Physics 11b; or Physics 15a and 15b or equivalent.

Engineering Sciences 280. Designing Transformational Policy Proposals: The Dynamics of Success in Water, Fishery and Environmental Management - *(New Course)
Catalog Number: 98711 Enrollment: Limited to 30.
Michael Denis Young
Half course (spring term). Tu., Th., 1:10–2:30. EXAM GROUP: 15, 16
Unpacking the dynamics of getting transformational policy reforms over the line. An examination of case studies in the design and implementation of successful reforms in water, fishery, natural resource and environmental management.
Note: Offered jointly with the Kennedy School as IGA-438.

Engineering Sciences 298r. Quantum Electronics and Photonics
Catalog Number: 28719
Amirhamed Majedi
Half course (fall term). M., W., 10–11:30. EXAM GROUP: 3, 4
This course is designed for engineers who are interested to learn applied quantum mechanics to study quantum behavior of electron, photon and their interaction. The course content is a mix of topics usually covered in more conventional courses such as quantum electronics and quantum optics to invite a wide range of audiences who are working on areas such as optoelectronics, quantum photonics, nanoelectronics, nanophotonics, spintronics, and in general quantum devices and systems. The course emphasizes on the fundamental concepts and engineering applications without a need for previous exposure to quantum mechanics. Examples and problems are designed to address the applications of the course contents to real problems.

Engineering Sciences 299r. Special Topics in Engineering Sciences
Catalog Number: 6710

Fawwaz Habbal
Half course (fall term; repeated spring term). Hours to be arranged.
Supervision of experimental or theoretical research on acceptable engineering and applied science problems and supervision of reading on topics not covered by regular courses of instruction.
Note: Open to graduate students and AB/SM candidates only. Students must arrange such work with a member of the School of Engineering and Applied Sciences. This course is graded and is ordinarily taken with the approval of the Committee on Higher Degrees. Applicants must file a project sheet before study cards are filed. Project sheets may be obtained from the Student Affairs Office, Pierce Hall 110.

Cross-listed Courses

Earth and Planetary Sciences 202. Mechanics in Earth and Environmental Science
[*Earth and Planetary Sciences 231. Climate Dynamics]
MCB 294 (formerly MCB 225). Interesting Questions in Engineering and Physical Biology
Physics 220. Fluid Dynamics - *(New Course)*

Additional courses of interest to graduate students in Environmental Science and Engineering might include courses offered at the Harvard School of Public Health.

Graduate Courses of Reading and Research

Reading courses are odd-numbered; research courses are even-numbered.

***Engineering Sciences 301,302. Nanophotonics**
Catalog Number: 7403,4838
Kenneth B. Crozier 5146

***Engineering Sciences 303,304. Topics in Electronic Materials and Semiconductor Heterostructure Physics**
Catalog Number: 8668,2824
Venkatesh Narayanamurti 5445 (on leave fall term)

***Engineering Sciences 307,308. Control Theory, Robotics, Computer Vision, and Intelligent Machines**
Catalog Number: 7566,2719
Roger W. Brockett 3001

***Engineering Sciences 309,310. Design, Sensing, and Control**
Catalog Number: 5043,7419
Robert D. Howe 2789

***Engineering Sciences 311,312. Systems and Control, Quantum Information and Quantum Control, Computational Vision, Image Analysis and Understanding**

Catalog Number: 2025,9377
Navin Khaneja 4192 (on leave 2013-14)

***Engineering Sciences 313,314. Image Processing and Computer Vision**
Catalog Number: 4254,8534
Todd Zickler 5143

***Engineering Sciences 315,316. Wireless Computing and Networking**
Catalog Number: 2848,2849
H. T. Kung 3155 (on leave fall term)

***Engineering Sciences 319,320. Microrobotics and Bio-inspired Autonomous Robotic Systems**
Catalog Number: 5306,5314
Robert J. Wood 5339 (on leave 2013-14)

***Engineering Sciences 321,322. Heterogeneous Nanophotonic Devices and Bio-templated Electronic Materials**
Catalog Number: 85105,33583
Evelyn Hu 6682

***Engineering Sciences 323,324. Materials Processing**
Catalog Number: 1174,5484
Jennifer Lewis 7229

***Engineering Sciences 325,326. Mixed-Signal VLSI Design**
Catalog Number: 8415,9336
Gu-Yeon Wei 4102

***Engineering Sciences 327,328. Circuit Design and Scientific Instrumentation**
Catalog Number: 4901,6521
Paul Horowitz 3537

***Engineering Sciences 329,330. Biological Signal Analysis and Tomography**
Catalog Number: 4111,7427
Vahid Tarokh 4368

***Engineering Sciences 331,332. RF/Microwave/Analog/Mixed-Signal Integrated Circuits and Ultrafast Electronics**
Catalog Number: 9645,9655
Donhee Ham 4519

***Engineering Sciences 333,334. Mechanics and Materials in Small Structures**
Catalog Number: 6528,5449
Zhigang Suo 4761

***Engineering Sciences 335,336. Mechanics of Engineering Materials and Small Devices**
Catalog Number: 8173,2399
Joost J. Vlassak 3184 (on leave fall term)

***Engineering Sciences 337,338. Mechanics of Solids and Fluids: Earthquake Seismology and Environmental Geomechanics**
Catalog Number: 4316,3948
James R. Rice 7270

***Engineering Sciences 339,340. Materials Physics and Engineering**
Catalog Number: 39784,54891
David R. Clarke 6684

***Engineering Sciences 341,342. Mechanics of Soft Materials**
Catalog Number: 39227,54334
Katia Bertoldi 6440

***Engineering Sciences 343,344. Deformation and Fracture of Materials**
Catalog Number: 3907,2803
John W. Hutchinson 1573

***Engineering Sciences 345,346. Neural Control of Movement**
Catalog Number: 6002,6007
Maurice A. Smith 5342

***Engineering Sciences 347,348. Biomolecular Engineering, Molecular Self-Assembly and Responsive Materials**
Catalog Number: 84569,90749
Neel S. Joshi 6595

***Engineering Sciences 349,350. Materials Science**
Catalog Number: 90856,39334
Roy G. Gordon 1353 (on leave 2013-14)

***Engineering Sciences 351,352. Engineering Mammalian Cell Phenotype**
Catalog Number: 4879,6421
David J. Mooney 4879

***Engineering Sciences 353,354. Cellular Biophysics**
Catalog Number: 3813,3798
Kevin K. Parker 4788 (on leave spring term)

***Engineering Sciences 355,356. Bioinspired Engineering**
Catalog Number: 94599,47624
Donald E. Ingber 2832

***Engineering Sciences 357,358. Atmosphere-Biosphere Interactions**
Catalog Number: 7661,8060
Steven C. Wofsy 4396 (on leave spring term)

***Engineering Sciences 359,360. Stratospheric Chemistry and Transport**
Catalog Number: 8410,6856
Steven C. Wofsy 4396 (on leave spring term)

***Engineering Sciences 361,362. Atmospheric Chemistry**
Catalog Number: 7238,7514
Daniel J. Jacob 1781

***Engineering Sciences 363,364. Dynamic Meterology**
Catalog Number: 3756,3757
Brian F. Farrell 7628

***Engineering Sciences 365,366. Topics in Atmospheric and Climate Dynamics**
Catalog Number: 3233,3236
Zhiming Kuang 5285

***Engineering Sciences 367,368. Environmental Science**
Catalog Number: 6773,9810
Michael B. McElroy 2462

***Engineering Sciences 369,370. Urban and Regional Systems Analysis**
Catalog Number: 8775,8768
Peter P. Rogers 2804

***Engineering Sciences 371,372. Environmental Microbiology**
Catalog Number: 6258,3885
Instructor to be determined

***Engineering Sciences 373,374. Water Management**
Catalog Number: 63797,12275
John Briscoe 6683

***Engineering Sciences 375,376. Environmental Biology**
Catalog Number: 3985,2863
Ralph Mitchell 1587

***Engineering Sciences 377,378. Transport Phenomena and Biomaterials for Drug Delivery**
Catalog Number: 6385,8671
David A. Edwards 3919

***Engineering Sciences 379,380. Biologically Inspired Design and Control of Medical Devices and Robots**

Catalog Number: 2354,0313
Conor J. Walsh 6860

***Engineering Sciences 381,382. Environmental Nanotechnology**
Catalog Number: 69441,17919
Chad D. Vecitis 6609

***Engineering Sciences 389,390. Environmental Chemistry**
Catalog Number: 6660,1639
Scot T. Martin 3365 (on leave 2013-14)

***Engineering Sciences 393,394. Microelectronics and VLSI Systems**
Catalog Number: 6037,6056
Woodward Yang 2790

***Engineering Sciences 395,396. Nanoscale Optics, NEMS and Nanofabrication Technology**
Catalog Number: 2564,3687
Marko Loncar 5703

***Engineering Sciences 397,398. Multidimensional Signal Processing, Sensor Networks, and Computational Imaging**
Catalog Number: 78552,93659
Yue Lu 6750

Cross-listed Courses

***Computer Science 365. SEAS Teaching Practicum**

English

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of English

Nicholas Watson, Professor of English *(Chair, Interim)*
Daniel Albright, Ernest Bernbaum Professor of Literature
David J. Alworth, Assistant Professor of English and of History and Literature
Joshua David Bell, Briggs-Copeland Lecturer on English
Homi K. Bhabha, Anne F. Rothenberg Professor of the Humanities

Stephen Louis Burt, Professor of English *(Director of Undergraduate Studies)*
Glenda R. Carpio, Professor of English and of African and African American Studies
George Elliott Clarke, William Lyon Mackenzie King Visiting Associate Professor of Canadian Studies
Amanda Claybaugh, Professor of English *(on leave 2013-14)*
Daniel G. Donoghue, John P. Marquand Professor of English *(Director of Graduate Studies, interim)*
James Engell, Gurney Professor of English Literature and Professor of Comparative Literature
Philip J. Fisher, Felice Crowl Reid Professor of English
Darcy Frey, Briggs Copeland Lecturer on English
Marjorie Garber, William R. Kenan, Jr. Professor of English and of Visual and Environmental Studies
Henry Louis Gates, Jr., Alphonse Fletcher, Jr. University Professor
Jorie Graham, Boylston Professor of Rhetoric and Oratory, Harvard College Professor *(on leave fall term)*
Stephen J. Greenblatt, Cogan University Professor
Katherine Bennett Gustafson, College Fellow in the Department of English
Amy Hempel, Senior Lecturer on English
Bret A. Johnston, Senior Lecturer on English
Ju Yon Kim, Assistant Professor of English *(on leave 2013-14)*
Sam Marks, Briggs Copeland Lecturer on English
Louis Menand, Anne T. and Robert M. Bass Professor of English
Derek K. Miller, Assistant Professor of English
Elisa New, Powell M. Cabot Professor of American Literature
Diane Paulus, Professor of the Practice of Theatre and Artistic Director of the American Repertory Theater
Mark Jude Poirier, Briggs Copeland Lecturer on English
Leah Price, Francis Lee Higginson Professor of English Literature *(on leave 2013-14)*
Martin Puchner, Byron and Anita Wien Professor of Drama and of English and Comparative Literature *(on leave 2013-14)*
Steven Peter Rozenski, College Fellow in the Department of English
Peter Sacks, John P. Marquand Professor of English
Robert Scanlan, Professor of the Practice of Theatre
Elaine Scarry, Walter M. Cabot Professor of Aesthetics and the General Theory of Value, Harvard College Professor
Marc Shell, Irving Babbitt Professor of Comparative Literature and Professor of English
Michael Shinagel, Senior Lecturer on English
James Simpson, Donald P. and Katherine B. Loker Professor of English *(on leave 2013-14)*
Werner Sollors, Henry B. and Anne M. Cabot Professor of English Literature and Professor of African and African American Studies *(on leave spring term)*
John Stauffer, Professor of English and of African and African American Studies
Gordon Teskey, Professor of English
Helen Vendler, Arthur Kingsley Porter University Professor *(on leave fall term)*
Andrew Warren, Assistant Professor of English
Leah Jane Whittington, Assistant Professor of English *(on leave spring term)*
James Wood, Professor of the Practice of Literary Criticism

Other Faculty Offering Instruction in the Department of English

Lawrence Buell, Powell M. Cabot Professor of American Literature, Emeritus
Leo Damrosch, Ernest Bernbaum Professor of Literature, Emeritus
Joseph C. Harris, Francis Lee Higginson Professor of English Literature and Professor of Folklore, Emeritus
Jamaica Kincaid, Professor in African and African American Studies in Residence
Barbara K. Lewalski, William R. Kenan, Jr. Professor of History and Literature and of English, Emerita

Department of English Common Ground Courses are required of concentrators, and are ordinarily not an entry point to the study of English at Harvard for non-concentrators. Students are invited, however, to begin with

any course that seems suited to their interests and level of preparation: a Freshman Seminar taught by faculty members from the English Department or a 100-level course, all of which are taught in lecture or discussion format according to enrollment size; or, space permitting and with instructor consent, a 90-level Undergraduate Seminar or a Creative Writing Workshop.

I. Creative Writing

Primarily for Undergraduates

Without approval of the department, no student may take more than one full course (two half courses) in Creative Writing in any one year. A Creative Writing course may be repeated for credit provided the student has the permission of the instructor and the Director of Undergraduate Studies of the Department.

***English Calr. Dramatic Screenwriting II: Workshop**
Catalog Number: 1240 Enrollment: Limited to 12.
Mark Jude Poirier
Half course (spring term). Tu., 3–6.
We'll examine films and screenplays in order to develop the skills necessary to write the first draft of a feature-length script. We'll begin by honing our treatments and outlines, and move on to critiquing specific scenes in our own work and in produced screenplays, with a rigorous focus on character, dialogue, tone, structure, plot, and voice.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Camr. Advanced Playwriting: Workshop**
Catalog Number: 2555 Enrollment: Limited to 12.
Sam Marks
Half course (fall term; repeated spring term). Tu., 4–7 p.m. EXAM GROUP: 18
This workshop is a continued exploration of writing for the stage. Students will be encouraged to excavate their own voice in playwriting. They will examine and attempt multiple narrative strategies and dialogue techniques. They will bolster their craft of playwriting through generating short scripts and a completed one act. Readings will include significant contributors to the theatrical form such as Ibsen and Beckett as well as contemporary dramatists such as Annie Baker, Caryl Churchill and Sam Shepard.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Capr. Poetry: Workshop**
Catalog Number: 6523 Enrollment: Limited to 12.
Jorie Graham
Half course (spring term). W., 4–7 p.m. EXAM GROUP: 9
Open by application to both undergraduates and graduates. Please submit a portfolio including a letter of interest, ten poems, and a list of classes (taken at Harvard or elsewhere) that seem to have bearing on your enterprise. Class lasts 3 hours and includes the study of poetic practice in conjunction with the discussion of student work.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Cbbr. Intermediate Poetry: Workshop**
Catalog Number: 59646 Enrollment: Limited to 12.
Joshua Bell

Half course (fall term; repeated spring term). Tu., 4–7 p.m. EXAM GROUP: 18
Initially, students can expect to read, discuss, and imitate the strategies of a wide range of poets writing in English; to investigate and reproduce prescribed forms and poetic structures; and to engage in writing exercises meant to expand the conception of what a poem is and can be. As the course progresses, reading assignments will be tailored on an individual basis, and an increasing amount of time will be spent in discussion of student work.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Chcr. Advanced Poetry: Workshop**
Catalog Number: 53445 Enrollment: Limited to 12.
Joshua Bell
Half course (fall term; repeated spring term). M., 4–7 p.m. EXAM GROUP: 9
By guided reading, classroom discussion, one on one conference, and formal and structural experimentation, members of the Advanced Poetry Workshop will look to hone, deepen, and challenge the development of their poetic inquiry and aesthetic. Students will be required to write and submit one new poem each week and to perform in-depth, weekly critiques of their colleagues' work.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Ckr. Introduction to Playwriting: Workshop**
Catalog Number: 6781 Enrollment: Limited to 12.
Sam Marks
Half course (fall term; repeated spring term). M., 4–7 p.m. EXAM GROUP: 9
This workshop is an introduction to writing for the stage through intensive reading and in-depth written exercises. Each student will explore the fundamentals and possibilities of playwriting by generating short scripts and completing a one act play with an eye towards both experimental and traditional narrative styles. Readings will examine various ways of creating dramatic art and include work from contemporary playwrights such as Kenneth Lonergan, Martin McDonagh, Suzan Lori-Parks, and Sarah Ruhl as well established work from Anton Chekhov, Sarah Kane, and Harold Pinter.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Clr. Dramatic Screenwriting I: Workshop**
Catalog Number: 6121 Enrollment: Limited to 12.
Mark Jude Poirier
Half course (fall term; repeated spring term). Fall: M., 4–7 p.m.; Tu., 4–7 p.m.; Spring: M., 4–7 p.m. EXAM GROUP: Fall: 9
This class introduces the screenplay, from the Hollywood blockbuster to the indie sleeper. Students will learn the basics of screenwriting by reading scripts and viewing the resulting films, focusing on dramatic structure, character development, tone, dialogue, and the other aspects of film determined by the writer. Students will develop their own feature-length screenplays-which we'll workshop from the earliest stages-and finish the semester with a first act and the tools, knowledge, and skills necessary to continue screenwriting.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Cnfr. Introduction to Creative Nonfiction: Workshop**
Catalog Number: 6740 Enrollment: Limited to 12.
Darcy Frey
Half course (fall term; repeated spring term). W., 4–7 p.m. EXAM GROUP: Fall: 9
Whether in essay, memoir or reportage, creative nonfiction employs many of the same literary techniques as fiction: narrative structure, character development, scene-setting, extended dialogue, emphasis on voice and point of view. In addition to workshopping student writing, we discuss examples of the genre by writers such

as Virginia Woolf, William Maxwell, Joan Didion, and John McPhee. Assignments include two 10-15 page narratives, an extensive revision, and typed critiques of classmates' work.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Cnnr. Advanced Creative Nonfiction: Workshop**
Catalog Number: 2121 Enrollment: Limited to 12.
Darcy Frey
Half course (fall term; repeated spring term). Th., 4–7 p.m. EXAM GROUP: 18
In any long-form nonfiction (essay, memoir, travelogue, journalism), there are countless ways of structuring and telling a true story. In this workshop, students examine various techniques for giving nonfiction material dramatic and suspenseful energy: chronology, argument, juxtaposition, retrospection, evolving revelation. In addition to workshopping student writing, we discuss examples of the genre by writers such as Julia Blackburn, Truman Capote, Spalding Gray, and Janet Malcolm. Assignments include two 10-15 page narratives, an extensive revision, and typed critiques of classmates' work.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Cpwr. Poetry: Workshop**
Catalog Number: 4606 Enrollment: Limited to 12.
Jorie Graham
Half course (spring term). W., 1–4. EXAM GROUP: 6, 7, 8
Open by application to both undergraduates and graduates. Please submit a portfolio including five poems, a letter explaining your interest in the class, and a list of relevant classes taken at Harvard or elsewhere. Class includes the discussion of literary texts as well as work written by students.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Crr. Fiction Writing: Workshop**
Catalog Number: 1893 Enrollment: Limited to 12.
Bret A. Johnston
Half course (fall term; repeated spring term). W., 4–7 p.m. EXAM GROUP: 9
An introduction to fundamental aspects (technical and conceptual) of writing fiction, beginning with short exercises and moving toward the completion and revision of original work. Readings include Munro, Welty, Dîaz, Lahiri, and others, and explore how practicing writers negotiate character, narrative structure, setting, voice, etc. Individual reading assignments are also devised on a per project basis. As the term continues, increasing amounts of time are devoted to the discussion of student work.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Ctr. Advanced Fiction Writing: Workshop**
Catalog Number: 7175 Enrollment: Limited to 12.
Bret A. Johnston
Half course (fall term; repeated spring term). Th., 4–7 p.m. EXAM GROUP: 18
Writers will become familiar with more sophisticated aspects (technical and conceptual) of writing fiction, beginning with short exercises and moving toward the completion and revision of original work. Readings include Munro, Welty, Diaz, Lahiri, and others, and we will explore how practicing writers negotiate character, narrative structure, setting, voice, etc. Individual reading assignments are also devised on a per project basis. As the term continues, increasing amounts of time are devoted to the discussion of student work. Students in this course will be expected to revise work often and to a very high standard.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Cvr. Fiction Writing**
Catalog Number: 1223 Enrollment: Limited to 12.
Jamaica Kincaid
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
A seminar/workshop. Readings to be announced.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Cwar. Advanced Fiction: Workshop**
Catalog Number: 88347 Enrollment: Limited to 12.
Amy Hempel
Half course (fall term; repeated spring term). Th., 1–4.
Members of the advanced fiction workshop will aim to raise their levels of performance on the page, largely through guided revisions and continued reading to see the ways outstanding writers solved similar problems. Two complete stories with revisions are required during the term, as well as weekly critiques of colleagues' work.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

***English Cwfr. Introductory Fiction: Workshop**
Catalog Number: 21718 Enrollment: Limited to 12.
Amy Hempel
Half course (fall term; repeated spring term). W., 4–7 p.m. EXAM GROUP: Fall: 9
An introduction to the short story with emphasis on amplifying the idea of what a story can be. We will look at a range of contemporary narrative strategies that exploit--in the best sense of the word--voice, character, place, logic, and (always) language. Readings will include Barry Hannah, Tillie Olsen, Leonard Michaels, Mark Richard, Mary Robison, Yasunari Kawabata, and selected poets. Short assignments will aim to strengthen writing at the sentence level, and suggest personal ways into the largest concerns. Students should expect to complete and revise two stories, and be prepared to discuss the work of colleagues each week.
Note: Admission based on submitted samples of writing. For information on specific application requirements, please see the English Department's Creative Writing web page.

II. Literature

Primarily for Undergraduates

Common Ground Courses (two hours of lecture, one hour of discussion section weekly). Preference is given to English concentrators. Enrollment determined after first meeting.

***English 40. Arrivals**
Catalog Number: 62547 Enrollment: Limited to 27.
Daniel G. Donoghue
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An introduction to major works in English literature from Beowulf through the seventeenth century, the course will explore various ways that new literatures are created in response to cultural forces that shape poets, genres, and group identity. We will hone close reading skills, introduce rhetorical tropes, and develop techniques of critical writing.

***English 42. Arrivals**
Catalog Number: 10234 Enrollment: Limited to 27.
Nicholas Watson

Half course (spring term). M., W., at 11,and a weekly section to be arranged. EXAM GROUP: 4
A study of central genres of Old English, Middle English, and Early Modern literature in tandem with the development of ideas of nation and community, with a special emphasis on poetic narratives. Key texts include *Beowulf*, *The Canterbury Tales*, *The Faerie Queene*, *Paradise Lost*, and *The Pilgrim's Progress*.
Note: Students will also attend one of two course sections on Thursday afternoons (3-4 or 4-5).

***English 43. Arrivals: from Beowulf to Milton**
Catalog Number: 46007 Enrollment: Limited to 27.
Steven Peter Rozenski
Half course (fall term). M., W., at 12. EXAM GROUP: 5
From 43 to 1066 A.D., Britain was invaded time and again: Romans, Anglo-Saxons, Vikings, and Normans all brought cultural and linguistic change to the indigenous Celts and Picts. Through this lens of cultural importation, we will study the literature of England from its earliest recorded instances (around 650 A.D.) to the seventeenth century (by which time English was becoming a global language), reading the greatest works in the language along the way.

***English 53. Poets: Whitman, Dickinson, Eliot, Bishop**
Catalog Number: 98171 Enrollment: Limited to 27.
Helen Vendler
Half course (spring term). M., W., at 2.
Readings in four American poets: Whitman, Dickinson, Eliot, Bishop. Attention will be paid to individual styles and selections of topics.

***English 54. Poets: English Romantic Poets**
Catalog Number: 5274 Enrollment: Limited to 27.
James Engell
Half course (fall term). Tu., Th., at 10. EXAM GROUP: 12
Readings in Blake, Baillie, Coleridge, Clare, Wordsworth, Wollstonecraft, Byron, Shelley, Keats, and others. Lyric and narrative forms. Close aesthetic readings linked to thematic considerations. Social and political contexts. Romanticism as an artistic movement and cultural era.
Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

***English 56. Poets: Narrative Poetry**
Catalog Number: 56043 Enrollment: Limited to 27.
Andrew Warren
Half course (spring term). Tu., Th., at 12. EXAM GROUP: 14
This course is a general introduction to reading poetry, with a focus on narrative poetry. We begin with Milton's epic, *Paradise Lost*, and then turn to eighteenth-century mock epics and verse narratives by Pope and Swift, and work by the Romantics, particularly Wordsworth, Coleridge, and Keats. The course will end with Byron's satiric masterstroke, *Don Juan*, and TS Eliot's toppled epic, *The Waste Land*.

***English 60. Migrations: Fictions of America**
Catalog Number: 65252 Enrollment: Limited to 27.
Elisa New
Half course (fall term). M., W., 1–2:30;. EXAM GROUP: 6, 7
This course will treat America as it was imagined and re-imagined between the 16th-21st centuries by successive waves of Europeans, Africans and their descendants. The course explores how evolving fictions of America's purpose, changing notions of America's geography and conflicting ideas of American character inform an emerging literary tradition. Readings list likely to include non-fiction by Harriot, Rowlandson, Mather, Franklin, Jacobs; shorter fiction by Irving, Hawthorne, Melville and Stein; novels by Cather, Norris and Morrison.

English 66. Migrations: Narrative Setting - *(New Course)
Catalog Number: 69189 Enrollment: Limited to 27.
David J. Alworth
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course is designed for the "Literary Migrations" portion of the Common Ground curriculum. Although plot, character, and theme are the elements of narrative fiction that typically receive the most attention from readers, this course invites students to examine setting. It is likely to feature works by Defoe, Flaubert, Dickens, Melville, Poe, Fitzgerald, Faulkner, Cather, and Pynchon. In addition, some relevant secondary material will be assigned, such as portions of Watt's *Rise of the Novel*, Auerbach's *Mimesis*, and recent works of environmental criticism.

English 67. Migrations: Capitalist Hero Anti Hero: Versions of the American Dream - *(New Course)
Catalog Number: 95113 Enrollment: Limited to 27.
John Stauffer
Half course (spring term). Lecture: M., W., at 10; Discussion Section: M., W., at 11. EXAM GROUP: 3
This courses couples classic American literature with contemporaneous economic theories and/or textbook to explore the extraordinary transformations in how Americans have understood and responded to "the market," "competition," "success/failure," and function of a business/corporation. Authors include Ben Franklin, Adam Smith; Melville; Marx; Wharton; Du Bois; Veblen; Fitzgerald; Schumpeter; Dos Passos; Galbraith; Samuelson; Ayn Rand; Bellows; Arthur Miller; Updike; Mankiw; others.

Undergraduate Seminars

These introductions to the specialized study of literature are restricted to undergraduates and have enrollments limited to 15. Preference is given to English concentrators.

English 90co. Sex and Gender in the Age of Enlightenment: Seminar - *(New Course)
Catalog Number: 42677 Enrollment: Limited to 15.
Katherine Bennett Gustafson
Half course (fall term). M., W., at 10. EXAM GROUP: 3
We will explore the portrayal and evolution of gender relations and sexual identity in eighteenth-century Britain. This period was one of contradictions: licentious excesses existed alongside behavioral reforms; gender inequalities occurred despite shifting ideas about marriage. Reading poetry, plays, novels, and treatises, we will investigate literature's role in negotiating sexual norms and transgressions, courtship practices, and desire. Authors may include Aphra Behn, Alexander Pope, Samuel Richardson, the Marquis de Sade, Mary Wollstonecraft and Jane Austen.

English 90dm. Shaw, Beckett, Pinter, Stoppard: Seminar - *(New Course)
Catalog Number: 86925 Enrollment: Limited to 15.
Derek Miller
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
A seminar on four major twentieth-century playwrights, with particular attention to style, media and politics. Readings include *Pygmalion*, *Endgame*, *The Homecoming*, and *Arcadia*.

English 90ec. English Comedy of the Restoration and 18th Century: Seminar - *(New Course)
Catalog Number: 39553 Enrollment: Limited to 15.
Robert Scanlan
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
English comedy from the 1670s to 1770s reflected the enormous social, political, scientific and technological change that created the modern era. The English stage mimicked and inspired explosive theatrical practice in France, Italy, and Germany in the same century. Contemporary television continues to draw on the comic

genius we will explore through such playwrights as Wycherley, Dryden, Congreve, Farquhar, Goldsmith and Sheridan, with side trips to the continent to sample Goldoni, Marivaux, Lessing and Beaumarchais.

English 90ew. Early Women Writers: Seminar - *(New Course)
Catalog Number: 43398 Enrollment: Limited to 15.
Steven Peter Rozenski
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
We will study examples of medieval male-female collaborative authorship, anonymous works that treat the inner lives of women with such sophistication that contemporary scholarship has suggested they may have had female authors, historical sources that give us a better understanding of the lives of women who did not write, and works by male authors about the regulation or encouragement of female textual production.

English 90fd. The Rhetoric of Frederick Douglass and Abraham Lincoln: Seminar - *(New Course)
Catalog Number: 23333 Enrollment: Limited to 15.
John Stauffer
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
A critical examination of Douglass' and Lincoln's speeches and other exemplary writings from Lincoln's 1838 Lyceum Address to Douglass's 1894 "Lessons of the Hour." We explore Douglass' and Lincoln's respective rhetorical practices in relation to their politics.

***English 90hb. Four Shakespeare Plays: Seminar**
Catalog Number: 59051 Enrollment: Limited to 15.
Marc Shell
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
This is a survey course of Shakespeare plays.
Note: This course, when taken for letter grade, meets the Department of English Shakespeare requirement.

***English 90ka. The Brontës**
Catalog Number: 1097 Enrollment: Limited to 15.
Elaine Scarry
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Writings by Emily, Anne, and Charlotte Brontë, as well as the later novels and films their work inspired.

English 90ln. Poets: Seminar - *(New Course)
Catalog Number: 77797 Enrollment: Limited to 15.
Elisa New
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
An undergraduate seminar focused on discoveing poetry through a digital lens.

***English 90lv. Consciousness in Fiction: Seminar**
Catalog Number: 3200 Enrollment: Limited to 15.
James Wood
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
A look at the complex ways in which writers represent their characters' thought in texts by Austen, Flaubert, James, Tolstoy, Chekhov, Giovanni Verga, and Woolf. More broadly, traces the development of stream-of-consciousness, from Austen's incipient mastery of free indirect style, through Flaubert's more sophisticated use of it, to Woolf's full-blown inner monologues, seeing this development as not merely a fact of English and American literature, but as a phenomenon of world literature and an element of our modernity.

English 90lw. Spenser's Faerie Queene and the Renaissance Imagination: Seminar - *(New Course)
Catalog Number: 87306 Enrollment: Limited to 15.
Leah Jane Whittington

Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
A study of the works of the Edmund Spenser, with an emphasis on his masterpiece *The Faerie Queene.* The course will give particular attention to Spenser's roots in the *Bible* and classical literature, his use of allegory, and his engagement with the politics and writing of his own day.

English 90nb. Nabokov Novels in English: Seminar - *(New Course)
Catalog Number: 12491 Enrollment: Limited to 15.
Glenda R. Carpio
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
This course explores Nabokov's vision of art, testing its limits and possibilities through the novels that he wrote in English from *The Real Life of Sebastian Knight* (1941) through *Ada or Ardor: A Family Chronicle*(1969) and selected criticism.

***English 90pf (formerly *English 51). Poets: Ballads, Sonnets, Literary History, and Poetic Form: Seminar**
Catalog Number: 80359 Enrollment: Limited to 15.
Peter Sacks
Half course (spring term). Tu., 2-4. EXAM GROUP: 16, 17
This course will study a range of ballads and sonnets from the Fourteenth to the Twenty-First Century. We will explore questions of poetic form and literary history within two of the most enduring yet continuously evolving kinds of poetry in English and in other languages.

English 90pm. An English Theatrical Revolution, 1833-1914: Seminar - *(New Course)
Catalog Number: 37406 Enrollment: Limited to 15.
Derek Miller
Half course (spring term). W., 2–4.
A lecture course on British theater in the Victorian and Edwardian periods, with a focus on the intersection of commercial and artistic innovations. Topics include melodrama, Gilbert & Sullivan, Ibsenism, the New Woman, censorship, copyright, and the rise of Modern Drama.

***English 90qm (formerly *English 57). Poets: Metaphysical Poetry**
Catalog Number: 4727 Enrollment: Limited to 15.
Gordon Teskey
Half course (spring term). W., at 1.
A course on the major lyric poets of the 17th century, Donne, Jonson, Herbert, and Marvell. What is the relation between poetry and philosophy, between lyric expression and permanent order? In the seventeenth century, medieval notions of order gave way before the rise of science and of early modern philosophy.

***English 90sa. The Idea of a Theatre: Seminar**
Catalog Number: 95466 Enrollment: Limited to 15.
Robert Scanlan
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
This seminar explores what theatre has meant, as a medium, throughout history, in any of its many cultural settings. Starting with the ancient Greeks (*Oedipus Rex*), we will study six major "theatres" and how each represented "the idea of a theatre" in its time and place. Terence's *Adelphoe*, several cantos from Dante's *Purgatorio*, Shakespeare's *Hamlet*, Racine's *Bajazet*, Wagner's *Tristan and Isolde*, Ibsen's *Rosmersholm*, and O'Neill's *Long Day's Journey Into Night* provide our focal moments.

English 90us. American Moderns: Seminar - *(New Course)
Catalog Number: 16106 Enrollment: Limited to 15.
John Stauffer
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8

This seminar examines the classic work and intersections between Stein, Hemingway, Cather, Fitzgerald, Dos Passos, and Du Bois.

***English 90we. David Foster Wallace & Environs: Seminar**
Catalog Number: 68015 Enrollment: Limited to 15.
Andrew Warren
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
This course looks at the scene of contemporary American fiction via the work of someone whom many-perhaps controversially-have called the writer of his generation: David Foster Wallace. This year we will pay particular attention to influences on Wallace: Pynchon, Barth, Dostoyevsky, Kierkegaard, Ozick, Borges, Kafka.

***English 90yp. W.B. Yeats: Seminar**
Catalog Number: 55945 Enrollment: Limited to 15.
Peter Sacks
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
An undergraduate seminar examining the poetry of William Butler Yeats.

Tutorials, for Undergraduates Only

***English 91r. Supervised Reading and Research**
Catalog Number: 1464
Stephen Burt and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Individual instruction in subjects of special interest that cannot be studied in regular courses.
Note: A graded course. May not be taken more than twice and only once for concentration.

***English 98r. Tutorial—Junior Year**
Catalog Number: 3831
Stephen Burt and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged. EXAM GROUP: Fall: 8
Supervised small group tutorial in the study of literature in English.
Note: Limited to honors concentrators.

***English 99r. Tutorial—Senior Year**
Catalog Number: 3901
Stephen Burt and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised individual tutorial in an independent scholarly or critical subject.
Note: Two terms required of all thesis honors seniors. To enroll, students must submit for approval a Thesis Proposal.
Prerequisite: Satisfactory completion of one term of English 98r, completion of an undergraduate seminar (90-level) taken in the junior year or earlier, and faculty approval of proposed thesis topic.

For Undergraduates and Graduates

English 102b. Old English: Introduction to Anglo-Saxon Language and Literature - *(New Course)*
Catalog Number: 27448
Steven Peter Rozenski
Half course (fall term). Tu., Th., at 2; Th., at 1. EXAM GROUP: 16
At the end of fifth century, tribes from the north coast of Germany and the Netherlands invaded the island of

Britain. The language they spoke and wrote is the earliest form of one of the most influential and widely-spoken languages in the world today: English. In this class, we will learn to read the earliest records of English by studying the grammar, vocabulary, and poetics of the Anglo-Saxons; we will also learn the history of the Anglo-Saxon kingdoms of England along the way (origins to 1066). By the end of the semester, your new facility in Old English will enable you to read and understand some of the most beautiful poems ever written.

English 103d. Old English: Beowulf and Seamus Heaney
Catalog Number: 62498
Daniel G. Donoghue
Half course (spring term). M., W., at 12. EXAM GROUP: 5
Translations of excerpts from Beowulf will proceed in parallel with careful reading of Heaney's verse translation. Questions concerning translation theory will emerge from the comparison of in-class efforts with Heaney's and other versions. What is the relation between translation and interpretation? How does Heaney's Beowulf compare with the body of poetry he has produced over the decades? The course begins with a review of grammar.
Note: Fulfills the College language requirement and the English Department's Foreign Literature requirement.
Prerequisite: English 102e or equivalent.

English 110 (formerly *Humanities 10). An Introductory Humanities Colloquium
Catalog Number: 3983
Louis Menand and Stephen J. Greenblatt
Half course (fall term). Tu., 11:30; and a weekly section to be arranged. EXAM GROUP: 13, 14
The course is designed for students interested in concentrating in a Humanities discipline. We cover major works of literature and ideas from Homer's Odyssey to Joyce's Ulysses. Many of the texts have thematic connections; we hope that all of them will stimulate interest in the kinds of issues addressed in humanistic studies.
Note: Ninety-minute lecture-discussion, plus one-hour section led by the instructors. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts A.

English 111. Epic: From Homer to Star Wars
Catalog Number: 12235
Leah Jane Whittington
Half course (fall term). M., W., at 2, and a weekly section to be arranged. EXAM GROUP: 7
An introduction to epic poetry and to the most significant works in the genre:
Homer's *Iliad* and *Odyssey*,Vergil's *Aeneid*, Dante's *Inferno,* and Milton's *Paradise Lost.* The course examines epic poems in relation to their own historical contexts as well as the interplay between texts in the epic tradition, the shift from epic to novel, and the manifestations of epic narrative in the modern world.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding.

[English 115b. Chaucer: *The Canterbury Tales*]
Catalog Number: 2945
Nicholas Watson
Half course (fall term). M., W., at 12. EXAM GROUP: 5
One of the most astonishing, vibrant, multivalent texts in the English language, Chaucer's *The Canterbury Tales* contains characters high and low telling stories of edification and pleasure, in poetry and prose, on topics bawdy and pious. We will read this work in its entirety, while also looking at some of Chaucer's shorter poems and the historical and cultural milieu in which he wrote.
Note: Expected to be given in 2014-15.

English 124d. Shakespearean Tragedy
Catalog Number: 19628
Stephen J. Greenblatt
Half course (spring term). M., W., at 11. EXAM GROUP: 4
We will read the succession of tragedies from the early *Titus Andronicus* and *Romeo and Juliet* to the late *Antony and Cleopatra* and *Coriolanus*, with particular attention to the astonishing sequence of *Hamlet, Othello, King Lear*, and *Macbeth.* Part of the course will involve screening and discussion of film, as well as glimpses of modern adaptations. Readings will include theories of tragedy, as well as Shakespearean sources and modern criticism.
Note: When taken for credit, this course fulfills the departmental Shakespeare Common Ground course requirement. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

English 131. John Milton: An Introduction to his Life and to Paradise Lost
Catalog Number: 8005
Gordon Teskey
Half course (spring term). M., W., at 10. EXAM GROUP: 3
This course is an introduction to the work of John Milton, including *Paradise Lost, Paradise Regained*, and *Samson Agonistes*, as well as the major prose on questions of religion, politics, and censorship.

English 141. The 18th-Century English Novel
Catalog Number: 8683
Katherine Bennett Gustafson
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
This course will investigate the evolution of the novel in eighteenth-century England. Exploring its origins in the genres of news writing, travelogue, and romance to its expansion into the *bildungsroman*, we will see how novels reflect ideas about gender, marriage, crime, and colonial expansion. We will also examine period discourses about the novel, tracking its changing reputation from mindless entertainment to "high" literature. Novels may include *Oroonoko*, *Robinson Crusoe*, *Joseph Andrews*, *Evelina*, and *Northanger Abbey*.
Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

English 144a. American Plays and Musicals, 1940-1960: Seminar - *(New Course)*
Catalog Number: 93718
Derek K. Miller
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
A seminar on Golden Age Broadway musicals within their theatrical context. Readings pair plays with musicals on a similar theme, including *Death of a Salesman* and *The Music Man*, *Mister Roberts* and *South Pacific*, and *The Miracle Worker* and *My Fair Lady*.

English 153. The Comic Enlightenment
Catalog Number: 12997
Andrew Warren
Half course (spring term). M., W., at 12. EXAM GROUP: 5
Against the eighteenth century's so-called progress of Reason ran a countercurrent that emphasized the irrational, the emotional, and the ridiculous. Beginning with Rabelais's *Gargantua & Pantagruel* and Swift's *Gulliver's Travels*, the course will read comic works by authors such as Henry Fielding, Voltaire, Lawrence Sterne, John Cleland, Denis Diderot, Jane Austen & John Kennedy Toole. Each literary text will be paired with either a theory of Enlightenment or a film or TV show (such as Chaplin's *City Lights*, or *Arrested Development*). There will also be extensive readings in theories of comedy and humor.

English 157. The Classic Phase of the Novel
Catalog Number: 4786

Philip J. Fisher
Half course (fall term). M., W., at 10, and a weekly section to be arranged. EXAM GROUP: 3
A set of major works of art produced at the peak of the novel's centrality as a literary form: *Sense and Sensibility, Madame Bovary, Anna Karenina, Middlemarch, The Brothers Karamazov, Buddenbrooks.*Society, family, generational novels and the negations of crime and adultery; consciousness and the organization of narrative experience; the novel of ideas and scientific programs; realism, naturalism, aestheticism and the interruptions of the imaginary.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts A.

English 158a. A History of Western Drama - *(New Course)*
Catalog Number: 53604
Derek Miller
Half course (fall term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
A survey history of Western drama, from the Greeks to the present. Plays include *Oedipus Rex, Tartuffe, The Cherry Orchard, Gypsy,* and *Fires in the Mirror.*

English 160b. British and Irish Writers 1700-2012 - *(New Course)*
Catalog Number: 20814
Stephen Louis Burt
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
Influential, famous, provocative, or simply beautiful poems, short fiction, essays, and plays-- plus a couple great novels-- from the last few centuries of British and Irish literature: a survey designed both for English concentrators and for readers new to the material. Jane Austen, John Keats, Oscar Wilde, Virginia Woolf, W. B. Yeats, Caryl Churchill, Samuel Johnson, and the Earl of Rochester-- among others-- will certainly be introduced.

English 162m. Modernism as Theatre
Catalog Number: 15341
Daniel Albright
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
This course considers theatre in the context of literature, music, visual arts, and theories of acting.

English 166. American Modernism
Catalog Number: 18436
David J. Alworth
Half course (fall term). Tu., Th., at 1; Tu., at 2; Th., at 3. EXAM GROUP: 15
Covering the 1890s to the 1960s, our emphasis will fall on literary genres-novels, poems, and essays-but we will devote some time to visual art, architecture, and film. Poets may include T.S. Eliot, Ezra Pound, William Carlos Williams, Marianne Moore, Wallace Stevens, Langston Hughes, and Hart Crane. Fiction writers may include Henry James, Theodore Dreiser, Edith Wharton, William Faulkner, Ernest Hemingway, Willa Cather, F. Scott Fitzgerald, Nella Larsen, Jean Toomer, and Djuna Barnes.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding.

English 168d. Postwar American and British Fiction
Catalog Number: 8250
James Wood
Half course (fall term). M., W., at 1; and a weekly section to be arranged. EXAM GROUP: 6
Examines a range of works, including novels and stories by Saul Bellow, Philip Roth, Raymond Carver, Henry Green, Muriel Spark, Ian McEwan, Penelope Fitzgerald, and Martin Amis. Attempts to situate these books in their larger historical traditions, while emphasizing that we are reading a living literature. Some of the selected

authors may visit and address our class.
Note: This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

English 170a. High and Low in Postwar America
Catalog Number: 93971
Louis Menand
Half course (spring term). M., W., at 11. EXAM GROUP: 4
Relations between avant-garde, mainstream, and commercial culture from 1945 to 1972.

English 171b. American Literature - *(New Course)*
Catalog Number: 84127
Werner Sollors and Glenda R. Carpio
Half course (fall term). M., W., 1:30–3. EXAM GROUP: 6, 7
This course offers close readings of selected novels, short fiction, poetry, and drama in the context of American cultural history and of international literary developments. Topics include colonial writing, sentimental, gothic, and historical fiction, the rise of the short story, the American Renaissance, realism and local color writing, melodrama and the literature of slavery and the Civil War, with some focus on writers from John Winthrop to Gertrude Stein. .

English 178x. The American Novel: Dreiser to the Present
Catalog Number: 2168
Philip J. Fisher
Half course (spring term). M., W., at 10. EXAM GROUP: 3
A survey of the 20th-century novel, its forms, patterns of ideas, techniques, cultural context, rivalry with film and radio, short story, and fact. Wharton, *Age of Innocence*; Cather, *My Ántonia*; Hemingway, *A Farewell to Arms* and stories; Faulkner, *The Sound and the Fury* and stories; Fitzgerald, *Tender is the Night*; Ellison, *Invisible Man*; Nabokov, *Lolita*; Bellow, *Herzog*; Salinger, *Catcher in the Rye* and stories; Ha Jin, *Waiting*. Stories by James, London, Anderson, Gaitskill, Wallace, Beattie, Lahiri and Ford.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts A.

English 182. Science Fiction
Catalog Number: 3189
Stephen Louis Burt
Half course (fall term). M., W., at 11; and a weekly section to be arranged. EXAM GROUP: 4
High points, innovations, and explorations in science fiction as a prose genre from the late 19th century to the present: likely readings include Mark Twain, H. G. Wells, Charlotte Perkins Gilman, Robert A. Heinlein, James Tiptree, Jr. (Alice Sheldon), Octavia Butler, William Gibson, Cordwainer Smith, Richard Powers, and more. (Not a course in television or film.)
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts A.

English 190x. Philosophy and Literature: The Problem of Consent - *(New Course)*
Catalog Number: 69232
Elaine Scarry
Half course (spring term). M., W., at 3. EXAM GROUP: 8
"Consent" in literature, medicine, political philosophy, and law. Four major topics are freedom of movement (Locke's *Second Treatise*, Dickens's *A Tale of Two Cities*, DeQuincey's *English Mail-Coach*, Harlan's dissent in *Plessy v. Ferguson*), constitution and contract-making (European city contracts, Shakespeare's *A Midsummer Night's Dream, Federalist Papers*), the grounding of consent in the body (Plato's *Crito*, Euripides' *Hecabe*, Donne's poetry, Rousseau's *Social Contract*, contemporary medical case law), and decision making in war (Homer's *Iliad*, Sophocles' *Philoctetes*).

Note: Offered jointly with Harvard Law School as 2619. This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning.

English 191a. Black Like Who? - *(New Course)*
Catalog Number: 29288
George Elliott Clarke
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Though it also treats slavery, abolitionism, white racism, and Afrocentrism, African-Canadian literature remains distinct from African-American literature for two reasons: 1) its authors derive from a small, elitist, and 'multicultural' population; and 2) its authors tend to re-draft African-American texts to accent African-Canadian 'difference' or 'specificity.' This course will read African-Canadian and African-American authors in tandem to consider the ways in which national and cultural difference 'splinter' ideas and ideals of Pan-Africanism.

English 199a. Rules of the Game: The History of Literary Theory - *(New Course)*
Catalog Number: 44265
Louis Menand
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
The practice of reading literature is informed by theoretical assumptions that sometimes are made explicit but often are not. These (frequently rival) assumptions have a long history; understanding that history means understanding what is at stake when we argue about literature. The class considers theories of literature from Plato and Aristotle to the twentieth century.

Cross-listed Courses

Aesthetic and Interpretive Understanding 12. Poetry in America
Aesthetic and Interpretive Understanding 14. Putting Modernism Together
Aesthetic and Interpretive Understanding 15. Elements of Rhetoric
[Aesthetic and Interpretive Understanding 20. Poems, Poets, Poetry]
[Aesthetic and Interpretive Understanding 37. Introduction to the Bible in the Humanities and the Arts]
Aesthetic and Interpretive Understanding 38. The English Language as Literature
[Aesthetic and Interpretive Understanding 42. Literature and Revolution: Great Books in Moments of Cultural Transformation]
[Aesthetic and Interpretive Understanding 49 (formerly Medieval Studies 114). The Medieval Imagination: Visions, Dreams, and Prophecies]
[Aesthetic and Interpretive Understanding 55. Shakespeare, The Early Plays]
Aesthetic and Interpretive Understanding 56. Shakespeare, The Later Plays - *(New Course)*
African and African American Studies 10. Introduction to African American Studies
African and African American Studies 112. Black Humor: Performance, Art, and Literature
African and African American Studies 131. African American Literature from the Beginnings to the Harlem Renaissance
Comparative Literature 214. Islands and the World
[Comparative Literature 225. Literature of War and Peace: Imagining and Representing the End of World War II in Europe]
[Comparative Literature 248. American Multilingual Literature in a Transnational Context]
Comparative Literature 254. Modernist Polemics
[Comparative Literature 283. Language Differences]
[Culture and Belief 45 (formerly English 101). The History of the English Language]
Culture and Belief 49 (formerly Literature and Arts A-86). American Protest Literature from Tom Paine to Tupac
[Culture and Belief 55. Enlightenment Creations of the Self, Society, and Institutions]
Economics 1000a. Growth, Technology, Inequality, and Evolution - *(New Course)*
Ethical Reasoning 37 (formerly History of Art and Architecture 50g and English 120a). Adam & Eve -

(New Course)
***Freshman Seminar 30n. Uncle Tom's Cabin and Moby Dick**
***Freshman Seminar 33x. Complexity in Works of Art: Ulysses and Hamlet**
***Freshman Seminar 34s. The Art of Noticing**
Freshman Seminar 36q. Theater and Magic - *(New Course)
Freshman Seminar 39n. The Call of Beauty - *(New Course)
Freshman Seminar 39o. Childhood and Children's Literature - *(New Course)
***Freshman Seminar 39y. Poetry and the Ballad**
History 1400. Introduction to American Studies - *(New Course)
***History and Literature 90at. The Postwar American Road Narrative**
Humanities 11c. Frameworks: The Art of Reading - *(New Course)*
[*Literature 119. On Comparative Arts]
[Literature 125. The Desire for Narrative: Across Cultures, Forms and Media]
Literature 141. Comparative Modern Anglophone Drama
[United States in the World 34. The Civil War from Nat Turner to *Birth of a Nation*]

Primarily for Graduates

English 200c. How to Read an Old English Poem: Graduate Seminar - *(New Course)
Catalog Number: 77005
Daniel G. Donoghue
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
Moving through a number of poems set for translation, we will examine the act of reading for the earliest readers of vernacular English. Topics will include metrical scansion, verse syntax, principles of editing, and cognitive theory.
Prerequisite: One semester of Old English or its equivalent.

English 215. Poetry and Belief: Graduate Seminar - *(New Course)
Catalog Number: 24594
Nicholas Watson
Half course (fall term). Th., 3–5. EXAM GROUP: 17, 18
Investigates the use of vernacular poetry as a vehicle for religious thought 1200-1500, with forays into later periods. How does poetry think, feel, convey, incarnate belief, devotion, skepticism? Is didactic poetry still poetry or only 'verse' and what would be the difference? Texts: French and English lyrics; Grosseteste's *Chateau d'amour; Pearl, Cleanness, Patience;* Langland's *Piers Plowman; Hoccleve's Series.*

English 216. English Poetry 1590-1674: Graduate Seminar - *(New Course)
Catalog Number: 30579
Gordon Teskey
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
This course follows English poetry the first installment of Spenser's Faerie Queene to the second edition of Paradise Lost. Donne, Jonson, Herrick, Crashaw, Herbert, Marvell will be read. The English Spenserians--Browne, Drummond, Giles and Phineas Fletcher--will be observed, as will Denham, Wither, and Davenant. How should we characterize such a period historically?

English 219. Shakespeare at Work: The Playwright and His Sources: Graduate Seminar - *(New Course)
Catalog Number: 46106
Stephen J. Greenblatt
Half course (fall term). M., 3–5. EXAM GROUP: 8, 9

Investigation of Shakespeare's cunning relation to his sources, in the context of a larger question: what counts as a source?

***English 242. Restoration and 18th-Century Texts: Graduate Seminar**
Catalog Number: 9175
James Engell
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
Dryden, Pope, Swift, Johnson, Burke, Gibbon, Montagu, and others; the lyric, periodical literature, satire, biography, and drama; relations of engaged literature with politics, religion, history; issues of audience, gender, class, genre, and canon.
Note: An intensive introduction to 18th-century literature at the graduate level. Presupposes no previous acquaintance with field. Graduate students who have studied 18th-century literature should consult with the instructor. Open to qualified honors undergraduates.

***English 250. The Romantics: Graduate Seminar**
Catalog Number: 21903
Andrew Warren
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
Beginning with "pre-Romantic" work such as Sterne's *Tristram Shandy*, this course covers many of the Romantic age's big players: Wordsworth's *Prelude*; Coleridge's conversation poems and the *Biographia*; W&C's *Lyrical Ballads*; Byron's *Don Juan*; Shelley's *Adonais*, *Cenci* and *Prometheus Unbound*; Keats's *Lamia*volume, including the great odes; and the Romantic Scottish novel.

***English 260. The Outer Edge of the Novel: Graduate Seminar**
Catalog Number: 88532
Philip J. Fisher
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
Readings include works by Henry James, George Meredith, Walter Pater, Thomas Bernhard, Anne Carson, W. G. Sebald, David Markson, Thomas Bernhard, John Ashbery, Kenzaburo Oe.

English 262. Island Britain: Graduate Seminar - *(New Course)
Catalog Number: 64658
Marc Shell
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
A study of the British Isles in literature and environment.

***English 264x. Sensation and Moral Action in Thomas Hardy: Graduate Seminar**
Catalog Number: 2714
Elaine Scarry
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Approaches Hardy's novels, stories, and narrative poems through the language of the senses (hearing, vision, touch) and through moral agency (philosophic essays on "luck" and "action").
Note: Open to upper-level undergraduates with permission of instructor.

***English 276x. African-American Literary Tradition: Graduate Seminar**
Catalog Number: 3536
Henry Louis Gates, Jr.
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
An exploration of the emergence and development of the African-American literary "tradition" from the 18th to the 20th century. Close reading of the canonical texts in the tradition, and their structural relationships are stressed.

English 279. Modern and Contemporary Poets: Graduate Seminar - *(New Course)
Catalog Number: 42451
Stephen Louis Burt
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
Major poets and poems from T.S. Eliot and Robert Frost almost to the present day: we may also read, among others, William Carlos Williams, Wallace Stevens, Elizabeth Bishop, Robert Lowell, Lorine Niedecker, Gwendolyn Brooks, James Merrill and John Ashbery. Appropriate both for students who know some of these poets well, and for those relatively new to the study of poems.

English 287. Conrad, Naipaul, Coetzee: Genealogies of the Global Imagination: Graduate Seminar - *(New Course)*
Catalog Number: 59591
Homi K. Bhabha
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
The novels of Conrad, Naipaul, and Coetzee have a particular value to contemporary discourses on global culture. For these writers, the experience of Empire was as much an ethical and aesthetic project as it was an economic or political venture. Our study will focus on their reflections on the problematic project of joining diverse cultures and distant territories in a global network and on the role of figurative language and fictional forms in imagining community and communication on a global scale.

English 288. Describing the Lyric: Graduate Seminar - *(New Course)
Catalog Number: 52403
Helen Vendler
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
Each change in period style presents a problem of description to the critic. We consider a wide range of poetic styles, from the court styles of Elizabethan poetry through the aleatory styles of such contemporary poets as Ammons, Ashbery, and Graham, inquiring in each case which avenues of description prove productive.

English 291a. Black "Epics" of the Americas: Graduate Seminar - *(New Course)
Catalog Number: 77023
George Elliott Clarke
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
A cross-cultural, transnational readings of Black-authored epic poems, would-be epic poems, and book-length verse-narratives-from Canada, the Caribbean, and the United States: We will note the ways in which different historical experiences mandate divergent readings of the Transatlantic Slave Trade and the African Diaspora.

English 292m. Magic: Graduate Seminar - *(New Course)
Catalog Number: 23609
Marjorie Garber
Half course (spring term). M., at 3. EXAM GROUP: 8
Magic, often described as a precursor to science or an alternative to religion, is above all the essential property of the arts. From the visual illusion to the power of the magic word, from Merlin and Archimago to Doctor Faustus and Prospero, from John Dee to Houdini to Teller, this course will trace-- and evoke-the transformative power of magic and magicians in literature, theater, film and performance. Topics to include automata from the Renaissance to Freud's "Uncanny'; art forms from the court masque to the magic show; films from Edison and Méliès to *The Prestige* and Ricky Jay; genres from magic realism to magical thinking.

Graduate Courses of Reading and Research

***English 300hf. Old and Middle English: Doctoral Conference**
Catalog Number: 2334
Daniel G. Donoghue 1469, Joseph C. Harris 1089, James Simpson 4791 (on leave 2013-14), and Nicholas

Watson 3851
Half course (throughout the year). Hours to be arranged.
The Conference focuses upon dissertations in progress and other research topics of mutual concern. Membership limited to faculty members teaching or conducting research in medieval English language and literature and to graduate students working in this field.
Note: Enrollment is open to all graduate students but is required of those who have been admitted to candidacy for the PhD and who intend to work on a medieval subject.

***English 302hf. Renaissance: Doctoral Conference**
Catalog Number: 2814
Marjorie Garber 7264, Stephen J. Greenblatt 3436, and Gordon Teskey 4466
Half course (throughout the year). Alternate W., at 4:15.
The Conference focuses upon dissertations in progress and other research topics of mutual interest.
Note: Limited to faculty members teaching or conducting research in Renaissance literary studies and to graduate students working in the field. Enrollment is open to all such students, and is required of those who have been admitted to candidacy for the PhD and who intend to work on Renaissance topics.

***English 304hf. The Extended 18th-Century: Doctoral Conference**
Catalog Number: 6110
James Engell 8076, Leah Price 3501 (on leave 2013-14), and Michael Shinagel 7659
Half course (throughout the year). Hours to be arranged.
Focuses on dissertations, dissertations in progress, and research topics of mutual interest.
Note: Required of graduate students working, or intending to work, on the Restoration, 18th century, or Romanticism (the periods 1660–1830), and who have been admitted to candidacy for the PhD. Open to other students working on topics in Restoration and 18th-century literature.

***English 306hf. 19th- and 20th-Century British Literature: Doctoral Conference**
Catalog Number: 5268
Leah Price 3501 (on leave 2013-14)
Half course (throughout the year). Hours to be arranged.

***English 308hf. Drama: Doctoral Conference**
Catalog Number: 6909
Ju Yon Kim 2986 (on leave 2013-14) and Martin Puchner 5842 (on leave 2013-14)
Half course (throughout the year). Hours to be arranged.
Focuses on research topics related to dramatic literature, theatre, and performance. Open to all faculty members and graduate students teaching or conducting research in the field.

***English 310hfr. American Literature and Culture: Doctoral Conference**
Catalog Number: 6235
Elisa New 2428 and Werner Sollors 7424 (on leave spring term)
Half course (throughout the year). Hours to be arranged.
Colloquium open to all graduate students working in the area of American literature and culture. Papers delivered by students writing seminar papers or dissertations, faculty members, and visiting scholars.

***English 350. Teaching Colloquium**
Catalog Number: 8208
Marjorie Garber 7264
Half course (fall term). Hours to be arranged. EXAM GROUP: 7, 8
The craft of teaching (discussion, lectures, tutorials, course descriptions, syllabi). This colloquium, designed for third-year graduate students, also considers issues related to the field exam, prospectus, and other aspects of

advanced graduate study in English.
Note: Required of all third-year graduate students.

***English 397. Directed Study**
Catalog Number: 6588
Members of the Department

***English 398. Direction of Doctoral Dissertations**
Catalog Number: 5968
Daniel Albright 4615, David J. Alworth 7000 (spring term only), Homi K. Bhabha 4100, Stephen Louis Burt 5945 (fall term only), Glenda R. Carpio 4408, Amanda Claybaugh 5800 (on leave 2013-14), Daniel G. Donoghue 1469, James Engell 8076, Philip J. Fisher 1470, Marjorie Garber 7264, Henry Louis Gates, Jr. 2899, Jorie Graham 2358 (on leave fall term), Stephen J. Greenblatt 3436, Joseph C. Harris 1089, Ju Yon Kim 2986 (on leave 2013-14) (spring term only), Louis Menand 4752, Derek K. Miller 7338 (spring term only), Elisa New 2428, Leah Price 3501 (on leave 2013-14), Martin Puchner 5842 (on leave 2013-14), Peter Sacks 2161, Elaine Scarry 2206, Marc Shell 3176, Michael Shinagel 7659, James Simpson 4791 (on leave 2013-14), Werner Sollors 7424 (on leave spring term), John Stauffer 1006, Gordon Teskey 4466, Helen Vendler 7226 (on leave fall term), Andrew Warren 6838, Nicholas Watson 3851, and Leah Jane Whittington 6977 (on leave spring term) (spring term only)
Note: Normally limited to students reading specifically in the field of a proposed doctoral dissertation. Open only by petition to the Department; petitions should be presented during the term preceding enrollment, and must be signed by the instructor with whom the reading is to be done. All applicants for admission should first confer with the Director of Graduate Studies.

***English 399. Reading and Research**
Catalog Number: 1825
Members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Conducted through regular conferences and assigned writing. Limited to students reading specifically on topics not covered in regular courses. Open only by petition to the Department; petitions should be presented during the term preceding enrollment, and must be signed by the instructor with whom the reading is to be done. All applicants for admission should first confer with the Director of Graduate Studies.

Environmental Science and Public Policy

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Degrees in Environmental Science and Public Policy

Paul R. Moorcroft, Professor of Organismic and Evolutionary Biology *(Chair)*
John Briscoe, Gordon McKay Professor of the Practice of Environmental Engineering, and Visiting Professor of Environmental Engineering *(FAS)*,
William C. Clark, Harvey Brooks Professor of International Science, Public Policy and Human Development, John F. Kennedy School of Government *(Kennedy School)*

Michael Hooper, Assistant Professor of Urban Planning *(Design School)*
Sheila Jasanoff, Pforzheimer Professor of Science and Technology Studies at the John F. Kennedy School of Government *(Kennedy School)*
Jonathan Losos, Monique and Philip Lehner Professor for the Study of Latin America and Curator in Herpetology
James J. McCarthy, Professor of Biological Oceanography and Alexander Agassiz Professor of Biological Oceanography
Michael B. McElroy, Gilbert Butler Professor of Environmental Studies
Ann Pearson, Murray and Martha Ross Professor of Environmental Sciences *(on leave spring term)*
Forest Lee Reinhardt, John D. Black Professor *(Business School)*
Andrew Richardson, Associate Professor of Organismic and Evolutionary Biology
Daniel P. Schrag, Sturgis Hooper Professor of Geology and Professor of Environmental Science and Engineering
John H. Shaw, Harry C. Dudley Professor of Structural and Economic Geology
Robert N. Stavins, Albert Pratt Professor of Business and Government at the John F. Kennedy School of Government *(Kennedy School)*
Martin L. Weitzman, Professor of Economics
Steven C. Wofsy, Abbott Lawrence Rotch Professor of Atmospheric and Environmental Science, Area Dean for Environmental Science and Engineering, *fall term (on leave spring term)*

Other Faculty Offering Instruction in Environmental Science and Public Policy

George Pierce Baker, Herman C. Krannert Professor of Business Administration *(Business School)*
Douglas W. Dockery, Professor of Environmental Epidemiology *(Public Health)*
James K. Hammitt, Professor of Economics and Decision Sciences *(Public Health)*
Calestous Juma, Professor of the Practice of International Development, Harvard Kennedy School of Government *(Kennedy School)*
Eloi Laurent, Visiting Lecturer on Environmental Science and Public Policy
Jennifer Leaning, Francois-Xavier Bagnoud Professor of the Practice of Health and Human Rights, Director of the Francois-Xavier Bagnoud Center for Health and Human Rights *(Public Health)*
Chensheng Alex Lu, Associate Professor of Environmental Exposure Biology *(Public Health)*
Xi Lu, Lecturer on Environmental Science and Public Policy

The Environmental Science and Public Policy concentration is overseen by a Standing Committee functioning as a Board of Tutors including representatives from several departments of the Faculty of Arts and Sciences and from other schools as appropriate to ensure the requisite breadth of the program.

The concentration is designed to provide a multidisciplinary introduction to current problems of the environment. It is founded on the premise that the ability to form rational judgments concerning many of the complex challenges confronting society today involving the environment requires both an understanding of the underlying scientific and technical issues and an appreciation for the relevant economic, political, legal, historical, and ethical dimensions. It offers students an opportunity to specialize in a specific area of either natural or social science relating to the environment. All students have to satisfy a core of requirements in biology, chemistry, earth and planetary sciences, economics, government, and mathematics.

Primarily for Undergraduates

Environmental Science and Public Policy 10. Environmental Policy
Catalog Number: 6383 Enrollment: Limited to 40.

John Briscoe
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
This course develops the concepts and skills needed to design effective public policy for managing interactions between environmental, social and economic systems. The course is organized around cases of real-world policy analysis, some from the US and some involving developing countries. We will examine the environmental, social and economic substance of the cases, the interests of stakeholders, the policy and political processes, the ways in which trade-offs are perceived and evaluated, and the outcomes and impacts.
Note: Intended for interested students from all concentrations.

Environmental Science and Public Policy 11. Sustainable Development - *(New Course)*
Catalog Number: 79625 Enrollment: Limited to 30.
William C. Clark (Kennedy School)
Half course (spring term). M., W., 1–2:30, and one or two Friday field trips; section meetings on most Fridays. EXAM GROUP: 6, 7
Explores contemporary understandings and practical implications of the idea of sustainable development. Investigates the meanings and measures that different groups have given to "sustainable development;" scientific understanding of the complex social-environmental systems we seek to develop sustainably; and lessons on how societies have avoided the "tragedy of the commons" while instituting practical action that advances sustainable development effectively and equitably. Employs case studies in development to meet needs for energy, food, water and health.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World.

Environmental Science and Public Policy 44. Environmental Health Perspectives - *(New Course)*
Catalog Number: 51505
Chensheng Alex Lu (Public Health)
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This is a survey course designed to provide the foundations necessary to understand the basic concept of environ-mental health sciences with a global perspective. This course will introduce: 1) principle methodologies for environmental health science, 2) key environmental issues, 3) the impact to human health, 4) real-world environ-mental health research and its impacts. Various documentary films that address different global environmental health issues will be used to facilitate this course.
Prerequisite: LS 1 and PS 1

Environmental Science and Public Policy 77. Technology, Environment, and Society - *(New Course)*
Catalog Number: 11172
Sheila Jasanoff (Kennedy School)
Half course (fall term). M., W., (F.), at 10; and a weekly section to be arranged.
Our interactions with the natural world are increasingly mediated through changes in technology. Technologies create risks, generate solutions, reshape the environment, and alter our perception of the boundaries between nature and artifice. This course draws on major theories of technology and society to inform and deepen our understanding of environmental problems and policy options.
Note: Expected to be bracketed in 2014/15

[Environmental Science and Public Policy 78. Environmental Politics]
Catalog Number: 3613
Sheila Jasanoff (Kennedy School)
Half course (fall term). M., W., (F.), at 10. EXAM GROUP: 3
An introduction to the history, organization, goals, and ideals of environmental protection in America.

Examines the shift in emphasis from nature protection to pollution control to sustainability over the past hundred years and develops critical tools to analyze changing conceptions of nature and the role of science in environmental policy formulation. Of central interest is the relationship between knowledge, uncertainty, and political or legal action. Theoretical approaches are combined with case studies of major episodes and controversies in environmental protection.
Note: Expected to be given in 2014–15. (To be offered in alternate years with ESPP 77) Expected to be given in 2014/15.

Environmental Science and Public Policy 90. Junior Seminars

Enrollment in these seminars is limited, with preference given to Environmental Science and Public Policy concentrators in their junior year. One junior seminar fulfills the junior seminar requirement for Environmental Science and Public Policy concentrators.

[*Environmental Science and Public Policy 90a. Energy, Technology, and the Environment]
Catalog Number: 2189
Michael B. McElroy
Half course (fall term). M., 1–4.
The seminar will provide an account of the technologies that shape our world with a perspective on how they evolved, the benefits that ensued and the environmental challenges that arose as a consequence. Topics include prospects for renewable energy and options to minimize damage from conventional sources of energy. Specific attention is directed to challenges faced by large developing economies emphasizing the need for a cooperative approach to ensure an equable, environmentally sustainable, global future.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Science A.

[*Environmental Science and Public Policy 90e. Conservation Biology]
Catalog Number: 6879
Instructor to be determined
Half course (spring term). Hours to be arranged.
Conservation biology strives to describe, understand, and preserve biodiversity by applying ecological and evolutionary theory within the contexts of resource management, economics, sociology, and political science. This course will explore the moral and scientific motivations for preserving biodiversity and practice decision making under conflicting interests. Case studies will focus the examination of major contemporary issues in conservation biology such as endangered species protection and reintroduction, habitat fragmentation, over-harvesting of biological resources, exotic species invasions, and sustainable development. There will be local field trips within New England.
Note: Expected to be given in 2014–15. Local field trips within New England to be arranged.

[*Environmental Science and Public Policy 90j. Environmental Crises, Climate Change, and Population Flight]
Catalog Number: 9841
Jennifer Leaning (Public Health) and James J. McCarthy
Half course (fall term). M., 2–4:30.
War, disaster, drought, or famine force people to flee their land. Climate change is contributing to many of these factors. The humanitarian consequences of population flight, including loss of place and livelihood, are filled with complexity, relating to the extent and permanence of environmental destruction wrought by these crises, people's attachment to their homes and ecosystems, the circumstances of

departure, the destinations of refuge, and the possibilities for return. These issues will be examined through case studies and review of literature on forced migration and calamity.

***Environmental Science and Public Policy 90n. China's Energy Economy: Perspectives from the Past: Challenges for the Future**
Catalog Number: 8477
Michael B. McElroy and Xi Lu
Half course (fall term). W., 2:30–5.
The seminar will provide a historical perspective on the development of the Chinese economy with emphasis on the energy sector, including analysis of related environmental problems. Energy options available for China's future will be discussed, including opportunities for clean-coal technology, nuclear, wind, hydro, and biofuels. The seminar will discuss tradeoffs implicit in these choices with respect to reconciling competing goals for environmental protection and economic development.

***Environmental Science and Public Policy 90p. Biotechnology, Sustainability and Public Policy**
Catalog Number: 62576
Calestous Juma (Kennedy School)
Half course (spring term). W., 2:30–5.
This seminar examines the implications of biotechnology for sustainability. Using case studies, it focuses on policy approaches for maximizing the benefits of biotechnology and minimizing their risks. It addresses the following themes: (1) scientific and technological advances in biotechnology and sustainability; (2) social responses to the use of biotechnology; (3) application of biotechnology specific sectors such as agriculture; industry; energy; bioremediation and species conservation; (4) socio-economic impacts; and (5) policy and institutional considerations.

***Environmental Science and Public Policy 90s. The Technology, Economics, and Public Policy of Renewable Energy**
Catalog Number: 53953 Enrollment: Limited to 50.
George Pierce Baker (Business School)
Half course (spring term). Th., 1–4.
Energy is the lifeblood of economic activity, and there is little prospect of this changing. However, the planet's stores of easily accessed fossil fuels are limited, and the climatological cost of continuing to rely on fossil fuels is high. This course examines the long run and short run prospects for renewable energy. We start by understanding the technology of hydro, solar, wind, and biomass. We then examine the economics of these technologies, and how subsidies and taxes affect their viability. Special attention will be paid to the interaction of technology, economics, and public policy.
Note: This course will be offered in a seminar format with an enrollment limit of 50.
Prerequisite: Economics 10a.

Environmental Science and Public Policy 90t. Environmental Health: Your World and Your Life at Risk
Catalog Number: 40047
Douglas W. Dockery (Public Health)
Half course (spring term). M., 2:30-5 with local field trips to be arranged.
This seminar course focuses on analytic methods for assessing environmental exposures and hazards. Students will learn methods for evaluation and public health responses to environmental hazards through case studies. Cases illustrate environmental challenges locally, nationally, and internationally. We will examine hazards in our communities and workplaces, in our air, in our water, and in our food. The course is structured around specific tools including hazard identification, exposure assessment, health effects,

risk assessment, and environmental policy. These tools will be illustrated through cases, individual research, and class discussion.

Environmental Science and Public Policy 90v. Economic Evaluation of Environmental Regulation
Catalog Number: 74118
James K. Hammitt (Public Health)
Half course (fall term). Tu., 2:30–5.
What level of environmental protection is best? Stronger regulations provide greater protection against the target harm, but generally at the cost of reduced economic consumption or increases in other environmental harms. What principles can be used to determine the 'right' level of protection, and how can regulations be evaluated? This course provides an introduction to environmental risk assessment and benefit-cost analysis of environmental regulation, incorporating theory and case studies.

Environmental Science and Public Policy 90w. European Environmental Challenges and Policies - *(New Course)*
Catalog Number: 19594
Eloi Laurent
Half course (fall term). Th., 2:30–5.
The seminar will explore current and future environmental challenges in Europe and related policies in the European Union (EU), starting with an introduction to the EU's institutions and environment. Specific challenges include climate change adaptation, mitigation (economic instruments and international negotiations), biodiversity and ecosystems preservation (economics of biodiversity) and energy. Specific policies include environmental justice (environmental inequalities), human development and environmental sustainability indicators ("beyond GDP"), decoupling (carbon intensity and resource productivity improvement) and green economy.

***Environmental Science and Public Policy 91r. Supervised Reading and Research**
Catalog Number: 1705
Paul R. Moorcroft and Members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading and research on topics not covered by regular courses of instruction. Students must complete a registration form, including permission from their faculty sponsor, with the concentration office before course enrollment. A final paper describing the research/reading completed during the term is due in duplicate to the Head Tutor on the first day of reading period.
Note: Intended for junior and senior concentrators in Environmental Science and Public Policy; open to sophomore concentrators only under exceptional circumstances. Permission of the Head Tutor is required for enrollment. May be counted for concentration only with the special permission of the Head Tutor.

***Environmental Science and Public Policy 99. Tutorial — Senior Year**
Catalog Number: 5666
Paul R. Moorcroft and Members of the Committee
Full course. Hours to be arranged.
Research and writing of the senior thesis under faculty direction. Senior honors candidates must take at least one term of this course while writing a thesis. The signature of the faculty adviser is required.

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Faculty of Arts and Sciences
Office of the Registrar

Ethnic Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

The name of the Standing Committee on Ethnic Studies has been changed to the Standing Committee on Ethnicity, Migration, Rights. Please see the Standing Committee on Ethnicity, Migration, Rights for course listings.

Ethnicity, Migration, Rights

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Ethnicity, Migration, Rights

Kay Kaufman Shelemay, G. Gordon Watts Professor of Music and Professor of African and African American Studies *(Chair)*
Jacqueline Bhabha, Professor of the Practice of Health and Human Rights, Director of Research FXB Center *(Public Health)*
Glenda R. Carpio, Professor of English and of African and African American Studies
Davíd L. Carrasco, Neil L. Rudenstine Professor for the Study of Latin America in the Faculty of Divinity and the Faculty of Arts and Sciences
Joyce E. Chaplin, James Duncan Phillips Professor of Early American History
Jean Comaroff, Alfred North Whitehead Professor of African and African American Studies and of Anthropology
John Comaroff, Hugh K. Foster Professor of African and African American Studies and of Anthropology
Caroline M. Elkins, Professor of History
Deborah D. Foster, Senior Lecturer on Folklore and Mythology
Filiz Garip, Associate Professor of Sociology
Jennifer L. Hochschild, Henry LaBarre Jayne Professor of Government and Professor of African and African American Studies *(on leave 2013-14)*
Walter Johnson, Winthrop Professor of History and Professor of African and African American Studies
Ju Yon Kim, Assistant Professor of English *(on leave 2013-14)*
Jennifer Leaning, Francois-Xavier Bagnoud Professor of the Practice of Health and Human Rights, Director of the Francois-Xavier Bagnoud Center for Health and Human Rights *(Public Health)*
Matthew Joseph Liebmann, Associate Professor of Anthropology
Shelly C. Lowe, Executive Director of the Harvard University Native American Program
Robert A. Lue, Professor of the Practice of Molecular and Cellular Biology
Stephen P. Marks, Francois-Xavier Bagnoud Professor of Health and Human Rights *(Public Health)*
Ingrid Monson, Quincy Jones Professor of African-American Music, Supported by the Time Warner Endowment
Francisco Moreno-Fernandez, Associate of the Division of Arts and Humanities

Gerald L. Neuman, J. Sinclair Armstrong Professor of International, Foreign, and Comparative Law *(Law School)*
Dennis Keith Norman, Associate Professor of Psychology in the Department of Psychiatry *(Medical School)*
Maria Luisa Parra-Velasco, Senior Preceptor in Romance Languages and Literatures
Michael J. Puett, Walter C. Klein Professor of Chinese History
Laurence A. Ralph, Assistant Professor of African and African American Studies and Anthropology
Fernando Miguel Reimers, Ford Foundation Professor of International Education *(Faculty of Education)*
Mayra Rivera Rivera, Associate Professor of Theology and Latina/o Studies *(Divinity School)*
Beth A. Simmons, Clarence Dillon Professor of International Affairs
Doris Sommer, Ira Jewell Williams, Jr. Professor of Romance Languages and Literatures and of African and African American Studies *(on leave spring term)*
Gary Urton, Dumbarton Oaks Professor of Pre-Columbian Studies

Affiliated Members

The Standing Committee on Ethnicity, Migration, Rights (EMR) focuses on the closely linked areas of ethnicity, migration, indigeneity, and human rights to provide curricular and co-curricular enrichment for Harvard College Students.

The committee is charged with encouraging courses on topics related to Asian American, Latino, and Native American studies in the United States. At the same time, many offerings listed by the committee are broadly comparative and international in their content. Questions of rights and specifically human rights - including political, legal, cultural, and economic rights - occupy an important position within studies of shifting ethnic boundaries.

Courses in EMR are taught by faculty from across the disciplines in FAS as well as at other Harvard schools and draw on materials from the humanities and social sciences. The Committee also offers a secondary concentration.

For more information, please visit http://emr.fas.harvard.edu.

Portal Courses

African and African American Studies 161. Religion, Diaspora, and Migration: Seminar
[Anthropology 1190. Encountering the Conquistadors]
[Ethical Reasoning 11. Human Rights: A Philosophical Introduction]
Music 194r. Special Topics
Societies of the World 30. Moctezuma's Mexico: Then and Now (2012)!
Societies of the World 44. Human Trafficking, Slavery and Abolition in the Modern World
[*Sociology 98L. Racism and Anti-Racism in Comparative Perspective]
Sociology 183. Race and Ethnic Relations
[United States in the World 15 (formerly Social Analysis 66). Is the American Racial Order Being Transformed?]

General Education Courses in Ethnic Studies

Aesthetic and Interpretive Understanding 13. Cultural Agents
[Aesthetic and Interpretive Understanding 26. Race, Gender, and Performance]
Culture and Belief 16. Performance, Tradition and Cultural Studies: An Introduction to Folklore

and Mythology
Culture and Belief 21. Pathways through the Andes–Culture, History, and Beliefs in Andean South America
Culture and Belief 59. Athens, Rome, and Us: Questions of Identity - *(New Course)*
[Ethical Reasoning 11. Human Rights: A Philosophical Introduction]
[Ethical Reasoning 30. The Just World]
Societies of the World 15 (formerly Historical Study B-64). The Cuban Revolution, 1956-1971: A Self-Debate
[Societies of the World 28. Exploration and Empire Building]
Societies of the World 30. Moctezuma's Mexico: Then and Now (2012)!
[Societies of the World 34 (formerly Foreign Cultures 46). The Caribbean: Globalization, Socio-Economic Development & Cultural Adaptation]
Societies of the World 44. Human Trafficking, Slavery and Abolition in the Modern World
United States in the World 12. American Encounters: Art, Contact, and Conflict, 1560-1860
[United States in the World 15 (formerly Social Analysis 66). Is the American Racial Order Being Transformed?]
United States in the World 24. Reinventing Boston: The Changing American City
United States in the World 26. Sex and the Citizen: Race, Gender, and Belonging in the United States
United States in the World 28 (formerly Historical Study B-43). Slavery/Capitalism/Imperialism: The US in the Nineteenth Century
***United States in the World 32 (formerly Religion 1007). The World's Religions in Multicultural America: Case Studies in Religious Pluralism**

Freshman Seminars

***Freshman Seminar 42v. Human Rights Between Rhetoric and Reality**

African and African American Studies

African and African American Studies 10. Introduction to African American Studies
African and African American Studies 20. Introduction to African Languages and Cultures
African and African American Studies 97. Sophomore Tutorial
African and African American Studies 108x. Exploring Race and Community in the Digital World - *(New Course)*
[African and African American Studies 111. Spectral Fictions, Savage Phantasms: Race and Gender in Anti-Racist South African and African American Drama, Fiction and Film]
[African and African American Studies 117x. Of Mean Streets and Jungle Fevers: Race, Gender and Ethnicity in Martin Scorsese and Spike Lee]
African and African American Studies 118. The History of African Americans From the Slave Trade to the Great Migration
African and African American Studies 137. Literature and Its Cultural 'Others' - America, Africa and the Caribbean, 1950s-80s
African and African American Studies 140x. Film, Fiction and Diaspora - *(New Course)*
African and African American Studies 161. Religion, Diaspora, and Migration: Seminar
[African and African American Studies 179 (formerly Literature and Arts B-82). Jazz, Freedom, and Culture]
[African and African American Studies 183x. Queer of Color Theory]
African and African American Studies 190x. The Anthropology of Law: Perspectives from Africa

and Elsewhere
African and African American Studies 197. Poverty, Race, and Health

Ancient Near East

Anthropology

Anthropology 1080. North American Archaeology: Lost Tribes and Ancient Capitals of Native America
Anthropology 1170. Mesoamerican Writing Systems
Anthropology 1175. The Archaeology of Ethnicity
Anthropology 1182. People of the Sun: The Archaeology of Ancient Mexico - *(New Course)*
[Anthropology 1190. Encountering the Conquistadors]
Anthropology 1648. Latin@s Remaking America: Immigration, Culture and Language - *(New Course)*
Anthropology 1672. Legal Anthropology
[Anthropology 1682. Gangsters and Troublesome Populations]
Anthropology 1795. The Politics of Language and Identity in Latin America

Comparative Literature

[Comparative Literature 263. Journey, Exile, and Displacement in Modern Arabic Literature]
[Comparative Literature 277. Literature and Diaspora]
Literature 103. Writing Across Cultures: Literatures of the World (to 1750)

East Asian Studies

Economics

[*Economics 980u. Immigration Economics]

English

Environmental Science and Public Policy

***Environmental Science and Public Policy 90j. Environmental Crises, Climate Change, and Population Flight**

Expository Writing

Expository Writing 20.066. Cross-Cultural Contact Zones
Expository Writing 20.067. Cross-Cultural Contact Zones
Expository Writing 20.068. Cross-Cultural Contact Zones
Expository Writing 20.069. Cross-Cultural Contact Zones

Government

Government 40. International Conflict and Cooperation
***Government 94al. Global Distributive Justice**

Government 94ga. Comparative Ethnic Politics and Conflict - *(New Course)
***Government 94gz. International Human Rights: Law and Politics**
***Government 94hu. Human Rights Scholars Seminar**
***Government 94mg. The Politics of Immigration**
***Government 94of. Law and Politics in Multicultural Democracies**
Government 94sz. Rights in Conflict - *(New Course)

History

History 60b. The Pacific World - *(New Course)
[*History 72k. The Worlds of Joseph Conrad]
[*History 75f. Before and After 2012: History of the Maya]
History 1511. Latin America and the United States
[*History 1512. Dirty Wars, Peace Processes, and the Politics of History in Latin America: Conference Course]
[*History 1911. Pacific History: Conference Course]
History 1980. Global Capitalism, Political Crisis, and American Radical Possibilities in the Long Twentieth Century: Conference Course - *(New Course)

History and Literature

History and Literature 90ax. Africans in Europe - *(New Course)
History and Literature 90az. The African American Great Migration - *(New Course)

Human Evolutionary Biology

Human Evolutionary Biology 1540. Human Migration

Latin American Studies

[Latin American Studies 70. Modernity, Culture and Politics in Latin America]

Music

[*Music 97c. Music History and Repertory: Music in Cross-Cultural Perspective]
Music 194r. Special Topics

Philosophy

Psychology

***Psychology 1514. Us and Them: Challenges and Possibilities in Intergroup Relations**
[*Psychology 2451. Psychology of Racism, Prejudice, and Discrimination]
***Psychology 2570r. Intergroup Relations: Research Seminar**

The Study of Religion

Romance Languages and Literatures

***French 59. French and the Community**
Portuguese 30 (formerly Portuguese 37). Brasil hoje: Contemporary Brazilian Culture through Media
***Portuguese 59. Portuguese and the Community**
***Spanish 59. Spanish and the Community**
Spanish 90c. Spectacles of Race: Representations of Racial Belonging and Difference in the Hispanic Caribbean
Spanish 126. Performing Latinidad - *(New Course)*

Social Studies

***Social Studies 98li. Protest and Violence in Asia: Ethnicity, Religion, and Other Motivations**
***Social Studies 98mi. Migration in Theory and Practice**
***Social Studies 98nd. Mass Violence, Memory, and Justice/Reconciliation**
***Social Studies 98ne. Nation, Race, and Migration in Modern Europe**
Social Studies 98oa. Human Rights in Africa - *(New Course)

Sociology

[*Sociology 98Ga. Understanding Mexican Migration Flows to the US]
[*Sociology 98L. Racism and Anti-Racism in Comparative Perspective]
***Sociology 98Wb. Race, Poverty, and Justice**
[Sociology 129. Education and Society]
Sociology 175. Sociology of Immigration
Sociology 183. Race and Ethnic Relations
[Sociology 248. Race, Politics, and Social Inequality: Seminar]
Sociology 254. Social Structure and Culture in the Study of Race and Urban Poverty

South Asian Studies

South Asian Studies 190. Religious Nationalism and Ethnic Conflict in Modern South Asia
Catalog Number: 13053
Harpreet Singh
Half course (spring term). Tu., 3–5. EXAM GROUP: 17, 18
What prompts a person with a family to pick up a gun and join a militia? What drives a democratic state to engage in indiscriminate violence against its own citizens? Why do people frequently see George Washington as a "freedom fighter" but insurgents in Kashmir as "terrorists"? This course will consider such questions in the context of religious and ethnic conflict in modern South Asia. Using case studies on Gujarat, Kashmir, Panjab, and Nagaland, we will discuss the historical trajectory and dialectical interplay between different forms of nationalism led by Hindus, Muslims, Sikhs and Nagas in the colonial and post-colonial periods. Materials to be examined will be drawn from a wide range of sources, from theoretical texts and human rights reports to ethnographic accounts and films.
Note: Offered jointly with the Divinity School as 3414. This course, when taken for a letter grade, meets the General Education requirement for Societies of the World.

Studies of Women, Gender, and Sexuality

Studies of Women, Gender, and Sexuality 1251. Gender and Sexuality in Asian-American Literature - *(New Course)

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European Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on European Studies

Grzegorz Ekiert, Professor of Government *(Chair) (on leave spring term)*
Daniel F. Ziblatt, Professor of Government *(Acting Chair, spring term)*
Philippe Aghion, Robert C. Waggoner Professor of Economics
Alberto F. Alesina, Nathaniel Ropes Professor of Political Economy
Jason Beckfield, Professor of Sociology *(spring term) (on leave fall term)*
Jonathan H. Bolton, Professor of Slavic Languages and Literatures
Peter J. Burgard, Professor of German
Niall Ferguson, Laurence A. Tisch Professor of History
Peter E. Gordon, Amabel B. James Professor of History, Harvard College Professor
Peter A. Hall, Krupp Foundation Professor of European Studies
Maya Jasanoff, Professor of History *(on leave 2013-14)*
Alison Frank Johnson, Professor of History
Michèle Lamont, Robert I. Goldman Professor of European Studies and Professor of Sociology and of African and African American Studies
Mary D. Lewis, Professor of History
Charles S. Maier, Leverett Saltonstall Professor of History

The Standing Committee on European Studies is the formal oversight body for the Minda de Gunzburg Center for European Studies. It is comprised of those permanent faculty members who have offices in the Center and selected other representatives of FAS and of other universities in the Boston area who remain active in the study and teaching of modern Europe.

For over thirty years, the Center for European Studies has offered an interdisciplinary program designed to enhance the knowledge and understanding of political, social, economic, and cultural developments in modern Europe. Its members' intellectual approaches encompass history, political science, political economy, anthropology, sociology, and cultural studies. Its purview includes all the regions of Europe as well as the institutional structures within individual countries and the European Union. The Center funds undergraduate thesis travel, dissertation fellowships, and offers several post-doctoral fellowships. Its quarters in Busch Hall provide office space for faculty, visiting scholars, and doctoral students on Europe. At the same time, the Center supports several study groups that maintain a schedule of seminars and presentations by visiting scholars and speakers from the world of public affairs and it organizes periodic conferences and workshops on European affairs. It maintains a program for the study of Germany and Europe initially funded by the Federal Republic of Germany and now supported by the Center's endowments. The Center is actively engaged in cooperation to advance European studies with other Harvard Faculties and Boston-area universities.

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Expository Writing

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Standing Committee on Undergraduate Educational Policy

Donald H. Pfister, Asa Gray Professor of Systematic Botany, Curator of the Farlow Library and Herbarium, and Interim Dean of Harvard College *(Chair) (on leave spring term)*
Michael J. Aziz, Gene and Tracy Sykes Professor of Materials and Energy Technologies
Noël Bisson, Associate Dean of Undergraduate Education
Jeremy Bloxham, Mallinckrodt Professor of Geophysics, Dean of Science
Jonathan H. Bolton, Professor of Slavic Languages and Literatures
Jay M. Harris, Harry Austryn Wolfson Professor of Jewish Studies and Dean of Undergraduate Education
Stephanie H. Kenen, Administrative Director of the Program in General Education and Associate Dean of Undergraduate Education
Mary D. Lewis, Professor of History
Peter V. Marsden, Edith and Benjamin Geisinger Professor of Sociology and Dean of Social Science
Melissa M. McCormick, Professor of Japanese Art and Culture
Xiao-Li Meng, Whipple V.N. Jones Professor of Statistics, and Dean of the Graduate School of Arts and Sciences
Cherry Murray, John A. and Elizabeth S. Armstrong Professor of Engineering and Applied Sciences, Professor of Physics, and Dean of the School of Engineering and Applied Sciences
John H. Shaw, Harry C. Dudley Professor of Structural and Economic Geology
Michael D. Smith, John H. Finley, Jr. Professor of Engineering and Applied Sciences, and Dean of the Faculty of Arts and Sciences
Diana Sorensen, James F. Rothenberg Professor of Romance Languages and Literatures and of Comparative Literature, and Dean of Arts and Humanities
Karen Thornber, Professor of Comparative Literature
John Wakeley, Professor of Organismic and Evolutionary Biology
Gu-Yeon Wei, Gordon McKay Professor of Electrical Engineering and Computer Science

Other Faculty Offering Instruction in Expository Writing

Jerusha T. Achterberg, Preceptor in Expository Writing
Michael S. Allen, Preceptor in Expository Writing
David C. Barber, Preceptor in Expository Writing
Patricia M. Bellanca, Preceptor in Expository Writing
Kevin Brian Birmingham, Preceptor in Expository Writing, Lecturer on History and Literature
Erin Leigh Blevins, Preceptor in Expository Writing
Owen Chen, Preceptor in Expository Writing
Vernon Tad Davies, Preceptor in Expository Writing
Justine Renee De Young, Preceptor in Expository Writing

Dwight Fee, Preceptor in Expository Writing, Lecturer on Sociology
Brian T. Fobi, Preceptor in Expository Writing
Janling L. Fu, Preceptor in Expository Writing
Elizabeth Greenspan, Preceptor in Expository Writing
David Hahn, Preceptor in Expository Writing
Karen L. Heath, Senior Preceptor in Expository Writing
James P. Herron, Preceptor in Expository Writing
Elissa Krakauer Jacobs, Preceptor in Expository Writing
Thomas R. Jehn, The Sosland Director of the Harvard College Writing Program
Jonah M. Johnson, Preceptor in Expository Writing
Christina Dzin Kim, Preceptor in Expository Writing
Matthew T. Levay, Preceptor in Expository Writing
Ariane Mary Liazos, Preceptor in Expository Writing
Michele C. Martinez, Preceptor in Expository Writing
Deirdre Alanna Mask, Preceptor in Expository Writing *(on leave spring term)*
Kelsey W. McNiff, Preceptor in Expository Writing
Lindsay Joanna Mitchell, Preceptor in Expository Writing
Yascha Benjamin Mounk, Preceptor in Expository Writing
Srilata Mukherjee, Preceptor in Expository Writing
Donna L. Mumme, Preceptor in Expository Writing
Sara A. Newland, Preceptor in Expository Writing *(on leave spring term)*
Tess O'Toole, Preceptor in Expository Writing
Jane A. Rosenzweig, Preceptor in Expository Writing, and Director of the Writing Center
Emily J. Shelton, Preceptor in Expository Writing
Patricia Rachael Stuelke, Preceptor in Expository Writing
Rebecca Summerhays, Preceptor in Expository Writing
Joaquin Sebastian Terrones, Preceptor in Expository Writing
Adrienne Leigh Tierney, Preceptor in Expository Writing
Jane E. Unrue, Preceptor in Expository Writing
Kenneth J. Urban, Preceptor in Expository Writing
William Conrad Weitzel, Preceptor in Expository Writing
Jeffrey Robert Wilson, Preceptor in Expository Writing
Margie Zohn, Preceptor in Expository Writing

For Undergraduates Only

Expository Writing 20 fulfills the basic requirement in Expository Writing, a requirement for all undergraduates in their first year of residence. The Expository Writing Program also offers two elective courses, Expos 10 and Expos 40. No Expository Writing courses have midterm or final examinations. For additional information on Expository Writing courses, see the Writing Program website: *http://writingprogram.fas.harvard.edu.*

Expository Writing 10

A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10. Introduction to Expository Writing
Catalog Number: 6344 Enrollment: Limited to 10 students per section.
Members of the Department
Half course (fall term). Hours to be arranged.
Note: After taking Expository Writing 10, a student must pass Expository Writing 20 to meet the College's Expository Writing requirement.

Expository Writing 10.001. Introduction to Expository Writing
Catalog Number: 77429 Enrollment: Limited to 10.
Patricia M. Bellanca
Half course (fall term). Tu., Th., at 11.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.002. Introduction to Expository Writing
Catalog Number: 25907 Enrollment: Limited to 10.
Liz Greenspan
Half course (fall term). M., W., at 12.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.003. Introduction to Expository Writing
Catalog Number: 92536 Enrollment: Limited to 10.
Karen L. Heath
Half course (fall term). Tu., Th., at 12.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.004. Introduction to Expository Writing
Catalog Number: 41014 Enrollment: Limited to 10.
Thomas R. Jehn
Half course (fall term). M., W., at 1.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.005. Introduction to Expository Writing
Catalog Number: 56121 Enrollment: Limited to 10.
Kelsey W. McNiff
Half course (fall term). Tu., Th., at 10.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and

writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.006. Introduction to Expository Writing
Catalog Number: 71228 Enrollment: Limited to 10.
Kelsey W. McNiff
Half course (fall term). Tu., Th., at 11.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.007. Introduction to Expository Writing
Catalog Number: 86335 Enrollment: Limited to 10.
Jane A. Rosenzweig
Half course (fall term). Tu., Th., at 11.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.008. Introduction to Expository Writing
Catalog Number: 34813 Enrollment: Limited to 10.
Jonah M. Johnson
Half course (fall term). M., W., at 10.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.009. Introduction to Expository Writing
Catalog Number: 65027 Enrollment: Limited to 10.
Jonah M. Johnson
Half course (fall term). M., W., at 11.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.010. Introduction to Expository Writing
Catalog Number: 13505 Enrollment: Limited to 10.
Rebecca Summerhays
Half course (fall term). Tu., Th., at 11.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.011. Introduction to Expository Writing
Catalog Number: 80134 Enrollment: Limited to 10.

Rebecca Summerhays
Half course (fall term). Tu., Th., at 12.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.012. Introduction to Expository Writing
Catalog Number: 28612 Enrollment: Limited to 10.
Vernon Tad Davies
Half course (fall term). Tu., Th., at 12.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.013. Introduction to Expository Writing
Catalog Number: 95241 Enrollment: Limited to 10.
Vernon Tad Davies
Half course (fall term). Tu., Th., at 1.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.014. Introduction to Expository Writing
Catalog Number: 43719 Enrollment: Limited to 10.
William Conrad Weitzel
Half course (fall term). M., W., at 12.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.015. Introduction to Expository Writing
Catalog Number: 58826 Enrollment: Limited to 10.
William Conrad Weitzel
Half course (fall term). M., W., at 1.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.016. Introduction to Expository Writing
Catalog Number: 84655 Enrollment: Limited to 10.
James P. Herron
Half course (fall term). M., W., at 11.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and

writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 10.017. Introduction to Expository Writing
Catalog Number: 74635 Enrollment: Limited to 10.
Elizabeth Greenspan
Half course (fall term). M., W., at 11.
A rigorous, intensive elective that helps students prepare for the demands of college writing. In small classes, students work closely with instructors on developing and organizing ideas, analyzing sources, and writing clear, engaging essays. Students also meet frequently in individual conferences with instructors to discuss their work. Assignments are based on sources from a range of disciplines and genres.

Expository Writing 20

An intensive seminar that aims to improve each student's ability to discover and reason about evidence through the medium of essays. Each section focuses on a particular theme or topic, described on the Expos Website. All sections give students practice in formulating questions, analyzing both primary and secondary sources and properly acknowledging them, supporting arguments with strong and detailed evidence, and shaping clear, lively essays. All sections emphasize revision.
[Expository Writing 20. Expository Writing]
Catalog Number: 5518 Enrollment: Limited to 15 students per section.
Members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Expected to be given in 2014–15. Students must pass one term of Expository Writing 20 to meet the College's Expository Writing requirement.
Expository Writing 20.012. The Rise of Pop
Catalog Number: 77097 Enrollment: Limited to 15.
Kevin Brian Birmingham
Half course (fall term). M., W., at 10.
The idea that there is a hierarchy separating high and low art extends as far back as Aristotle, but during the past fifty years American culture has depended upon destroying this hierarchy. This course examines what happens to art and society when the boundaries separating high and low art are gone. We will examine Thomas Pynchon, Andy Warhol, and *The Rocky Horror Picture Show* along with cultural theorists such as Adorno, Benjamin, Sontag, and Bakhtin.

Expository Writing 20.013. The Rise of Pop
Catalog Number: 25575 Enrollment: Limited to 15.
Kevin Brian Birmingham
Half course (spring term). M., W., at 10.
The idea that there is a hierarchy separating high and low art extends as far back as Aristotle, but during the past fifty years American culture has depended upon destroying this hierarchy. This course examines what happens to art and society when the boundaries separating high and low art are gone. We will examine Thomas Pynchon, Andy Warhol, and *The Rocky Horror Picture Show* along with cultural theorists such as Adorno, Benjamin, Sontag, and Bakhtin.

[Expository Writing 20.018. Representations of American Democracy and Government]
Catalog Number: 70896 Enrollment: Limited to 15.
Vernon Tad Davies

Half course (fall term). Hours to be arranged.
Beyond the abstraction of American democracy as government of, by and for the people, what can we glean about our definitions of American governance from historical and artistic representations of it? This course will examine what US democracy looks like when brought to life in campaign commercials, in the architecture of government buildings, and in conspiracy films. We will ask how these works shape our understanding of the possibilities and constraints of democratic action.
Note: Expected to be given in 2014–15.

[Expository Writing 20.019. Representations of American Democracy and Government]
Catalog Number: 19374 Enrollment: Limited to 15.
Vernon Tad Davies
Half course (fall term). Hours to be arranged.
Beyond the abstraction of American democracy as government of, by and for the people, what can we glean about our definitions of American governance from historical and artistic representations of it? This course will examine what US democracy looks like when brought to life in campaign commercials, in the architecture of government buildings, and in conspiracy films. We will ask how these works shape our understanding of the possibilities and constraints of democratic action.
Note: Expected to be given in 2014–15.

Expository Writing 20.020. Representations of American Democracy and Government
Catalog Number: 86003 Enrollment: Limited to 15.
Vernon Tad Davies
Half course (spring term). Tu., Th., at 12.
Beyond the abstraction of American democracy as government of, by and for the people, what can we glean about our definitions of American governance from historical and artistic representations of it? This course will examine what US democracy looks like when brought to life in campaign commercials, in the architecture of government buildings, and in conspiracy films. We will ask how these works shape our understanding of the possibilities and constraints of democratic action.

Expository Writing 20.021. Representations of American Democracy and Government
Catalog Number: 34481 Enrollment: Limited to 15.
Vernon Tad Davies
Half course (spring term). Tu., Th., at 1.
Beyond the abstraction of American democracy as government of, by and for the people, what can we glean about our definitions of American governance from historical and artistic representations of it? This course will examine what US democracy looks like when brought to life in campaign commercials, in the architecture of government buildings, and in conspiracy films. We will ask how these works shape our understanding of the possibilities and constraints of democratic action.

Expository Writing 20.043. Shakespeare's Inventions
Catalog Number: 39891 Enrollment: Limited to 15.
Jeffrey Robert Wilson
Half course (spring term). Tu., Th., at 10.
We will first examine what *Hamlet* and *Romeo and Juliet* can tell us about how individuals—in particular Shakespeare himself—actively invent and renegotiate their identities within the confines of a given culture. In the third unit we will look at Tom Stoppard's *Rosencrantz and Guildenstern Are Dead* (1966) and *Shakespeare in Love* in order to assess the extent to which we rely on the re-invention of Shakespeare's works for our own cultural identity.

Expository Writing 20.044. Shakespeare's Inventions
Catalog Number: 54998 Enrollment: Limited to 15.
Jeffrey Robert Wilson
Half course (spring term). Tu., Th., at 11.
We will first examine what *Hamlet* and *Romeo and Juliet* can tell us about how individuals—in particular Shakespeare himself—actively invent and renegotiate their identities within the confines of a given culture. In the third unit we will look at Tom Stoppard's *Rosencrantz and Guildenstern Are Dead* (1966) and *Shakespeare in Love* in order to assess the extent to which we rely on the re-invention of Shakespeare's works for our own cultural identity.

Expository Writing 20.046. Darwinian Dating
Catalog Number: 18583 Enrollment: Limited to 15.
Elissa Krakauer Jacobs
Half course (fall term). M., W., at 10.
In this course we will examine patterns of human attraction, using an evolutionary perspective to better understand mate choice. In the first unit, we will explore the roles of biology versus culture in human behavior. Next, we will address female attraction and attempt to determine whether women prefer "nice guys" or "bad boys." In the final unit, students will have an opportunity to undertake independent research as they explore the nature of male attraction.

Expository Writing 20.047. Darwinian Dating
Catalog Number: 85212 Enrollment: Limited to 15.
Elissa Krakauer Jacobs
Half course (fall term). M., W., at 11.
In this course we will examine patterns of human attraction, using an evolutionary perspective to better understand mate choice. In the first unit, we will explore the roles of biology versus culture in human behavior. Next, we will address female attraction and attempt to determine whether women prefer "nice guys" or "bad boys." In the final unit, students will have an opportunity to undertake independent research as they explore the nature of male attraction.

Expository Writing 20.048. Darwinian Dating
Catalog Number: 48797 Enrollment: Limited to 15.
Elissa Krakauer Jacobs
Half course (spring term). M., W., at 10.
In this course we will examine patterns of human attraction, using an evolutionary perspective to better understand mate choice. In the first unit, we will explore the roles of biology versus culture in human behavior. Next, we will address female attraction and attempt to determine whether women prefer "nice guys" or "bad boys." In the final unit, students will have an opportunity to undertake independent research as they explore the nature of male attraction.

Expository Writing 20.049. Darwinian Dating
Catalog Number: 63904 Enrollment: Limited to 15.
Elissa Krakauer Jacobs
Half course (spring term). M., W., at 11.
In this course we will examine patterns of human attraction, using an evolutionary perspective to better understand mate choice. In the first unit, we will explore the roles of biology versus culture in human behavior. Next, we will address female attraction and attempt to determine whether women prefer "nice guys" or "bad boys." In the final unit, students will have an opportunity to undertake independent research as they explore the nature of male attraction.



Expository Writing 20.059. Interpreting the Civil Rights Movement
Catalog Number: 57703 Enrollment: Limited to 15.
Ariane Mary Liazos
Half course (fall term). Tu., Th., at 11.
According to civil rights scholar Charles Payne, "Our understanding of social change, our conceptions of leadership, our understanding of the possibilities of interracial cooperation are all affected by how we remember the movement." In this seminar, we investigate the work of remembering and interpreting the mid-twentieth-century civil rights movement. We consider both popular and scholarly accounts, and we focus on the use of speeches, memoirs, and newspapers to reconstruct the events of the past.

Expository Writing 20.060. Interpreting the Civil Rights Movement
Catalog Number: 21288 Enrollment: Limited to 15.
Ariane Mary Liazos
Half course (fall term). Tu., Th., at 12.
According to civil rights scholar Charles Payne, "Our understanding of social change, our conceptions of leadership, our understanding of the possibilities of interracial cooperation are all affected by how we remember the movement." In this seminar, we investigate the work of remembering and interpreting the mid-twentieth-century civil rights movement. We consider both popular and scholarly accounts, and we focus on the use of speeches, memoirs, and newspapers to reconstruct the events of the past.

Expository Writing 20.061. Interpreting the Civil Rights Movement
Catalog Number: 87917 Enrollment: Limited to 15.
Ariane Mary Liazos
Half course (spring term). Tu., Th., at 1.
According to civil rights scholar Charles Payne, "Our understanding of social change, our conceptions of leadership, our understanding of the possibilities of interracial cooperation are all affected by how we remember the movement." In this seminar, we investigate the work of remembering and interpreting the mid-twentieth-century civil rights movement. We consider both popular and scholarly accounts, and we focus on the use of speeches, memoirs, and newspapers to reconstruct the events of the past.

Expository Writing 20.062. Interpreting the Civil Rights Movement
Catalog Number: 36395 Enrollment: Limited to 15.
Ariane Mary Liazos
Half course (spring term). Tu., Th., at 2.
According to civil rights scholar Charles Payne, "Our understanding of social change, our conceptions of leadership, our understanding of the possibilities of interracial cooperation are all affected by how we remember the movement." In this seminar, we investigate the work of remembering and interpreting the mid-twentieth-century civil rights movement. We consider both popular and scholarly accounts, and we focus on the use of speeches, memoirs, and newspapers to reconstruct the events of the past.

Expository Writing 20.063. Gothic Fiction
Catalog Number: 51502 Enrollment: Limited to 15.
Michele C. Martinez
Half course (fall term). M., W., at 11.
This course explores the meaning and function of Gothic literature, a genre characterized by secrecy, perversion, madness, and death. In our first unit, short stories—of various centuries and nations—will allow us to develop a working definition of Gothic. In unit two we'll interpret Jane Austen's Gothic spoof *Northanger Abbey* in the context of both popular fiction and eighteenth-century debates about reading. The third unit introduces research methods that focus on the works of Edgar Allan Poe.

Expository Writing 20.064. Gothic Fiction
Catalog Number: 66609 Enrollment: Limited to 15.
Michele C. Martinez
Half course (spring term). M., W., at 11.
This course explores the meaning and function of Gothic literature, a genre characterized by secrecy, perversion, madness, and death. In our first unit, short stories—of various centuries and nations—will allow us to develop a working definition of Gothic. In unit two we'll interpret Jane Austen's Gothic spoof *Northanger Abbey* in the context of both popular fiction and eighteenth-century debates about reading. The third unit introduces research methods that focus on the works of Edgar Allan Poe.

Expository Writing 20.065. Gothic Fiction
Catalog Number: 15087 Enrollment: Limited to 15.
Michele C. Martinez
Half course (spring term). M., W., at 12.
This course explores the meaning and function of Gothic literature, a genre characterized by secrecy, perversion, madness, and death. In our first unit, short stories—of various centuries and nations—will allow us to develop a working definition of Gothic. In unit two we'll interpret Jane Austen's Gothic spoof *Northanger Abbey* in the context of both popular fiction and eighteenth-century debates about reading. The third unit introduces research methods that focus on the works of Edgar Allan Poe.

Expository Writing 20.066. Cross-Cultural Contact Zones
Catalog Number: 81716 Enrollment: Limited to 15.
Srilata Mukherjee
Half course (fall term). M., W., at 12.
How does fiction represent cross-cultural encounters between Eurocentric and non-Eurocentric worlds? In what ways do the specific social and political circumstances under which these contacts occur influence the nature of the cross-cultural encounters? Do issues of power, class, and gender function differently in cross-cultural environments for the racial groups involved than they would within a single culture? In exploring literature about three kinds of cross-cultural encounters-transient, colonial/postcolonial, and immigrant-we'll pose such resonant questions.

Expository Writing 20.067. Cross-Cultural Contact Zones
Catalog Number: 30194 Enrollment: Limited to 15.
Srilata Mukherjee
Half course (fall term). M., W., at 1.
How does fiction represent cross-cultural encounters between Eurocentric and non-Eurocentric worlds? In what ways do the specific social and political circumstances under which these contacts occur influence the nature of the cross-cultural encounters? Do issues of power, class, and gender function differently in cross-cultural environments for the racial groups involved than they would within a single culture? In exploring literature about three kinds of cross-cultural encounters-transient, colonial/postcolonial, and immigrant-we'll pose such resonant questions.

Expository Writing 20.068. Cross-Cultural Contact Zones
Catalog Number: 96823 Enrollment: Limited to 15.
Srilata Mukherjee
Half course (spring term). M., W., at 12.
How does fiction represent cross-cultural encounters between Eurocentric and non-Eurocentric worlds? In what ways do the specific social and political circumstances under which these contacts occur influence the nature of the cross-cultural encounters? Do issues of power, class, and gender function differently in cross-cultural environments for the racial groups involved than they would within a single culture? In

exploring literature about three kinds of cross-cultural encounters-transient, colonial/postcolonial, and immigrant-we'll pose such resonant questions.

Expository Writing 20.069. Cross-Cultural Contact Zones
Catalog Number: 45301 Enrollment: Limited to 15.
Srilata Mukherjee
Half course (spring term). M., W., at 1.
How does fiction represent cross-cultural encounters between Eurocentric and non-Eurocentric worlds? In what ways do the specific social and political circumstances under which these contacts occur influence the nature of the cross-cultural encounters? Do issues of power, class, and gender function differently in cross-cultural environments for the racial groups involved than they would within a single culture? In exploring literature about three kinds of cross-cultural encounters-transient, colonial/postcolonial, and immigrant-we'll pose such resonant questions.

Expository Writing 20.078. Jewish Identity in American Culture
Catalog Number: 54207 Enrollment: Limited to 15.
Jane A. Rosenzweig
Half course (spring term). Tu., Th., at 11.
This course will examine representations of Jews in American culture and the evolution of Jewish-American culture since World War II, as well as how shifts in the cultural conversation about minorities in America have affected our understanding of Jewish identity. We will question how recent works of literature, art, film, and television challenge and reinforce Jewish stereotypes, and how they continue to shape our ideas about assimilation, the Holocaust, ethnicity, and religious practice in America.

Expository Writing 20.081. Tales of Murder
Catalog Number: 84421 Enrollment: Limited to 15.
Emily J. Shelton
Half course (spring term). Tu., Th., at 10.
The Sixth Commandment is succinct: "Thou shalt not commit murder." And yet descriptions of murder feature prominently in Western literature and culture. Why are we so engaged by the telling of these grim tales, and what is at stake in their being told? By analyzing the challenges of shaping coherent narratives around incomprehensible acts, this course examines the ethical and aesthetic implications of mediating a phenomenon as elusive, and terrifyingly actual, as murder.

Expository Writing 20.082. Tales of Murder
Catalog Number: 32899 Enrollment: Limited to 15.
Emily J. Shelton
Half course (spring term). Tu., Th., at 11.
The Sixth Commandment is succinct: "Thou shalt not commit murder." And yet descriptions of murder feature prominently in Western literature and culture. Why are we so engaged by the telling of these grim tales, and what is at stake in their being told? By analyzing the challenges of shaping coherent narratives around incomprehensible acts, this course examines the ethical and aesthetic implications of mediating a phenomenon as elusive, and terrifyingly actual, as murder.

[Expository Writing 20.084. Urban America]
Catalog Number: 76638 Enrollment: Limited to 15.
Lindsay M. Silver Cohen
Half course (fall term). M., W., at 1.
This course addresses questions about the past and present urban experience by analyzing American cities from various disciplinary perspectives. Unit I hones critical skills through close readings of *How the*

Other Half Lives, an exposé of late nineteenth-century New York. Unit II emphasizes the importance of context through analysis of the play, *A Raisin in the Sun* with companion texts. Unit III teaches the fundamentals of research through independent projects on our local, urban environment: Cambridge, Massachusetts. Together, these units teach the mechanics of academic writing while providing insight into the problems and promise of the American city over time.
Note: Expected to be given in 2014–15.

[Expository Writing 20.085. Urban America]
Catalog Number: 25116 Enrollment: Limited to 15.
Lindsay M. Silver Cohen
Half course (fall term). M., W., at 2.
This course addresses questions about the past and present urban experience by analyzing American cities from various disciplinary perspectives. Unit I hones critical skills through close readings of *How the Other Half Lives,* an exposé of late nineteenth-century New York. Unit II emphasizes the importance of context through analysis of the play, *A Raisin in the Sun* with companion texts. Unit III teaches the fundamentals of research through independent projects on our local, urban environment: Cambridge, Massachusetts. Together, these units teach the mechanics of academic writing while providing insight into the problems and promise of the American city over time.
Note: Expected to be given in 2014–15.

[Expository Writing 20.086. Urban America]
Catalog Number: 48006 Enrollment: Limited to 15.
Lindsay M. Silver Cohen
Half course (spring term). Hours to be arranged.
This course addresses questions about the past and present urban experience by analyzing American cities from various disciplinary perspectives. Unit I hones critical skills through close readings of *How the Other Half Lives,* an exposé of late nineteenth-century New York. Unit II emphasizes the importance of context through analysis of the play, *A Raisin in the Sun* with companion texts. Unit III teaches the fundamentals of research through independent projects on our local, urban environment: Cambridge, Massachusetts. Together, these units teach the mechanics of academic writing while providing insight into the problems and promise of the American city over time.
Note: Expected to be given in 2014–15.

Expository Writing 20.097. HIV/AIDS in Culture
Catalog Number: 50711 Enrollment: Limited to 15.
Joaquin Sebastian Terrones
Half course (fall term). M., W., at 10.
Perhaps more than any other event in the last quarter of the twentieth century, the AIDS crisis condensed or crystallized cultural anxieties about the body, identity, and difference. In this course, we will examine the cultural response to HIV/AIDS in North and Latin America through fiction, poetry, and visual art from the pandemic's first fifteen years. No knowledge of Spanish or Portuguese is necessary; all materials will be available in English.

Expository Writing 20.098. HIV/AIDS in Culture
Catalog Number: 65818 Enrollment: Limited to 15.
Joaquin Sebastian Terrones
Half course (fall term). M., W., at 11.
Perhaps more than any other event in the last quarter of the twentieth century, the AIDS crisis condensed or crystallized cultural anxieties about the body, identity, and difference. In this course, we will examine the cultural response to HIV/AIDS in North and Latin America through fiction, poetry, and visual art

from the pandemic's first fifteen years. No knowledge of Spanish or Portuguese is necessary; all materials will be available in English.

Expository Writing 20.099. HIV/AIDS in Culture
Catalog Number: 14296 Enrollment: Limited to 15.
Joaquin Sebastian Terrones
Half course (spring term). M., W., at 10.
Perhaps more than any other event in the last quarter of the twentieth century, the AIDS crisis condensed or crystallized cultural anxieties about the body, identity, and difference. In this course, we will examine the cultural response to HIV/AIDS in North and Latin America through fiction, poetry, and visual art from the pandemic's first fifteen years. No knowledge of Spanish or Portuguese is necessary; all materials will be available in English.

Expository Writing 20.100. HIV/AIDS in Culture
Catalog Number: 80925 Enrollment: Limited to 15.
Joaquin Sebastian Terrones
Half course (spring term). M., W., at 11.
Perhaps more than any other event in the last quarter of the twentieth century, the AIDS crisis condensed or crystallized cultural anxieties about the body, identity, and difference. In this course, we will examine the cultural response to HIV/AIDS in North and Latin America through fiction, poetry, and visual art from the pandemic's first fifteen years. No knowledge of Spanish or Portuguese is necessary; all materials will be available in English.

Expository Writing 20.101. The Voice of Authority
Catalog Number: 29403 Enrollment: Limited to 15.
Jane E. Unrue
Half course (fall term). M., W., at 10.
What is authority? First, we will read the controversial *One Flew Over the Cuckoo's Nest*, closely investigating that explosive novel's complex treatment of authority. Next, we will read and meet two "at-risk" writers, comparing and analyzing effects and expressions of artistic challenges to governmental and cultural authority. Finally, our ongoing inquiry into authority will shape research topics as we investigate issues arising out of authority's relation to education, rhetorical strategy, politics, human rights, and art.

Expository Writing 20.102. The Voice of Authority
Catalog Number: 96032 Enrollment: Limited to 15.
Jane E. Unrue
Half course (fall term). M., W., at 11.
What is authority? First, we will read the controversial *One Flew Over the Cuckoo's Nest*, closely investigating that explosive novel's complex treatment of authority. Next, we will read and meet two "at-risk" writers, comparing and analyzing effects and expressions of artistic challenges to governmental and cultural authority. Finally, our ongoing inquiry into authority will shape research topics as we investigate issues arising out of authority's relation to education, rhetorical strategy, politics, human rights, and art.

Expository Writing 20.103. The Voice of Authority
Catalog Number: 59617 Enrollment: Limited to 15.
Jane E. Unrue
Half course (spring term). M., W., at 10.
What is authority? First, we will read the controversial *One Flew Over the Cuckoo's Nest*, closely investigating that explosive novel's complex treatment of authority. Next, we will read and meet two "at-risk" writers, comparing and analyzing effects and expressions of artistic challenges to governmental and

cultural authority. Finally, our ongoing inquiry into authority will shape research topics as we investigate issues arising out of authority's relation to education, rhetorical strategy, politics, human rights, and art.

Expository Writing 20.104. The Voice of Authority
Catalog Number: 74724 Enrollment: Limited to 15.
Jane E. Unrue
Half course (spring term). M., W., at 11.
What is authority? First, we will read the controversial *One Flew Over the Cuckoo's Nest*, closely investigating that explosive novel's complex treatment of authority. Next, we will read and meet two "at-risk" writers, comparing and analyzing effects and expressions of artistic challenges to governmental and cultural authority. Finally, our ongoing inquiry into authority will shape research topics as we investigate issues arising out of authority's relation to education, rhetorical strategy, politics, human rights, and art.

Expository Writing 20.105. Contemporary Theatre
Catalog Number: 23202 Enrollment: Limited to 15.
Kenneth J. Urban
Half course (fall term). Tu., Th., at 2.
Since the 1960s, American and British theatre has served as a laboratory for unprecedented social and political provocation. This writing seminar analyzes plays by groundbreaking playwrights from the past five decades, and examines how these writers use the stage as a form of critical thinking that is both dramatic and world-shattering. Playwrights will include Annie Baker, Richard Maxwell, Tony Kushner, Paula Vogel, Samuel Beckett and Sarah Kane.

Expository Writing 20.106. Contemporary Theatre
Catalog Number: 89831 Enrollment: Limited to 15.
Kenneth J. Urban
Half course (fall term). Tu., Th., at 3.
Since the 1960s, American and British theatre has served as a laboratory for unprecedented social and political provocation. This writing seminar analyzes plays by groundbreaking playwrights from the past five decades, and examines how these writers use the stage as a form of critical thinking that is both dramatic and world-shattering. Playwrights will include Annie Baker, Richard Maxwell, Tony Kushner, Paula Vogel, Samuel Beckett and Sarah Kane.

Expository Writing 20.113. Into the Wild
Catalog Number: 47215 Enrollment: Limited to 15.
William Conrad Weitzel
Half course (spring term). M., W., at 1.
What is wilderness? Do you have to explore wilderness to care about it? Who enters the wilderness and why? We will look at expeditions into the Kalahari Desert, remote Alaska, and the central African and Amazon rainforests and examine the place of expeditionary culture in current dilemmas about global wilderness. The course will include films, websites, periodicals, and blogs, paying particular attention to such threatened biomes as the Congolese Basin and Guyana Shield as domains of conspicuous urgency.

Expository Writing 20.114. Into the Wild
Catalog Number: 62322 Enrollment: Limited to 15.
William Conrad Weitzel
Half course (spring term). M., W., at 2.
What is wilderness? Do you have to explore wilderness to care about it? Who enters the wilderness and why? We will look at expeditions into the Kalahari Desert, remote Alaska, and the central African and Amazon rainforests and examine the place of expeditionary culture in current dilemmas about global

wilderness. The course will include films, websites, periodicals, and blogs, paying particular attention to such threatened biomes as the Congolese Basin and Guyana Shield as domains of conspicuous urgency.

[Expository Writing 20.123. Urban America]
Catalog Number: 72556 Enrollment: Limited to 15.
Lindsay M. Silver Cohen
Half course (spring term). Hours to be arranged.
This course addresses questions about the past and present urban experience by analyzing American cities from various disciplinary perspectives. Unit I hones critical skills through close readings of *How the Other Half Lives,* an exposé of late nineteenth-century New York. Unit II emphasizes the importance of context through analysis of the play, *A Raisin in the Sun* with companion texts. Unit III teaches the fundamentals of research through independent projects on our local, urban environment: Cambridge, Massachusetts. Together, these units teach the mechanics of academic writing while providing insight into the problems and promise of the American city over time.
Note: Expected to be given in 2014–15.

Expository Writing 20.125. Obsession
Catalog Number: 15575 Enrollment: Limited to 15.
Matthew T. Levay
Half course (fall term). M., W., at 9.
This course explores the cultural representation of obsession - in film, literature, and psychoanalytic case histories - asking how artistic accounts of aberrant emotions, compulsions, and habits might intersect with or diverge from scientific accounts of obsession and its potential manifestations. Under what conditions is obsession considered a virtue, and when does it become pathological? What can a study of obsession reveal about our conceptions of normality, attachment, perfectionism, and paranoia, and their place in contemporary society?

Expository Writing 20.126. Obsession
Catalog Number: 82204 Enrollment: Limited to 15.
Matthew T. Levay
Half course (fall term). M., W., at 10.
This course explores the cultural representation of obsession - in film, literature, and psychoanalytic case histories - asking how artistic accounts of aberrant emotions, compulsions, and habits might intersect with or diverge from scientific accounts of obsession and its potential manifestations. Under what conditions is obsession considered a virtue, and when does it become pathological? What can a study of obsession reveal about our conceptions of normality, attachment, perfectionism, and paranoia, and their place in contemporary society?

Expository Writing 20.127. Obsession
Catalog Number: 30682 Enrollment: Limited to 15.
Matthew T. Levay
Half course (spring term). M., W., at 10.
This course explores the cultural representation of obsession - in film, literature, and psychoanalytic case histories - asking how artistic accounts of aberrant emotions, compulsions, and habits might intersect with or diverge from scientific accounts of obsession and its potential manifestations. Under what conditions is obsession considered a virtue, and when does it become pathological? What can a study of obsession reveal about our conceptions of normality, attachment, perfectionism, and paranoia, and their place in contemporary society?

Expository Writing 20.128. Obsession
Catalog Number: 97311 Enrollment: Limited to 15.
Matthew T. Levay
Half course (spring term). M., W., at 11.
This course explores the cultural representation of obsession - in film, literature, and psychoanalytic case histories - asking how artistic accounts of aberrant emotions, compulsions, and habits might intersect with or diverge from scientific accounts of obsession and its potential manifestations. Under what conditions is obsession considered a virtue, and when does it become pathological? What can a study of obsession reveal about our conceptions of normality, attachment, perfectionism, and paranoia, and their place in contemporary society?

Expository Writing 20.129. Contemporary Theatre
Catalog Number: 45789 Enrollment: Limited to 15.
Kenneth J. Urban
Half course (spring term). Tu., Th., at 2.
Since the 1960s, American and British theatre has served as a laboratory for unprecedented social and political provocation. This writing seminar analyzes plays by groundbreaking playwrights from the past five decades, and examines how these writers use the stage as a form of critical thinking that is both dramatic and world-shattering. Playwrights will include Annie Baker, Richard Maxwell, Tony Kushner, Paula Vogel, Samuel Beckett and Sarah Kane.

Expository Writing 20.130. Contemporary Theatre
Catalog Number: 60896 Enrollment: Limited to 15.
Kenneth J. Urban
Half course (spring term). Tu., Th., at 3.
Since the 1960s, American and British theatre has served as a laboratory for unprecedented social and political provocation. This writing seminar analyzes plays by groundbreaking playwrights from the past five decades, and examines how these writers use the stage as a form of critical thinking that is both dramatic and world-shattering. Playwrights will include Annie Baker, Richard Maxwell, Tony Kushner, Paula Vogel, Samuel Beckett and Sarah Kane.

Expository Writing 20.131. Philosophy of the State
Catalog Number: 31014
Owen Chen
Half course (fall term). Tu., Th., at 10.
This course inquires into the origin and political and moral nature of the state, into its forms, functions, and connections with the education and the erotic life of its citizens. Readings to be discussed and written on are taken from Plato, Aristotle, Rousseau, Tocqueville, and Marx. Throughout the course, students adjudicate between different conceptions of the state and their ends, and examine the source of power of the state.

Expository Writing 20.132. Philosophy of the State
Catalog Number: 22108 Enrollment: Limited to 15.
Owen Chen
Half course (fall term). Tu., Th., at 11.
This course inquires into the origin and political and moral nature of the state, into its forms, functions, and connections with the education and the erotic life of its citizens. Readings to be discussed and written on are taken from Plato, Aristotle, Rousseau, Tocqueville, and Marx. Throughout the course, students adjudicate between different conceptions of the state and their ends, and examine the source of power of the state.

Expository Writing 20.133. Philosophy of the State
Catalog Number: 88737 Enrollment: Limited to 15.
Owen Chen
Half course (spring term). Tu., Th., at 10.
This course inquires into the origin and political and moral nature of the state, into its forms, functions, and connections with the education and the erotic life of its citizens. Readings to be discussed and written on are taken from Plato, Aristotle, Rousseau, Tocqueville, and Marx. Throughout the course, students adjudicate between different conceptions of the state and their ends, and examine the source of power of the state.

Expository Writing 20.134. Philosophy of the State
Catalog Number: 46121 Enrollment: Limited to 15.
Owen Chen
Half course (spring term). Tu., Th., at 11.
This course inquires into the origin and political and moral nature of the state, into its forms, functions, and connections with the education and the erotic life of its citizens. Readings to be discussed and written on are taken from Plato, Aristotle, Rousseau, Tocqueville, and Marx. Throughout the course, students adjudicate between different conceptions of the state and their ends, and examine the source of power of the state.

***Expository Writing 20.135. The Body in Art: From Ideal to Real**
Catalog Number: 21317 Enrollment: Limited to 15.
Justine Renee De Young
Half course (fall term). Tu., Th., at 10.
This course explores how artists have idealized, humanized, and celebrated the naked and nude human form over the centuries. Taking advantage of local museum collections, we will consider the tradition of the flawless classical god and goddess, how modern artists like Manet, Degas, Matisse and Picasso transgressed it, and, finally, how contemporary artists continue to radically transform the nude today. No experience with art history is necessary.

***Expository Writing 20.136. The Body in Art: From Ideal to Real**
Catalog Number: 87946 Enrollment: Limited to 15.
Justine Renee De Young
Half course (fall term). Tu., Th., at 11.
This course explores how artists have idealized, humanized, and celebrated the naked and nude human form over the centuries. Taking advantage of local museum collections, we will consider the tradition of the flawless classical god and goddess, how modern artists like Manet, Degas, Matisse and Picasso transgressed it, and, finally, how contemporary artists continue to radically transform the nude today. No experience with art history is necessary.

***Expository Writing 20.137. The Body in Art: From Ideal to Real**
Catalog Number: 36424 Enrollment: Limited to 15.
Justine Renee De Young
Half course (spring term). Tu., Th., at 10.
This course explores how artists have idealized, humanized, and celebrated the naked and nude human form over the centuries. Taking advantage of local museum collections, we will consider the tradition of the flawless classical god and goddess, how modern artists like Manet, Degas, Matisse and Picasso transgressed it, and, finally, how contemporary artists continue to radically transform the nude today. No experience with art history is necessary.

***Expository Writing 20.138. The Body in Art: From Ideal to Real**
Catalog Number: 51531 Enrollment: Limited to 15.
Justine Renee De Young
Half course (spring term). Tu., Th., at 11.
This course explores how artists have idealized, humanized, and celebrated the naked and nude human form over the centuries. Taking advantage of local museum collections, we will consider the tradition of the flawless classical god and goddess, how modern artists like Manet, Degas, Matisse and Picasso transgressed it, and, finally, how contemporary artists continue to radically transform the nude today. No experience with art history is necessary.

Expository Writing 20.140. The Experience of Class
Catalog Number: 18944 Enrollment: Limited to 15.
James P. Herron
Half course (spring term). M., W., at 11.
This course explores the subjective experience of social class in the U.S. from an ethnographic perspective. We will examine how members of the working and professional classes define themselves and view the classes above and below them. We will focus in particular on how class position influences beliefs about work, achievement, and taste. We will also consider the role of elite educational institutions such as Harvard in shaping the class system.

Expository Writing 20.141. Portraits of Madness
Catalog Number: 68425 Enrollment: Limited to 15.
Karen L. Heath
Half course (spring term). Tu., Th., at 12.
Writers and filmmakers have long been fascinated by the artistic challenge of representing madness. What can those portraits tell us about the relationship of illness and identity, the ease of losing touch with rationality, the nature of the mind, and our own relative sanity? We will study Susanna Kaysen's memoir *Girl, Interrupted;* Patrick McGrath's gothic novel *Spider* and its film adaptation; and the films *Donnie Darko, The Hours,* and *The Silence of the Lambs.*

Expository Writing 20.142. Jane Austen, Then and Now
Catalog Number: 16903 Enrollment: Limited to 15.
Tess O'Toole
Half course (fall term). M., W., at 11.
This course considers Austen in her own historical context and ours, and as an author whose importance lies both inside and outside the university. In our first unit, we'll undertake a close reading of *Persuasion* in order to assess Austen's analysis of British society at a transitional moment in its history; in unit 2 we'll consider how film and television adaptations have reinvented her best known novel, *Pride and Prejudice,* for a different historical moment, and in unit 3 students will engage with Austen scholarship by writing a research paper on an Austen novel or film adaption of their choice.

[Expository Writing 20.143. Jane Austen, Then and Now]
Catalog Number: 83532 Enrollment: Limited to 15.
Tess O'Toole
Half course (fall term). M., W., at 11.
This course considers Austen in her own historical context and ours, and as an author whose importance lies both inside and outside the university. In our first unit, we'll undertake a close reading of *Persuasion* in order to assess Austen's analysis of British society at a transitional moment in its history; in unit 2 we'll consider how film and television adaptations have reinvented her best known novel, *Pride and Prejudice,* for a different historical moment, and in unit 3 students will engage with Austen scholarship

by writing a research paper on an Austen novel or film adaption of their choice.
Note: Expected to be given in 2014–15.

Expository Writing 20.144. Jane Austen, Then and Now
Catalog Number: 98639 Enrollment: Limited to 15.
Tess O'Toole
Half course (spring term). M., W., at 11.
This course considers Austen in her own historical context and ours, and as an author whose importance lies both inside and outside the university. In our first unit, we'll undertake a close reading of *Persuasion* in order to assess Austen's analysis of British society at a transitional moment in its history; in unit 2 we'll consider how film and television adaptations have reinvented her best known novel, *Pride and Prejudice*, for a different historical moment, and in unit 3 students will engage with Austen scholarship by writing a research paper on an Austen novel or film adaption of their choice.

[Expository Writing 20.145. Jane Austen, Then and Now]
Catalog Number: 47117 Enrollment: Limited to 15.
Tess O'Toole
Half course (spring term). Hours to be arranged.
This course considers Austen in her own historical context and ours, and as an author whose importance lies both inside and outside the university. In our first unit, we'll undertake a close reading of *Persuasion* in order to assess Austen's analysis of British society at a transitional moment in its history; in unit 2 we'll consider how film and television adaptations have reinvented her best known novel, *Pride and Prejudice*, for a different historical moment, and in unit 3 students will engage with Austen scholarship by writing a research paper on an Austen novel or film adaption of their choice.
Note: Expected to be given in 2014–15.

[Expository Writing 20.154. Resistance]
Catalog Number: 19608 Enrollment: Limited to 15.
Kelsey W. McNiff
Half course (fall term). M., W., at 12.
What constitutes an act of resistance? What role do individual beliefs, collective action, art and literature have in protest movements? What can the study of dissent teach us about the past and about the world we live in today? This course will explore these questions through case studies drawn from contemporary politics and culture, the apartheid era in South Africa, and Harvard history.
Note: Expected to be given in 2014–15.

[Expository Writing 20.155. Resistance]
Catalog Number: 86237 Enrollment: Limited to 15.
Kelsey W. McNiff
Half course (fall term). M., W., at 1.
What constitutes an act of resistance? What role do individual beliefs, collective action, art and literature have in protest movements? What can the study of dissent teach us about the past and about the world we live in today? This course will explore these questions through case studies drawn from contemporary politics and culture, the apartheid era in South Africa, and Harvard history.
Note: Expected to be given in 2014–15.

Expository Writing 20.156. Resistance
Catalog Number: 34715 Enrollment: Limited to 15.
Kelsey W. McNiff
Half course (spring term). Tu., Th., at 10.

What constitutes an act of resistance? What role do individual beliefs, collective action, art and literature have in protest movements? What can the study of dissent teach us about the past and about the world we live in today? This course will explore these questions through case studies drawn from contemporary politics and culture, the apartheid era in South Africa, and Harvard history.

Expository Writing 20.157. Resistance
Catalog Number: 49822 Enrollment: Limited to 15.
Kelsey W. McNiff
Half course (spring term). Tu., Th., at 11.
What constitutes an act of resistance? What role do individual beliefs, collective action, art and literature have in protest movements? What can the study of dissent teach us about the past and about the world we live in today? This course will explore these questions through case studies drawn from contemporary politics and culture, the apartheid era in South Africa, and Harvard history.

Expository Writing 20.162. Gothic Fiction
Catalog Number: 26805 Enrollment: Limited to 15.
Patricia M. Bellanca
Half course (spring term). Tu., Th., at 1.
This course explores the meaning and function of Gothic literature, a genre characterized by secrecy, perversion, madness, and death. In our first unit, short stories-of various centuries and nations-will allow us to develop a working definition of Gothic. In unit two we'll interpret Jane Austen's Gothic spoof *Northanger Abbey* in the context of both popular fiction and eighteenth-century debates about reading. The third unit introduces research methods that focus on the works of Edgar Allan Poe.

Expository Writing 20.163. Cities and Globalization
Catalog Number: 65925 Enrollment: Limited to 15.
Elizabeth Greenspan
Half course (spring term). Tu., Th., at 1.
This course investigates how "the global city" brings to the fore the opportunities and challenges of contemporary globalization. How do economic and cultural forms link cities like New York, Paris, and Mumbai? How is urban protest a response to globalization? We will answer these questions by reading a variety of texts - including theoretical works by Saskia Sassen and Ulf Hannerz, and literary non-fiction by Suketu Mehta - and viewing artistic interpretations, including the film "La Haine."

Expository Writing 20.164. Tragedy and Everyday Life
Catalog Number: 14403 Enrollment: Limited to 15.
Jonah M. Johnson
Half course (spring term). M., W., at 12.
In this course we will examine tragedies both ancient and modern, focusing on problems such as self-knowledge, certainty, intra- and interpersonal conflict, and loneliness. We will explore tragedy both as a form and as a collection of themes, and we will compare the idiosyncratic ways in which terms such as "tragedy" and "tragic" have developed within academic as well as mainstream contexts. Readings and screenings will include works by Sophocles, Shakespeare, Bergman, and Hitchcock.

Expository Writing 20.165. Tragedy and Everyday Life
Catalog Number: 81032 Enrollment: Limited to 15.
Jonah M. Johnson
Half course (spring term). M., W., at 1.
In this course we will examine tragedies both ancient and modern, focusing on problems such as self-knowledge, certainty, intra- and interpersonal conflict, and loneliness. We will explore tragedy both as a

form and as a collection of themes, and we will compare the idiosyncratic ways in which terms such as "tragedy" and "tragic" have developed within academic as well as mainstream contexts. Readings and screenings will include works by Sophocles, Shakespeare, Bergman, and Hitchcock.

[Expository Writing 20.167. Social Worlds of Friendship]
Catalog Number: 38416 Enrollment: Limited to 15.
Dwight Fee
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
Most of us appreciate the importance of friendship, but do we really understand how friendships are formed and how they shape our lives? Do friendships hold a larger potential for social transformation? This course explores the meaning and significance of friendship, particularly in terms of personal identity, community building, and social change. We will explore classical ideas about friendship and delve into contemporary issues such as friendship and difference, changes in personal communities, and the challenge that friendship poses to traditional relational forms.
Note: Expected to be given in 2014–15.

[Expository Writing 20.168. Social Worlds of Friendship]
Catalog Number: 53523 Enrollment: Limited to 15.
Dwight Fee
Half course (spring term). Hours to be arranged.
Most of us appreciate the importance of friendship, but do we really understand how friendships are formed and how they shape our lives? Do friendships hold a larger potential for social transformation? This course explores the meaning and significance of friendship, particularly in terms of personal identity, community building, and social change. We will explore classical ideas about friendship and delve into contemporary issues such as friendship and difference, changes in personal communities, and the challenge that friendship poses to traditional relational forms.
Note: Expected to be given in 2014–15.

Expository Writing 20.169. Imagining Animals
Catalog Number: 17108 Enrollment: Limited to 15.
David Hahn
Half course (spring term). M., W., at 11.
What might the world look like to an animal? To what extent can we as humans even imagine such a perspective? First, we will develop a working understanding of the problem of imagining animals; in Unit II, we will test certain philosophical claims against scientific accounts. In Unit III, we will more directly confront the practical question of how to live with animals, evaluating arguments from ethics and interspecies theory. Readings include: Nagel's *What Is It Like to Be a Bat?*; Horowitz's *Inside of a Dog*; Grandin's *Animals in Translation*; and David Foster Wallace's *Consider the Lobster*.

Expository Writing 20.170. Imagining Animals
Catalog Number: 83737 Enrollment: Limited to 15.
David Hahn
Half course (spring term). M., W., at 12.
What might the world look like to an animal? To what extent can we as humans even imagine such a perspective? First, we will develop a working understanding of the problem of imagining animals; in Unit II, we will test certain philosophical claims against scientific accounts. In Unit III, we will more directly confront the practical question of how to live with animals, evaluating arguments from ethics and interspecies theory. Readings include: Nagel's *What Is It Like to Be a Bat?*; Horowitz's *Inside of a Dog*; Grandin's *Animals in Translation*; and David Foster Wallace's *Consider the Lobster*.

Expository Writing 20.173. On Risk and Reason
Catalog Number: 47322 Enrollment: Limited to 15.
Adrienne Tierney
Half course (spring term). Tu., Th., at 12.
Scientific findings about human health and behavior are often described in terms of risk. However, reasoning about risk turns out to be a complex task. In this course, we will explore why messages about risk, particularly those associated with risk to health and well-being, are challenging to understand. We will focus on what cognitive capacities are involved in thinking about and making decisions based on scientific information presented in terms of risk.

Expository Writing 20.174. Reading the Body
Catalog Number: 43826 Enrollment: Limited to 15.
Rebecca Summerhays
Half course (spring term). Tu., Th., at 12.
What does it mean-and what has it meant-to have a body? How does the way we think about our bodies depend upon the technologies we use to manage and measure them and the artistic forms we use to represent them? We will explore Harvard's collection of medical curiosities and instruments, analyze how Lamarck, Paley, Darwin, and Byatt theorize the human body, and explore contemporary representations of the body in many contexts, from films to athletics.

Expository Writing 20.175. Reading the Body
Catalog Number: 58933 Enrollment: Limited to 15.
Rebecca Summerhays
Half course (spring term). Tu., Th., at 1.
What does it mean-and what has it meant-to have a body? How does the way we think about our bodies depend upon the technologies we use to manage and measure them and the artistic forms we use to represent them? We will explore Harvard's collection of medical curiosities and instruments, analyze how Lamarck, Paley, Darwin, and Byatt theorize the human body, and explore contemporary representations of the body in many contexts, from films to athletics.

Expository Writing 20.176. Social Worlds of Friendship
Catalog Number: 42619 Enrollment: Limited to 15.
Dwight Fee
Half course (fall term). Tu., Th., at 11.
Most of us appreciate the importance of friendship, but do we really understand how friendships are formed and how they shape our lives? Do friendships hold a larger potential for social transformation? This course explores the meaning and significance of friendship, particularly in terms of personal identity, community building, and social change. We will explore classical ideas about friendship and delve into contemporary issues such as friendship and difference, changes in personal communities, and the challenge that friendship poses to traditional relational forms.

Expository Writing 20.177. Social Worlds of Friendship
Catalog Number: 73332 Enrollment: Limited to 15.
Dwight Fee
Half course (fall term). Tu., Th., at 12.
Most of us appreciate the importance of friendship, but do we really understand how friendships are formed and how they shape our lives? Do friendships hold a larger potential for social transformation? This course explores the meaning and significance of friendship, particularly in terms of personal identity, community building, and social change. We will explore classical ideas about friendship and delve into

contemporary issues such as friendship and difference, changes in personal communities, and the challenge that friendship poses to traditional relational forms.

Expository Writing 20.178. Imagining Animals
Catalog Number: 23463 Enrollment: Limited to 15.
David Hahn
Half course (fall term). M., W., at 11.
What might the world look like to an animal? To what extent can we as humans even imagine such a perspective? First, we will develop a working understanding of the problem of imagining animals; in Unit II, we will test certain philosophical claims against scientific accounts. In Unit III, we will more directly confront the practical question of how to live with animals, evaluating arguments from ethics and interspecies theory. Readings include: Nagel's *What Is It Like to Be a Bat?*; Horowitz's *Inside of a Dog*; Grandin's *Animals in Translation*; and David Foster Wallace's *Consider the Lobster*.

Expository Writing 20.179. Imagining Animals
Catalog Number: 16549 Enrollment: Limited to 15.
David Hahn
Half course (fall term). M., W., at 12.
What might the world look like to an animal? To what extent can we as humans even imagine such a perspective? First, we will develop a working understanding of the problem of imagining animals; in Unit II, we will test certain philosophical claims against scientific accounts. In Unit III, we will more directly confront the practical question of how to live with animals, evaluating arguments from ethics and interspecies theory. Readings include: Nagel's *What Is It Like to Be a Bat?*; Horowitz's *Inside of a Dog*; Grandin's *Animals in Translation*; and David Foster Wallace's *Consider the Lobster*.

Expository Writing 20.184. On Risk and Reason
Catalog Number: 86869 Enrollment: Limited to 15.
Adrienne Tierney
Half course (fall term). Tu., Th., at 12.
Scientific findings about human health and behavior are often described in terms of risk. However, reasoning about risk turns out to be a complex task. In this course, we will explore why messages about risk, particularly those associated with risk to health and well-being, are challenging to understand. We will focus on what cognitive capacities are involved in thinking about and making decisions based on scientific information presented in terms of risk.

Expository Writing 20.185. On Risk and Reason
Catalog Number: 82633 Enrollment: Limited to 15.
Adrienne Tierney
Half course (fall term). Tu., Th., at 1.
Scientific findings about human health and behavior are often described in terms of risk. However, reasoning about risk turns out to be a complex task. In this course, we will explore why messages about risk, particularly those associated with risk to health and well-being, are challenging to understand. We will focus on what cognitive capacities are involved in thinking about and making decisions based on scientific information presented in terms of risk.

Expository Writing 20.186. Indian Philosophy and the Search for the Self
Catalog Number: 15057 Enrollment: Limited to 15.
Michael S. Allen
Half course (fall term). M., W., at 10.
Who are you? What does it mean to have a self, and how do we even know we have one? This course

explores the views of thinkers who radically challenge our everyday notions of self: Buddhist philosophers who denied the very existence of the self, and Hindu philosophers who taught that most of us are ignorant of our true selves. We will read early scriptural classics, later philosophical literature, and works on yoga and meditation, concluding with a look at the transformation of these practices in contemporary American culture.

Expository Writing 20.187. Indian Philosophy and the Search for the Self
Catalog Number: 94674 Enrollment: Limited to 15.
Michael S. Allen
Half course (fall term). M., W., at 11.
Who are you? What does it mean to have a self, and how do we even know we have one? This course explores the views of thinkers who radically challenge our everyday notions of self: Buddhist philosophers who denied the very existence of the self, and Hindu philosophers who taught that most of us are ignorant of our true selves. We will read early scriptural classics, later philosophical literature, and works on yoga and meditation, concluding with a look at the transformation of these practices in contemporary American culture.

Expository Writing 20.188. Indian Philosophy and the Search for the Self
Catalog Number: 22383 Enrollment: Limited to 15.
Michael S. Allen
Half course (spring term). M., W., at 10.
Who are you? What does it mean to have a self, and how do we even know we have one? This course explores the views of thinkers who radically challenge our everyday notions of self: Buddhist philosophers who denied the very existence of the self, and Hindu philosophers who taught that most of us are ignorant of our true selves. We will read early scriptural classics, later philosophical literature, and works on yoga and meditation, concluding with a look at the transformation of these practices in contemporary American culture.

Expository Writing 20.189. Indian Philosophy and the Search for the Self
Catalog Number: 99002
Michael S. Allen
Half course (spring term). M., W., at 11.
Who are you? What does it mean to have a self, and how do we even know we have one? This course explores the views of thinkers who radically challenge our everyday notions of self: Buddhist philosophers who denied the very existence of the self, and Hindu philosophers who taught that most of us are ignorant of our true selves. We will read early scriptural classics, later philosophical literature, and works on yoga and meditation, concluding with a look at the transformation of these practices in contemporary American culture.

Expository Writing 20.190. The Rise of China
Catalog Number: 51015 Enrollment: Limited to 15.
Sara A. Newland
Half course (fall term). M., W., at 12.
If the 20th century was the "American Century," will the 21st be the "Chinese Century"? As the locus of global economic growth shifts to Asia, what cultural and political changes will accompany this transformation? Does China's rise represent a threat, a competing set of values, an opportunity, or some combination of the three? In this course, we will examine the causes and consequences of China's ascendance as a global power. Relying on sources ranging from oral histories to Wikileaks cables, we will analyze how China is changing and how people across the globe understand China's relevance to their own lives.

Expository Writing 20.191. The Rise of China
Catalog Number: 92256 Enrollment: Limited to 15.
Sara A. Newland
Half course (fall term). M., W., at 1.
If the 20th century was the "American Century," will the 21st be the "Chinese Century"? As the locus of global economic growth shifts to Asia, what cultural and political changes will accompany this transformation? Does China's rise represent a threat, a competing set of values, an opportunity, or some combination of the three? In this course, we will examine the causes and consequences of China's ascendance as a global power. Relying on sources ranging from oral histories to Wikileaks cables, we will analyze how China is changing and how people across the globe understand China's relevance to their own lives.

[Expository Writing 20.192. The Rise of China]
Catalog Number: 93478 Enrollment: Limited to 15.
Sara A. Newland
Half course (spring term). Hours to be arranged.
If the 20th century was the "American Century," will the 21st be the "Chinese Century"? As the locus of global economic growth shifts to Asia, what cultural and political changes will accompany this transformation? Does China's rise represent a threat, a competing set of values, an opportunity, or some combination of the three? In this course, we will examine the causes and consequences of China's ascendance as a global power. Relying on sources ranging from oral histories to Wikileaks cables, we will analyze how China is changing and how people across the globe understand China's relevance to their own lives.
Note: Expected to be given in 2014–15.

[Expository Writing 20.193. The Rise of China]
Catalog Number: 77031 Enrollment: Limited to 15.
Sara A. Newland
Half course (spring term). Hours to be arranged.
If the 20th century was the "American Century," will the 21st be the "Chinese Century"? As the locus of global economic growth shifts to Asia, what cultural and political changes will accompany this transformation? Does China's rise represent a threat, a competing set of values, an opportunity, or some combination of the three? In this course, we will examine the causes and consequences of China's ascendance as a global power. Relying on sources ranging from oral histories to Wikileaks cables, we will analyze how China is changing and how people across the globe understand China's relevance to their own lives.
Note: Expected to be given in 2014–15.

Expository Writing 20.194. Dangerous Speech
Catalog Number: 24282 Enrollment: Limited to 15.
Deirdre Alanna Mask
Half course (fall term). M., W., at 10.
"Congress shall make no law . . . abridging the freedom of speech." The First Amendment has, with this short statement, made America exceptional in its protection of free expression. Yet our commitment to the freedom of speech has real limits. In this course, we'll examine the extent to which the First Amendment protects "dangerous speech"-a category that includes incitements to violence, hate speech, and the communication of "subversive" ideas. Through analysis of Supreme Court decisions, First Amendment theorists and contextual materials, we'll probe the boundaries of, in Justice Holmes's words, "the freedom for the thought that we hate."

Expository Writing 20.195. Dangerous Speech
Catalog Number: 20143 Enrollment: Limited to 15.
Deirdre Alanna Mask
Half course (fall term). M., W., at 11.
"Congress shall make no law . . . abridging the freedom of speech." The First Amendment has, with this short statement, made America exceptional in its protection of free expression. Yet our commitment to the freedom of speech has real limits. In this course, we'll examine the extent to which the First Amendment protects "dangerous speech"-a category that includes incitements to violence, hate speech, and the communication of "subversive" ideas. Through analysis of Supreme Court decisions, First Amendment theorists and contextual materials, we'll probe the boundaries of, in Justice Holmes's words, "the freedom for the thought that we hate."

[Expository Writing 20.196. Dangerous Speech]
Catalog Number: 39724 Enrollment: Limited to 15.
Deirdre Alanna Mask
Half course (spring term). M., W., at 10.
"Congress shall make no law . . . abridging the freedom of speech." The First Amendment has, with this short statement, made America exceptional in its protection of free expression. Yet our commitment to the freedom of speech has real limits. In this course, we'll examine the extent to which the First Amendment protects "dangerous speech"-a category that includes incitements to violence, hate speech, and the communication of "subversive" ideas. Through analysis of Supreme Court decisions, First Amendment theorists and contextual materials, we'll probe the boundaries of, in Justice Holmes's words, "the freedom for the thought that we hate."
Note: Expected to be given in 2014–15.

[Expository Writing 20.197. Dangerous Speech]
Catalog Number: 70696 Enrollment: Limited to 15.
Deirdre Alanna Mask
Half course (spring term). M., W., at 11.
"Congress shall make no law . . . abridging the freedom of speech." The First Amendment has, with this short statement, made America exceptional in its protection of free expression. Yet our commitment to the freedom of speech has real limits. In this course, we'll examine the extent to which the First Amendment protects "dangerous speech"-a category that includes incitements to violence, hate speech, and the communication of "subversive" ideas. Through analysis of Supreme Court decisions, First Amendment theorists and contextual materials, we'll probe the boundaries of, in Justice Holmes's words, "the freedom for the thought that we hate."
Note: Expected to be given in 2014–15.

Expository Writing 20.202. Evolutionary Leaps
Catalog Number: 30397 Enrollment: Limited to 15.
Erin Leigh Blevins
Half course (fall term). Tu., Th., at 10.
Evolution occurs in infinitesimal steps, but in hindsight certain evolutionary "moments" stand out as great leaps. Fish ventured onto land. Birds took flight. An ape-like ancestor became...us. In this course, we'll investigate these three pivotal moments through hands-on encounters with fossils. You'll meet a 300-million-year-old fossil fish, and learn why Harvard scientists scoured the Arctic to find it. You'll hold one of the world's oldest feathers and discuss what it reveals about how flight began. And through independent research, you'll tackle a question discussed since Darwin's time: what makes us special? What would you claim is the human evolutionary leap?

Expository Writing 20.203. Evolutionary Leaps
Catalog Number: 62818 Enrollment: Limited to 15.
Erin Leigh Blevins
Half course (fall term). Tu., Th., at 11.
Evolution occurs in infinitesimal steps, but in hindsight certain evolutionary "moments" stand out as great leaps. Fish ventured onto land. Birds took flight. An ape-like ancestor became...us. In this course, we'll investigate these three pivotal moments through hands-on encounters with fossils. You'll meet a 300-million-year-old fossil fish, and learn why Harvard scientists scoured the Arctic to find it. You'll hold one of the world's oldest feathers and discuss what it reveals about how flight began. And through independent research, you'll tackle a question discussed since Darwin's time: what makes us special? What would you claim is the human evolutionary leap?

Expository Writing 20.204. Evolutionary Leaps
Catalog Number: 42426 Enrollment: Limited to 15.
Erin Leigh Blevins
Half course (spring term). Tu., Th., at 11.
Evolution occurs in infinitesimal steps, but in hindsight certain evolutionary "moments" stand out as great leaps. Fish ventured onto land. Birds took flight. An ape-like ancestor became...us. In this course, we'll investigate these three pivotal moments through hands-on encounters with fossils. You'll meet a 300-million-year-old fossil fish, and learn why Harvard scientists scoured the Arctic to find it. You'll hold one of the world's oldest feathers and discuss what it reveals about how flight began. And through independent research, you'll tackle a question discussed since Darwin's time: what makes us special? What would you claim is the human evolutionary leap?

Expository Writing 20.205. Evolutionary Leaps
Catalog Number: 87375 Enrollment: Limited to 15.
Erin Leigh Blevins
Half course (spring term). Tu., Th., at 12.
Evolution occurs in infinitesimal steps, but in hindsight certain evolutionary "moments" stand out as great leaps. Fish ventured onto land. Birds took flight. An ape-like ancestor became...us. In this course, we'll investigate these three pivotal moments through hands-on encounters with fossils. You'll meet a 300-million-year-old fossil fish, and learn why Harvard scientists scoured the Arctic to find it. You'll hold one of the world's oldest feathers and discuss what it reveals about how flight began. And through independent research, you'll tackle a question discussed since Darwin's time: what makes us special? What would you claim is the human evolutionary leap?

[Expository Writing 20.210. Tragedy and Everyday Life]
Catalog Number: 26509 Enrollment: Limited to 15.
Jonah M. Johnson
Half course (fall term). M., W., at 12.
In this course we will examine tragedies both ancient and modern, focusing on problems such as self-knowledge, certainty, intra- and interpersonal conflict, and loneliness. We will explore tragedy both as a form and as a collection of themes, and we will compare the idiosyncratic ways in which terms such as "tragedy" and "tragic" have developed within academic as well as mainstream contexts. Readings and screenings will include works by Sophocles, Shakespeare, Bergman, and Hitchcock.
Note: Expected to be given in 2014–15.

[Expository Writing 20.211. Tragedy and Everyday Life]
Catalog Number: 65696 Enrollment: Limited to 15.
Jonah M. Johnson

Half course (fall term). M., W., at 11.
In this course we will examine tragedies both ancient and modern, focusing on problems such as self-knowledge, certainty, intra- and interpersonal conflict, and loneliness. We will explore tragedy both as a form and as a collection of themes, and we will compare the idiosyncratic ways in which terms such as "tragedy" and "tragic" have developed within academic as well as mainstream contexts. Readings and screenings will include works by Sophocles, Shakespeare, Bergman, and Hitchcock.
Note: Expected to be given in 2014–15.

Expository Writing 20.216. On Risk and Reason
Catalog Number: 47496
Adrienne Leigh Tierney
Half course (spring term). Tu., Th., at 1.
Scientific findings about human health and behavior are often described in terms of risk. However, reasoning about risk turns out to be a complex task. In this course, we will explore why messages about risk, particularly those associated with risk to health and well-being, are challenging to understand. We will focus on what cognitive capacities are involved in thinking about and making decisions based on scientific information presented in terms of risk.

Expository Writing 20.217. Food - *(New Course)*
Catalog Number: 24695 Enrollment: Limited to 15.
Donna L. Mumme
Half course (fall term). M., W., at 10.
What should we eat? What do we eat? Why do we eat it? These questions and the psychology behind what we eat are the focus of this course. First, we will examine the debate between "sustainable" and "industrialized" farming as we consider what drives our food choices. Next we will use psychology research on eating, decision-making, and behavior change to evaluate the soundness of a recent food-related policy decision aimed at addressing obesity. Finally, we will take what we have learned about why we eat what we eat and research other influences to investigate our own food choices.

Expository Writing 20.218. Food - *(New Course)*
Catalog Number: 64615 Enrollment: Limited to 15.
Donna L. Mumme
Half course (fall term). M., W., at 11.
What should we eat? What do we eat? Why do we eat it? These questions and the psychology behind what we eat are the focus of this course. First, we will examine the debate between "sustainable" and "industrialized" farming as we consider what drives our food choices. Next we will use psychology research on eating, decision-making, and behavior change to evaluate the soundness of a recent food-related policy decision aimed at addressing obesity. Finally, we will take what we have learned about why we eat what we eat and research other influences to investigate our own food choices.

Expository Writing 20.219. Food
Catalog Number: 26584 Enrollment: Limited to 15.
Donna L. Mumme
Half course (spring term). M., W., at 10.
What should we eat? What do we eat? Why do we eat it? These questions and the psychology behind what we eat are the focus of this course. First, we will examine the debate between "sustainable" and "industrialized" farming as we consider what drives our food choices. Next we will use psychology research on eating, decision-making, and behavior change to evaluate the soundness of a recent food-related policy decision aimed at addressing obesity. Finally, we will take what we have learned about why we eat what we eat and research other influences to investigate our own food choices.

Expository Writing 20.220. Food
Catalog Number: 20779
Donna L. Mumme
Half course (spring term). M., W., at 11.
What should we eat? What do we eat? Why do we eat it? These questions and the psychology behind what we eat are the focus of this course. First, we will examine the debate between "sustainable" and "industrialized" farming as we consider what drives our food choices. Next we will use psychology research on eating, decision-making, and behavior change to evaluate the soundness of a recent food-related policy decision aimed at addressing obesity. Finally, we will take what we have learned about why we eat what we eat and research other influences to investigate our own food choices.

Expository Writing 20.221. Slave Narratives
Catalog Number: 61846 Enrollment: Limited to 15.
Peter Becker
Half course (spring term). M., W., at 10.
Written in the United States from the late eighteenth to the late nineteenth century, slave narratives represented the story from slavery to freedom, the escape from the South to the North, and the intellectual journey towards literacy and public speaking. This course examines some famous representatives of the genre and the complex questions it provoked as well as post-Civil Rights modifications of such narratives. We will focus on the *Narrative of the Life of Frederick Douglass* (1845), William and Ellen Craft's *Running a Thousand Miles for Freedom* (1860), Toni Morrison's *Beloved* (1987), and Quentin Tarantino's *Django Unchained* (2012).

Expository Writing 20.224. Sports and the Law
Catalog Number: 54029 Enrollment: Limited to 15.
Brian T. Fobi
Half course (spring term). Tu., Th., at 12.
The world of sports is one of the most dynamic and complete microcosms of American life. Since the advent of big-money professional and "amateur" athletics at the dawn of the 20th century, sports has had to confront a range of important issues revolving around fairness: race, gender, labor versus ownership, drugs, money, violence, and economic freedom. We will address these issues through court cases, articles, and documentary films. Using these sources, students will craft essays that present powerful arguments about the role and place of sports within American life.

Expository Writing 20.225. Sports and the Law
Catalog Number: 16753 Enrollment: Limited to 15.
Brian T. Fobi
Half course (spring term). Tu., Th., at 1.
The world of sports is one of the most dynamic and complete microcosms of American life. Since the advent of big-money professional and "amateur" athletics at the dawn of the 20th century, sports has had to confront a range of important issues revolving around fairness: race, gender, labor versus ownership, drugs, money, violence, and economic freedom. We will address these issues through court cases, articles, and documentary films. Using these sources, students will craft essays that present powerful arguments about the role and place of sports within American life.

Expository Writing 20.226. Who Owns the Past?
Catalog Number: 54641 Enrollment: Limited to 15.
Janling L. Fu
Half course (spring term). M., W., at 10.
What does it mean for archaeologists to discover and curate the past? We will consider the rights and

problems around the passage of legislation arguing for the return of objects to Native American tribes in the United States. We will grapple with the very mission of archaeology as we study tombstones in Harvard's own backyard, investigating the challenges faced by archaeologists as they collect and interpret often apparently scant, fragile, and historically distant data. We will probe how political regimes use archaeology to legitimate versions of the past, examining cases in Israel and Palestine, Nazi Germany, and Saddam Hussein's regime.

Expository Writing 20.228. Is Poetry Necessary? - *(New Course)*
Catalog Number: 62754 Enrollment: Limited to 15.
David C. Barber
Half course (fall term). Tu., Th., at 1.
Poetry has traditionally exemplified the greatest height of artistic expression, but it is also the art with the longest history of having its authority and integrity called into question. This course examines emblematic works in prose and verse that grapple with perennial disputes over the significance of poetry. We'll consider both modern and classical conceptions of poetry's purpose and value as we question why so many poets have found it necessary to defend and justify their art.

Expository Writing 20.229. Slave Narratives - *(New Course)*
Catalog Number: 44768 Enrollment: Limited to 15.
Peter Becker
Half course (fall term). M., W., at 10.
Written in the United States from the late eighteenth to the late nineteenth century, slave narratives represented the story from slavery to freedom, the escape from the South to the North, and the intellectual journey towards literacy and public speaking. This course examines some famous representatives of the genre and the complex questions it provoked as well as post-Civil Rights modifications of such narratives. We will focus on the *Narrative of the Life of Frederick Douglass* (1845), William and Ellen Craft's *Running a Thousand Miles for Freedom* (1860), Toni Morrison's *Beloved* (1987), and Quentin Tarantino's *Django Unchained* (2012).

Expository Writing 20.230. Slave Narratives - *(New Course)*
Catalog Number: 22728 Enrollment: Limited to 15.
Peter Becker
Half course (fall term). M., W., at 11.
Written in the United States from the late eighteenth to the late nineteenth century, slave narratives represented the story from slavery to freedom, the escape from the South to the North, and the intellectual journey towards literacy and public speaking. This course examines some famous representatives of the genre and the complex questions it provoked as well as post-Civil Rights modifications of such narratives. We will focus on the *Narrative of the Life of Frederick Douglass* (1845), William and Ellen Craft's *Running a Thousand Miles for Freedom* (1860), Toni Morrison's *Beloved* (1987), and Quentin Tarantino's *Django Unchained* (2012).

Expository Writing 20.231. Sports and the Law - *(New Course)*
Catalog Number: 78227 Enrollment: Limited to 15.
Brian T. Fobi
Half course (fall term). Tu., Th., at 12.
The world of sports is one of the most dynamic and complete microcosms of American life. Since the advent of big-money professional and "amateur" athletics at the dawn of the 20th century, sports has had to confront a range of important issues revolving around fairness: race, gender, labor versus ownership, drugs, money, violence, and economic freedom. We will address these issues through court cases, articles,

and documentary films. Using these sources, students will craft essays that present powerful arguments about the role and place of sports within American life.

Expository Writing 20.232. Sports and the Law - *(New Course)*
Catalog Number: 98883 Enrollment: Limited to 15.
Brian T. Fobi
Half course (fall term). Tu., Th., at 1.
The world of sports is one of the most dynamic and complete microcosms of American life. Since the advent of big-money professional and "amateur" athletics at the dawn of the 20th century, sports has had to confront a range of important issues revolving around fairness: race, gender, labor versus ownership, drugs, money, violence, and economic freedom. We will address these issues through court cases, articles, and documentary films. Using these sources, students will craft essays that present powerful arguments about the role and place of sports within American life.

Expository Writing 20.233. Who Owns the Past? - *(New Course)*
Catalog Number: 64885 Enrollment: Limited to 15.
Janling L. Fu
Half course (fall term). M., W., at 10.
What does it mean for archaeologists to discover and curate the past? We will consider the rights and problems around the passage of legislation arguing for the return of objects to Native American tribes in the United States. We will grapple with the very mission of archaeology as we study tombstones in Harvard's own backyard, investigating the challenges faced by archaeologists as they collect and interpret often apparently scant, fragile, and historically distant data. We will probe how political regimes use archaeology to legitimate versions of the past, examining cases in Israel and Palestine, Nazi Germany, and Saddam Hussein's regime.

Expository Writing 20.234. Who Owns the Past? - *(New Course)*
Catalog Number: 62896 Enrollment: Limited to 15.
Janling L. Fu
Half course (fall term). M., W., at 2.
What does it mean for archaeologists to discover and curate the past? We will consider the rights and problems around the passage of legislation arguing for the return of objects to Native American tribes in the United States. We will grapple with the very mission of archaeology as we study tombstones in Harvard's own backyard, investigating the challenges faced by archaeologists as they collect and interpret often apparently scant, fragile, and historically distant data. We will probe how political regimes use archaeology to legitimate versions of the past, examining cases in Israel and Palestine, Nazi Germany, and Saddam Hussein's regime.

Expository Writing 20.235. Slave Narratives - *(New Course)*
Catalog Number: 67053 Enrollment: Limited to 15.
Peter Becker
Half course (spring term). M., W., at 11.
Written in the United States from the late eighteenth to the late nineteenth century, slave narratives represented the story from slavery to freedom, the escape from the South to the North, and the intellectual journey towards literacy and public speaking. This course examines some famous representatives of the genre and the complex questions it provoked as well as post-Civil Rights modifications of such narratives. We will focus on the Narrative of the *Life of Frederick Douglass* (1845), William and Ellen Craft's *Running a Thousand Miles for Freedom* (1860), Toni Morrison's *Beloved* (1987), and Quentin Tarantino's *Django Unchained* (2012).

Expository Writing 20.236. Who Owns the Past? - *(New Course)*
Catalog Number: 24829 Enrollment: Limited to 15.
Janling L. Fu
Half course (spring term). M., W., at 2.
What does it mean for archaeologists to discover and curate the past? We will consider the rights and problems around the passage of legislation arguing for the return of objects to Native American tribes in the United States. We will grapple with the very mission of archaeology as we study tombstones in Harvard's own backyard, investigating the challenges faced by archaeologists as they collect and interpret often apparently scant, fragile, and historically distant data. We will probe how political regimes use archaeology to legitimate versions of the past, examining cases in Israel and Palestine, Nazi Germany, and Saddam Hussein's regime.

Expository Writing 20.237. Woolf and Hemingway - *(New Course)*
Catalog Number: 41035 Enrollment: Limited to 15.
Christina Dzin Kim
Half course (fall term). Tu., Th., at 10.
Ernest Hemingway and Virginia Woolf-few authors have been as celebrated and as influential as these two great literary stylists. Yet it is hard to imagine two authors who differ more in their literary outlook and style. In this course, we will read Woolf and Hemingway side by side. We will investigate how their gendered views on life and art create iconic texts of the twentieth century. Primary sources will include short stories by Hemingway, critical essays and short fiction by Woolf, Hemingway's novel *A Farewell to Arms*, and Woolf's novel *Mrs. Dalloway*.

Expository Writing 20.238. Woolf and Hemingway - *(New Course)*
Catalog Number: 38892 Enrollment: Limited to 15.
Christina Dzin Kim
Half course (fall term). Tu., Th., at 11.
Ernest Hemingway and Virginia Woolf-few authors have been as celebrated and as influential as these two great literary stylists. Yet it is hard to imagine two authors who differ more in their literary outlook and style. In this course, we will read Woolf and Hemingway side by side. We will investigate how their gendered views on life and art create iconic texts of the twentieth century. Primary sources will include short stories by Hemingway, critical essays and short fiction by Woolf, Hemingway's novel *A Farewell to Arms*, and Woolf's novel *Mrs. Dalloway*.

Expository Writing 20.239. Woolf and Hemingway - *(New Course)*
Catalog Number: 91768 Enrollment: Limited to 15.
Christina Dzin Kim
Half course (spring term). Tu., Th., at 10.
Ernest Hemingway and Virginia Woolf-few authors have been as celebrated and as influential as these two great literary stylists. Yet it is hard to imagine two authors who differ more in their literary outlook and style. In this course, we will read Woolf and Hemingway side by side. We will investigate how their gendered views on life and art create iconic texts of the twentieth century. Primary sources will include short stories by Hemingway, critical essays and short fiction by Woolf, Hemingway's novel *A Farewell to Arms*, and Woolf's novel *Mrs. Dalloway*.

Expository Writing 20.240. Woolf and Hemingway - *(New Course)*
Catalog Number: 92364 Enrollment: Limited to 15.
Christina Dzin Kim
Half course (spring term). Tu., Th., at 11.
Ernest Hemingway and Virginia Woolf-few authors have been as celebrated and as influential as these

two great literary stylists. Yet it is hard to imagine two authors who differ more in their literary outlook and style. In this course, we will read Woolf and Hemingway side by side. We will investigate how their gendered views on life and art create iconic texts of the twentieth century. Primary sources will include short stories by Hemingway, critical essays and short fiction by Woolf, Hemingway's novel *A Farewell to Arms*, and Woolf's novel *Mrs. Dalloway*.

Expository Writing 20.241. Paradox in Public Health - *(New Course)*
Catalog Number: 20808 Enrollment: Limited to 15.
Jerusha T. Achterberg
Half course (fall term). M., W., at 10.
What are the goals of public health interventions? What should they be? If public health as practiced today is often concerned with empowering individuals to make their own health choices, then what happens when the health interests of the population conflict with the interests and rights of the individual? In this class, we will use scientific articles and other academic sources to consider potential paradoxes of public health, both historical and contemporary.

Expository Writing 20.242. Paradox in Public Health - *(New Course)*
Catalog Number: 83462 Enrollment: Limited to 15.
Jerusha T. Achterberg
Half course (fall term). M., W., at 11.
What are the goals of public health interventions? What should they be? If public health as practiced today is often concerned with empowering individuals to make their own health choices, then what happens when the health interests of the population conflict with the interests and rights of the individual? In this class, we will use scientific articles and other academic sources to consider potential paradoxes of public health, both historical and contemporary.

Expository Writing 20.243. Paradox in Public Health - *(New Course)*
Catalog Number: 37993 Enrollment: Limited to 15.
Jerusha T. Achterberg
Half course (spring term). M., W., at 10.
What are the goals of public health interventions? What should they be? If public health as practiced today is often concerned with empowering individuals to make their own health choices, then what happens when the health interests of the population conflict with the interests and rights of the individual? In this class, we will use scientific articles and other academic sources to consider potential paradoxes of public health, both historical and contemporary.

Expository Writing 20.244. Paradox in Public Health - *(New Course)*
Catalog Number: 89896 Enrollment: Limited to 15.
Jerusha T. Achterberg
Half course (spring term). M., W., at 11.
What are the goals of public health interventions? What should they be? If public health as practiced today is often concerned with empowering individuals to make their own health choices, then what happens when the health interests of the population conflict with the interests and rights of the individual? In this class, we will use scientific articles and other academic sources to consider potential paradoxes of public health, both historical and contemporary.

Expository Writing 20.245. Democracy in the Digital Age - *(New Course)*
Catalog Number: 31391 Enrollment: Limited to 15.
Yascha Benjamin Mounk
Half course (spring term). Tu., Th., at 11.

Information technology has transformed politics with breathtaking speed. But have these changes been as important, and as positive, as is widely claimed? In this course, we assess technology's alleged role in destabilizing autocratic regimes, look at technology's impact on American politics, and assess whether we should reform our political institutions to make greater use of new technologies. We consult studies by social scientists, read the Twitter feed of the Syrian opposition, watch a documentary about the protestors in Tahrir Square, analyze the rise of the Tea Party and Occupy Wall Street, study a short story by Isaac Asimov, and debate "The Dictator's Practical Internet Guide to Power Retention."

Expository Writing 20.246. Democracy in the Digital Age - ***(New Course)***
Catalog Number: 92306 Enrollment: Limited to 15.
Yascha Benjamin Mounk
Half course (spring term). Tu., Th., at 12.
Information technology has transformed politics with breathtaking speed. But have these changes been as important, and as positive, as is widely claimed? In this course, we assess technology's alleged role in destabilizing autocratic regimes, look at technology's impact on American politics, and assess whether we should reform our political institutions to make greater use of new technologies. We consult studies by social scientists, read the Twitter feed of the Syrian opposition, watch a documentary about the protestors in Tahrir Square, analyze the rise of the Tea Party and Occupy Wall Street, study a short story by Isaac Asimov, and debate "The Dictator's Practical Internet Guide to Power Retention."

Expository Writing 20.247. American Criminals - ***(New Course)***
Catalog Number: 34777 Enrollment: Limited to 15.
Lindsay Joanna Mitchell
Half course (spring term). Tu., Th., at 2.

Expository Writing 20.248. American Family Fictions - ***(New Course)***
Catalog Number: 71174 Enrollment: Limited to 15.
Patricia Stuelke
Half course (spring term). Tu., Th., at 10.

Expository Writing 20.249. American Criminals** - ***(New Course)
Catalog Number: 36066 Enrollment: Limited to 15.
Lindsay Joanna Mitchell
Half course (spring term). Tu., Th., at 1.

Expository Writing 20.250. Wizards and Wild Things** - ***(New Course)
Catalog Number: 28327 Enrollment: Limited to 15.
David C. Barber
Half course (spring term). Tu., Th., at 1.
This course will consider the origin and evolution of children's literature by examining pivotal works from the Puritan era to the present. We'll also draw on critical perspectives as we consider evolving ideas of childhood, persistent disputes about what children should read, and the essential function of imaginative literature for children. In the final unit, students will conduct research to place a major children's author of their choice in a relevant cultural and historical context.

***Expository Writing 40. Public Speaking Practicum**
Catalog Number: 9155 Enrollment: Limited to 30.
Margie Zohn

Half course (fall term; repeated spring term). M., W., 3–5.
This course develops and strengthens the skills necessary for successful public speaking. Students learn strategies for impromptu speaking, preparing and delivering presentations, formulating and organizing persuasive arguments, cultivating critical thinking, engaging with an audience, using the voice and body, and building confidence in oral expression. Besides refining their skills, students receive training as public speaking tutors in preparation for serving as peer tutors for the Derek Bok Center's Program in Speaking and Learning.
Note: See the Writing Program for admission information. Required Introductory Meeting, Monday, January 27, 2014, 3 pm - 5 pm. See course iSite for further details.

Film and Visual Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Standing Committee on Higher Degrees in Film and Visual Studies

Eric Rentschler, Arthur Kingsley Porter Professor of Germanic Languages and Literatures *(Chair)*
Giuliana Bruno, Professor of Visual and Environmental Studies
Tom Conley, Abbott Lawrence Lowell Professor of Romance Languages and Literatures and of Visual and Environmental Studies
Laura A. Frahm, Assistant Professor of Visual and Environmental Studies
Carrie Lambert-Beatty, Professor of History of Art and Architecture and of Visual and Environmental Studies
Jie Li, Assistant Professor of East Asian Languages and Civilizations
Jeffrey Schnapp, Professor of Romance Languages and Literatures
Amie Siegel, Associate Professor of Visual and Environmental Studies *(spring term) (on leave fall term)*
Justin Weir, Professor of Slavic Languages and Literatures and of Comparative Literature
Alexander Nikolas Zahlten, Assistant Professor of East Asian Languages and Civilizations

Related Courses of Interest for Film and Visual Studies Graduate Program

Anthropology 1832ar (formerly Anthropology 1836aar). Sensory Ethnography I: Studio Course - *(New Course)
Anthropology 1832br (formerly Anthropology 1836br). Sensory Ethnography II: Studio Course - *(New Course)
Anthropology 1923. Japan's 2011 Disasters and Their Aftermath: A workshop on digital research - *(New Course)
Chinese Literature 280. Shanghai and Beijing: A Tale of Two Cities: Seminar - *(New Course)*
East Asian Film and Media Studies 110. Film and Popular Culture Flows Across East Asia
East Asian Film and Media Studies 115. Sound and Image: The Politics and Practices of Experimental Arts in Japan after 1945 - *(New Course)*
East Asian Film and Media Studies 150. Chinese Cinema - *(New Course)*

East Asian Film and Media Studies 204. Three Times + 1. Transitional Moments in Film and Media Culture in Japan: Seminar - *(New Course)*
East Asian Film and Media Studies 205. Sexuality, Gender, and Media Culture in Japan - *(New Course)*
East Asian Film and Media Studies 220. Topics in Chinese Film and Media Studies: Seminar - *(New Course)*
History of Art and Architecture 175k. American and European Art, 1945–1975
History of Art and Architecture 276g. Deception - *(New Course)*
[*History of Art and Architecture 277s. Circa 1970]
History of Science 121. The Einstein Revolution - *(New Course)*
Literature 173. Politics of Aesthetics: Worlds, Objects, Matter, Sensation
Music 218rs. 20th-Century Music: Seminar
*Visual and Environmental Studies 161n. Cinema and Desire--Studio Course - *(New Course)*
*Visual and Environmental Studies 171. Making Documentary Fictions: Seminar Course - *(New Course)*
Visual and Environmental Studies 173. Visual Music - *(New Course)*
*Visual and Environmental Studies 175. Truth 24 a Second: History & Theory of Non-Fiction Film - *(New Course)*
Visual and Environmental Studies 181. Film Theory, Visual Thinking
Visual and Environmental Studies 184. Imagining the City: Literature, Film, and the Arts
Visual and Environmental Studies 193. Fortunes of a Genre: The Western - *(New Course)*
[*Visual and Environmental Studies 199. The Film Archive: History, Theory, Practice] - ***(New Course)***
*Visual and Environmental Studies 209r. Curation, Conservation and Programming - *(New Course)*
*Visual and Environmental Studies 241. New Media Theory - *(New Course)*
*Visual and Environmental Studies 250. The Live Film: Graduate Production Course - *(New Course)*
*Visual and Environmental Studies 270. Proseminar in Film and Visual Studies: History
*Visual and Environmental Studies 271. Proseminar in Film and Visual Studies: Theory
*Visual and Environmental Studies 283. Screens: Media Archaeology and Visual Arts Seminar
***Visual and Environmental Studies 301. Film and Visual Studies Workshop**
***Visual and Environmental Studies 310. Reading and Research**
***Visual and Environmental Studies 320. Directed Study**
***Visual and Environmental Studies 351hf. Critical Media Practice: Non Fiction Filmmaking Workshop**

Folklore and Mythology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Members of the Standing Committee on Degrees in Folklore and Mythology

Maria Tatar, John L. Loeb Professor of Germanic Languages and Literatures and of Folklore and Mythology *(Chair)*
David F. Elmer, Associate Professor of the Classics
Deborah D. Foster, Senior Lecturer on Folklore and Mythology *(Head Tutor)*
John T. Hamilton, Professor of Comparative Literature and of Germanic Languages and Literatures
Michael Herzfeld, Ernest E. Monrad Professor of the Social Sciences *(on leave fall term)*
Catherine McKenna, Margaret Brooks Robinson Professor of Celtic Languages and Literatures *(Director of Undergraduate Studies)*
Stephen A. Mitchell, Professor of Scandinavian and Folklore
Gregory Nagy, Francis Jones Professor of Classical Greek Literature and Professor of Comparative Literature
Kimberley C. Patton, Professor of the Comparative and Historical Study of Religion *(Divinity School)*
Michael J. Puett, Walter C. Klein Professor of Chinese History
Panagiotis Roilos, George Seferis Professor of Modern Greek Studies and of Comparative Literature
James R. Russell, Mashtots Professor of Armenian Studies
Jan Ziolkowski, Arthur Kingsley Porter Professor of Medieval Latin

Other Faculty Offering Instruction in Folklore and Mythology

Felicity A. Lufkin, Lecturer on Folklore and Mythology

Tutorials in Folklore and Mythology

Primarily for Undergraduates

Please note that Culture and Belief 16 (formerly Folklore and Mythology 100). Performance, Tradition and Cultural Studies: An Introduction to Folklore and Mythology is required for the concentration.

Culture and Belief 16. Performance, Tradition and Cultural Studies: An Introduction to Folklore and Mythology
Catalog Number: 6753
Stephen A. Mitchell (Germanic Languages and Literatures; Folklore and Mythology)
Half course (fall term). Tu., Th., at 10, and a weekly section to be arranged. EXAM GROUP: 12
Examines major forms of folklore (e.g., myths, legends, epics, beliefs, rituals, festivals) and the theoretical approaches used in their study. Analyzes how folklore shapes national, regional, and ethnic identities, as well as daily life; considers the function of folklore within the groups that perform and use it, employing materials drawn from a wide range of areas (e.g., South Slavic oral epics, American occupational lore, Northern European ballads, witchcraft in Africa and America, Cajun Mardi Gras).
Note: Required of Concentrators and for the Secondary Field in Folklore and Mythology. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.

***Folklore and Mythology 90h. Hero and Trickster**
Catalog Number: 18681 Enrollment: Limited to 12. For undergraduates only.
Deborah D. Foster
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Human imagination has conjured two enduring mythic characters that create habitable worlds for people in stories from cultures all over the world. Sometimes branded Hero, sometimes Trickster, these two share

traits and antics, yet they seem to endorse fundamentally different values. This seminar examines both hero and trickster in several cultural contexts, comparing them with each other and with their correlates worldwide, primarily in oral traditions, but also where each has migrated to other media.

Folklore and Mythology 90s. African-American Folktales - *(New Course)
Catalog Number: 10506 Enrollment: Limited to 12.
Maria Tatar
Half course (spring term). Th., 12–2.
We will begin with tales from African cultures, investigating them as repositories of local knowledge, then turn to African-American tales, with stories ranging from tales about animals and tricksters to tales about origins, about magic and transformation, and about survival.

***Folklore and Mythology 91r. Supervised Reading and Research**
Catalog Number: 2425
Deborah D. Foster and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Instruction and direction of reading on material not treated in regular courses of instruction; special work on topics in folklore, mythology, and oral literature. Normally available only to concentrators in Folklore and Mythology.
Note: Applicants must consult the Chairman or the Head Tutor of the Committee. The signature of the Chairman or the Head Tutor is required.

***Folklore and Mythology 96r. Senior Projects**
Catalog Number: 70593
Deborah D. Foster and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Designed for seniors completing their (non-thesis) senior project to meet the requirement for the concentration's senior project option. Students must secure the written approval for the project from the faculty member with whom they wish to work as well as the signature of the Head Tutor. May be repeated with the permission of the Head Tutor.

***Folklore and Mythology 97. Fieldwork and Ethnography in Folklore**
Catalog Number: 3789 Enrollment: Limited to 12.
Deborah D. Foster
Half course (spring term). Th., 4–6. EXAM GROUP: 18
Introduces concentrators to the study of traditions - their performance, collection, representation and interpretation. Both ethnographic and theoretical readings serve as the material for class discussion and the foundation for experimental fieldwork projects.
Note: Required of all, and limited to, concentrators.

***Folklore and Mythology 98a. History and Theory of Folklore and Mythology**
Catalog Number: 5039
Maria Tatar
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
The development of folklore and mythology as fields of study, with particular attention to the methodological approaches suited to their areas of enquiry. Attends to the study of folklore and mythology in the 19th and early 20th centuries, but focuses especially on theoretical contributions to the study of folklore, mythology, and oral literature in recent decades. Stories will be paired with methodologies.
Note: Required of all, and limited to, concentrators.

***Folklore and Mythology 98b. Tutorial — Junior Year**
Catalog Number: 3685
Deborah D. Foster and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Required of all concentrators. The signature of the Head Tutor or Chairman of the Committee on Degrees in Folklore and Mythology required. Normally taken in the second term of the junior year.

***Folklore and Mythology 99. Tutorial — Senior Year**
Catalog Number: 3886
Deborah D. Foster and members of the Committee
Full course. Hours to be arranged.
Note: Required of all thesis writers. The signature of the Head Tutor or Chairman of the Committee on Degrees in Folklore and Mythology required. Graded Sat/Unsat.

Folklore and Mythology Courses

Please consult our cross-listings for other courses that may be counted for Folklore & Mythology concentration credit. Interested freshmen in particular should be aware of Freshman Seminar 32s. The Twilight of the Gods: Ragnarök and the Apocalyptic Tradition, and Freshman Seminar 32v. The Art of Storytelling. Upperclassmen should be aware of Literature 162. Theory and Methods in Comparative Oral Traditions: Seminar; Religion 17. Myth in History: An Introduction to Religion and to the Study of Religion; Religion 18. Realms of Power: Animals in Religion I; Indian Studies 219. Introduction to World Mythology; and others taught by Folklore & Mythology committee members.

For Undergraduates and Graduates

Folklore and Mythology 106. History of Witchcraft and Charm Magic
Catalog Number: 8749
Stephen A. Mitchell
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
This course examines witchcraft (and the "magical world view") from cross-cultural, historical, and literary perspectives. Although witches and witchcraft are considered in their non-Western settings, the course focuses on the melding of Christian and pagan views of witchcraft and magic in the European Middle Ages, and the evolving construction of witchcraft ideologies through the witch crazes of the sixteenth and seventeenth centuries to the rise of modern paganism.

[*Folklore and Mythology 114. Embodied Expression/Expressive Body: Dance in Cultural Context]
Catalog Number: 7982 Enrollment: Limited to 16.
Deborah D. Foster
Half course (fall term). Th., 1–3:30. EXAM GROUP: 15, 16, 17
An examination of the ways in which the dancing body internalizes and communicates cultural knowledge to both dancer and observer. By participating in dance workshops, watching dance performances (live and on film), and reading ethnographic and theoretical texts, we attempt to understand the emergent meaning of dance performances from multiple perspectives.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief and the Core area requirement for Literature and Arts B.

***Folklore and Mythology 128 (formerly *Folklore and Mythology 90i). Fairy Tale, Myth, and Fantasy Literature**
Catalog Number: 4852 Enrollment: Limited to 30.

Maria Tatar
Half course (fall term). W. 2-4, and a weekly section to be arranged. EXAM GROUP: 7, 8
Traces the migration of traditional tales from communal storytelling circles into the literary culture of childhood and into new media. How are powerful cultural myths about innocence and seduction, monstrosity and compassion, or hospitality and hostility recycled in fairy-tale fashion? How do fantasy worlds - both utopian and dystopic - provide children with portals for exploring counterfactuals and worst-case scenarios? Authors include the Brothers Grimm, Andersen, Lewis Carroll, J.M. Barrie, and J.K. Rowling.
Note: This course, when taken for a letter grade, meets the General Education requirement for either Aesthetic and Interpretive Understanding or Culture and Belief, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

Folklore and Mythology 164. Maledicta: Ritualized Verbal Abuse - *(New Course)
Catalog Number: 75065 Enrollment: Limited to 12.
Stephen A. Mitchell
Half course (spring term). F., 10–1. EXAM GROUP: 3, 4, 5
Investigates international traditions of vituperation and cursing in their folkloristic, historical and sociological settings, focusing on competitive exchanges of invectives and other abusive language duels as social drama. Performance practices to be studied include Turkish verbal duels, Old Norse *senna*, Scottish *flyting*, Anlo-Ewe *halo*, and African-American 'dozens'.

Folklore and Mythology 170. Folk Art in the Modern World
Catalog Number: 1278
Felicity A. Lufkin
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Folk art is a world-wide phenomenon, with a lasting importance to modern culture and to national identities. But what are the commonalities and variations in how folk art is defined, what types are prized, and how is it studied, perpetuated, and preserved?

[Folklore and Mythology 171. Chinese New Year Pictures: Folk Art and Visual Culture]
Catalog Number: 0485
Felicity A. Lufkin
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
The colorful woodcut prints now commonly known as New Year pictures or *nianhua* are one of China's best known folk arts, thriving into the 20th c. We will look at how these prints were made and distributed, the roles they played in everyday life, and what they can tell us about the interactions of high and low, rural and urban, and tradition and modernity within Chinese culture and art.
Note: Expected to be given in 2014–15.

***Folklore and Mythology 172. Quilts and Quiltmaking**
Catalog Number: 33788 Enrollment: Limited to 18.
Felicity A. Lufkin
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Are quilts the great American (folk) art? From intricately stitched whole-cloth quilts, to the improvisational patchworks of Gee's Bend; from the graphic simplicity of Amish quilts to the cozy pastels of depression-era quilts; from the Aids Quilt to art quilts; quilts have taken on extraordinary significance in American culture. This class surveys the evolution of quilt-making as a social practice,

considering the role of quilts in articulations of gender, ethnic, class and religious identities, and their positions within discourses of domesticity, technology, consumerism, and cultural hierarchy.

[Folklore and Mythology 174. Chinese Folk Arts]
Catalog Number: 81667
Felicity A. Lufkin
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
This course will introduce several types of Chinese (visual) folk art. We will consider them comparatively, and pay special attention to the position of folk art in contemporary Chinese society.
Note: Expected to be given in 2014–15.

***Folklore and Mythology 191r. Supervised Reading and Research**
Catalog Number: 3255
Deborah D. Foster and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Advanced reading in topics not covered in regular courses.

Cross-listed Courses

Aesthetic and Interpretive Understanding 33. Ancient Fictions: The Ancient Novel in Context
Aesthetic and Interpretive Understanding 36. Buddhism and Japanese Culture
Aesthetic and Interpretive Understanding 39. Reinventing Literary China: Old Tales Retold in Modern Times
[African and African American Studies 142. Hiphop and Don't Stop: The Word]
[African and African American Studies 162. Indigenous Religious Traditions and Modernity: Seminar]
African and African American Studies 182. From R & B to Neo Soul: Black Popular Music and Cultural Transformation
African and African American Studies 187. African Religions
[Akkadian 141r. Akkadian Myths and Epics]
[Ancient Near East 102. Introduction to Mesopotamian Religion]
[Anthropology 1158. Maya Narratives: Gods, Lords, and Courts]
Anthropology 1640. Language and Culture
Anthropology 1995 (formerly Social Analysis 70). Food, Culture, and Society
[Anthropology 1996. Angels, Ghosts, and Hustlers: Bangkok Live]
[Anthropology 2062. Religions of Latin America]
[Armenian 120. Armenian Magical Texts]
[Armenian Studies 100. Armenian Epic]
Celtic 101. The Hero of Irish Myth and Saga
Celtic 103. Celts: People or Myth?
[Celtic 106. The Folklore of Gaelic Scotland]
[Celtic 109. The Finn Cycle]
[Celtic 114. Early Irish Historical Tales]
[Celtic 137. Celtic Mythology]
Celtic 138. Mabinogion: Narrative Traditions of Medieval Wales
Celtic 184. The *Táin*
[Celtic 194. Celtic Bards and Their Poems]
[Comparative Literature 275. Theory of Narrative: Conference Course]
[Comparative Literature 288. The Ancients and the Moderns: Modern Critical Theory and the Classics]

[Culture and Belief 11. Medicine and the Body in East Asia and in Europe]
Culture and Belief 21. Pathways through the Andes–Culture, History, and Beliefs in Andean South America
Culture and Belief 22. Concepts of the Hero in Classical Greek Civilization
[Culture and Belief 26 (formerly Foreign Cultures 81). The Culture of Everyday Life in China]
Culture and Belief 28. Hindu Worlds of Art and Culture
Culture and Belief 32. Back Roads to Far Places: Literature of Journey and Quest
Culture and Belief 35. Classical Mythology
[Culture and Belief 38 (formerly Literature and Arts C-28). Apocalypse Then! Forging the Culture of Medieval Rus']
[Culture and Belief 40 (formerly Foreign Cultures 67). Popular Culture and Modern China]
***English 42. Arrivals**
English 103d. Old English: Beowulf and Seamus Heaney
Freshman Seminar 31k. Dreams and Literature from Antiquity to Modernity - *(New Course)
***Freshman Seminar 32v. The Art of Storytelling**
***Freshman Seminar 32w. African Musical Traditions**
***Freshman Seminar 36p. To Far Places: Literature of Journey and Quest**
***Freshman Seminar 36s. Comparative Historical Mythology**
***Freshman Seminar 39y. Poetry and the Ballad**
Freshman Seminar 39z. Becoming a Hero: from Homer to Harry Potter - *(New Course)
Germanic Studies 202. Germanic Mythology - *(New Course)
History and Literature 90au. Zombies, Monsters, and Super Heroes: The Fantastic in 20th-c. America - *(New Course)
[Italian 141. Renaissance Epic: War, Identity, Desire]
[Japanese History 117. Japanese Folk Religion: Conference Course]
[Japanese History 126. Shinto: Conference Course]
[*Literature 121. *1001 Nights*: Adaptations, Transformations and Translations]
[Literature 125. The Desire for Narrative: Across Cultures, Forms and Media]
[Literature 152. Epic and Opera]
[Literature 162. Theory and Methods in Comparative Oral Traditions: Seminar]
[Literature 166. The Comic Tradition in Jewish Culture]
Music 207r. Ethnomusicology: Seminar
Music 209r. Ethnomusicology: Seminar
Persian 152. Literary and Visual Narrative in the Persian Epic Tradition
Religion 1011. The Tree at the Center of the World
Religion 1016. The Shock of the Old: Conference Course
Religion 1310. Ancient Greek Sanctuaries: Oracles - *(New Course)*
[Religion 1625. Indian Religions Through Their Narrative Literatures]
[Religion 1631. Hindu Traditions of Devotion]
Religion 1920. The Politics of Storytelling - *(New Course)*
[Scandinavian 150r. The Vikings and the Nordic Heroic Tradition]
[Scandinavian 160a. Old Norse Language, Literature, and Culture: The Viking Legacy]
[Scandinavian 160br. Old Norse Language, Literature, and Culture: Mythology]
Societies of the World 30. Moctezuma's Mexico: Then and Now (2012)!
[South Asian Studies 124. Introduction to World Mythology]
[South Asian Studies 226. Indian Rites, Customs, and Beliefs]
[Spanish 70a. Heroes, Rogues, and Significant Others: Voices from Medieval and Early Modern Spain]
Sumerian 141. Sumerian Myths and Epics
Welsh 227. Seminar: Welsh Bardic Poetry

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Germanic Languages and Literatures

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Germanic Languages and Literatures

John T. Hamilton, Professor of Comparative Literature and of Germanic Languages and Literatures *(Chair)*
Christiane Ackermann, Lecturer on Germanic Languages and Literatures
Peter J. Burgard, Professor of German
Ian Thomas Fleishman, College Fellow in the Department of Germanic Languages and Literatures
Maja Bäckvall, Preceptor in Scandinavian
Stephen A. Mitchell, Professor of Scandinavian and Folklore
Lisa Parkes, Senior Preceptor in German *(Director of the German Language Program)*
Eric Rentschler, Arthur Kingsley Porter Professor of Germanic Languages and Literatures *(Director of Graduate Studies, fall term)*
Judith Ryan, Robert K. and Dale J. Weary Professor of German and Comparative Literature *(Director of Graduate Studies, spring term) (on leave fall term)*
Maria Tatar, John L. Loeb Professor of Germanic Languages and Literatures and of Folklore and Mythology
Markus Wilczek, Associate Professor of Germanic Languages and Literatures *(on leave fall term)*
Yasemin Yildiz, Visiting Associate Professor of Germanic Languages and Literatures

Affiliates of the Department of Germanic Languages and Literatures

Benjamin Buchloh, Andrew W. Mellon Professor of Modern Art *(on leave fall term)*
Peter E. Gordon, Amabel B. James Professor of History, Harvard College Professor
Jeffrey F. Hamburger, Kuno Francke Professor of German Art and Culture
Joseph C. Harris, Francis Lee Higginson Professor of English Literature and Professor of Folklore, Emeritus
Jay Jasanoff, Diebold Professor of Indo-European Linguistics and Philology *(on leave spring term)*
Alison Frank Johnson, Professor of History
Sean D. Kelly, Professor of Philosophy
Joseph Koerner, Victor S. Thomas Professor of History of Art and Architecture
Alexander Rehding, Fanny Peabody Professor of Music
Anne C. Shreffler, James Edward Ditson Professor of Music

Graduate students in the Faculty of Arts and Sciences may enroll in certain foreign language courses for the grade of Satisfactory/Unsatisfactory. Students should consult with course heads to determine if a course is offered on that basis.

For more information on the Department, please visit *www.fas.harvard.edu/~german.*

German

Primarily for Undergraduates

The placement test in German is offered during Freshman Week and during Intersession.

German A. Beginning German
Catalog Number: 4294
Lisa Parkes and members of the Department
Full course (indivisible). M. through Th., sections at 9, 10, or 11. EXAM GROUP: 2, 11
An introduction to German language and culture designed for students with little or no knowledge of the language. Encompasses all four skills: speaking, listening, reading, and writing. Class sessions emphasize the development of oral proficiency. Instruction is supplemented by literary and non-literary texts, videos, and Internet activities.
Note: The first half of this course may not be taken as a half course for credit toward the AB degree; there are no exceptions to this rule. May not be taken Pass/Fail. Not open to auditors.

German Ax. German for Reading Knowledge
Catalog Number: 7177
Ian Thomas Fleishman
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Development of reading proficiency for students with little or no knowledge of German. Emphasizes translation of academic German prose into English.
Note: Not open to auditors.

German Bab. Beginning German (Intensive)
Catalog Number: 8629
Lisa Parkes and members of the Department
Full course (fall term; repeated spring term). Fall: M. through F., at 9; M. through Th., at 10, and a weekly section to be arranged; Spring: M. through F., at 9; M. through F., at 12, and a weekly section to be arranged. EXAM GROUP: 2, 11
A complete first-year course in one term for students with no knowledge of German. Provides an introduction to German language and culture encompassing all four skills: speaking, listening, reading, and writing, as well as an introduction to the culture of the German-speaking countries. Class sessions emphasize the development of oral proficiency. Instruction is supplemented by literary and non-literary texts, videos, and Internet activities.
Note: May not be taken Pass/Fail. Not open to auditors.

German Ca. Intermediate German: Speaking, Listening Comprehension, Reading, and Writing
Catalog Number: 5779
Lisa Parkes and members of the Department
Half course (fall term). M. through Th., at 9; M. through Th., at 12. EXAM GROUP: 2, 11
Aims at enhancing students' proficiency in all four skills, with special emphasis on speaking/discussion. The course also offers a thorough grammar review. Course materials consist of literary and non-literary texts and films that address a broad range of cultural topics.
Note: Conducted in German. May not be taken Pass/Fail. Not open to auditors.

German Cb. Intermediate German: Speaking, Listening Comprehension, Reading, and Writing
Catalog Number: 2608

Lisa Parkes and members of the Department
Half course (spring term). M. through Th., at 9; M. through Th., at 12. EXAM GROUP: 2, 11
Continuation of German Ca. Discussion materials include literary and non-literary texts and film. Emphasis on speaking proficiency and on strengthening writing skills. Course includes a review of selected grammatical structures and exercises in vocabulary building.
Note: Conducted in German. May not be taken Pass/Fail. Not open to auditors.
Prerequisite: German Ca or permission of the instructor.

German Dab. Intermediate German (Intensive): Speaking, Listening Comprehension, Reading, and Writing
Catalog Number: 1351
Lisa Parkes and members of the Department
Full course (fall term; repeated spring term). M., W., F., at 12; Tu., Th., 1–3. EXAM GROUP: 5
A complete second-year course in one term for students with a basic knowledge of German. Focuses on enhancing students' proficiency in all four skill areas with special emphasis on speaking/discussion. Extensive vocabulary-building exercises, a thorough grammar review, and an introduction to various cultural topics of the German-speaking countries through the use of literary and non-literary texts, Internet, multimedia resources, and film.
Note: Conducted in German. May not be taken Pass/Fail. Not open to auditors.
Prerequisite: German A, German Bab, a score of 450 or above on the Harvard placement test, or permission of the instructor.

[German 50. German Drama and Theater]
Catalog Number: 59998
Lisa Parkes
Half course (spring term). Hours to be arranged.
This course focuses on the full production of a German play. Introduction to performance theories and practices and intensive pronunciation practice. Students participate on stage and collaborate on different aspects of the production, including costumes, set, sound, and program. Two performances take place at the end of the term.
Note: Expected to be given in 2014–15. Conducted in German.
Prerequisite: German C (or equivalent), German 115, or permission of the instructor.

German 61. Advanced Grammar and Reading
Catalog Number: 5179
Peter J. Burgard
Half course (fall term). Tu., Th., 10–11:30; Tu., Th., 11:30–1. EXAM GROUP: 12, 13
Advanced instruction in German through systematic study of the rules of grammar, their nuances, and their exceptions. Application of this knowledge through readings of short selections of sophisticated texts (Goethe, Kant, Kleist, Heine, Marx, Nietzsche, Kafka, Mann) prepares students for courses and other work requiring advanced German reading comprehension. This course is prerequisite to advanced German speaking and writing, which students can then pursue in German 62.
Note: Conducted in German. Not open to auditors.
Prerequisite: German C, equivalent preparation, or permission of the instructor.

German 62. Advanced Conversation and Composition
Catalog Number: 2201
Lisa Parkes
Half course (spring term). Tu., Th., 11:30–1; Tu., Th., 10–11:30. EXAM GROUP: 13, 14
This course is designed to further students' spoken and written German at the advanced level. Students

will analyze and practice the stylistic and rhetorical features of various written and spoken genres. By focusing on aspects of contemporary society in the German-speaking countries, students will broaden and refine their vocabulary and idiom, become sensitized to different registers, as well as hone points of grammar.
Note: Conducted in German.
Prerequisite: German 61, equivalent preparation, or permission of the instructor.

[German 67. German in *Revue: Kabarett* through the 20th Century] - *(New Course)*
Catalog Number: 73323 Enrollment: Limited to 12. Interested students are required to apply in writing. See Catalog Note.
Lisa Parkes
Half course (spring term). M., W., 3:30–5. EXAM GROUP: 8, 9
Immersion into German language and culture through German *Kabarett* of the 20th century. Introduction to the writing and performance techniques of German cabaret artists, including the analysis of comedic skits, political and social satire, parody, and humorous poetry. The final project involves a performance of a *Kabarett* revue.
Note: Expected to be given in 2015–16. Taught in German. Interested students are required to apply in writing to Dr. Lisa Parkes no later than the first day of the Spring term of 2014.
Prerequisite: German C or equivalent.

German 71. German Literature from Goethe to Nietzsche
Catalog Number: 3213
Ian Thomas Fleishman
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Through close readings of central texts from the Age of Goethe to the late 19th century, this course introduces students to key concepts of literary analysis. Readings include Goethe, Schiller, Kleist, Hoffmann, Büchner, Hauptmann and Nietzsche.
Note: Readings and discussions in German. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.
Prerequisite: German 61, equivalent preparation, or permission of the instructor.

German 72. German Literature from Kafka to Jelinek
Catalog Number: 5412
Markus Wilczek
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The course focuses on central texts in 20th-century German literature. Readings include works by Freud, Rilke, Kafka, Brecht, Celan, Bachmann, Bernhard, Jelinek, and Müller. The course provides an historical overview, introduces core concepts in literary analysis, and sharpens German reading and writing skills.
Note: Conducted in German. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.
Prerequisite: German 61, equivalent preparation, or permission of the instructor. German 71 is not a prerequisite for 72.

German 90r. Germanic Language Tutorial
Catalog Number: 91467
Lisa Parkes
Half course (fall term). Hours to be arranged.
Individualized study of a Germanic language not ordinarily taught. Contact hours with language tutor. Emphasis on literacy.
Note: Not open to auditors.

***German 91r. Supervised Reading and Research**
Catalog Number: 1059
Lisa Parkes (fall term) and Markus Wilczek (spring term)
Half course (fall term; repeated spring term). Hours to be arranged.
Advanced reading in topics not covered in regular courses.
Note: Permission of the Director of Undergraduate Studies is required.

***German 99. Tutorial — Senior Year**
Catalog Number: 3286
Lisa Parkes (fall term) and Markus Wilczek (spring term)
Full course. Hours to be arranged.
Open to concentrators writing an honors thesis under faculty supervision. Students are expected to enroll for the entire year. Permission of the Director of Undergraduate Studies is required.

Cross-listed Courses

Aesthetic and Interpretive Understanding 57. American Dreams from *Scarface* to *Easy Rider* - *(New Course)*
Culture and Belief 16. Performance, Tradition and Cultural Studies: An Introduction to Folklore and Mythology
Ethical Reasoning 12. Political Justice and Political Trials
***Folklore and Mythology 98a. History and Theory of Folklore and Mythology**
Folklore and Mythology 106. History of Witchcraft and Charm Magic
***Folklore and Mythology 128 (formerly *Folklore and Mythology 90i). Fairy Tale, Myth, and Fantasy Literature**
Folklore and Mythology 164. Maledicta: Ritualized Verbal Abuse - *(New Course)
Freshman Seminar 31q. Literal Looking: What We See in Art - *(New Course)
***Freshman Seminar 34x. Language and Prehistory**
Philosophy 34. Existentialism in Literature and Film (formerly Humanities 14) - *(New Course)*
Yiddish A. Elementary Yiddish
Yiddish Ba. Intermediate Yiddish I
Yiddish Bb. Intermediate Yiddish II
[Yiddish Ca. Advanced Yiddish I]
[Yiddish Cb. Advanced Yiddish II]

For Undergraduates and Graduates

German 115. German Comedy
Catalog Number: 52703
Lisa Parkes
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
What provokes laughter in German culture? This course explores the genre of comedy from the 18th century to the present through major dramatists, satirists, stand-up comedians, and recent comedic films in German-speaking Europe. Introduction to forms, techniques, and theories of comedy, as well as workshops on techniques of comic performance.
Note: Conducted in German.
Prerequisite: German 61, 62, or permission of the instructor.

[German 120. Age of Goethe]
Catalog Number: 3797

Peter J. Burgard
Half course (fall term). Hours to be arranged.
Major movements in German literature and thought from the mid-18th to early 19th century: Enlightenment, Sentimentalism, Storm and Stress, Classicism, Romanticism. Readings include Kant, Klopstock, Lessing, Goethe, Lenz, Schiller, Hölderlin, Kleist, Schlegel, Novalis.
Note: Expected to be given in 2015–16. Readings in German, discussions in English. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

[German 142. Writing to the Point: Short Forms]
Catalog Number: 96052
Markus Wilczek
Half course (spring term). Hours to be arranged.
This course examines 'brevity' in aphoristic writings, fragments, and short prose pieces from the Enlightenment to the twentieth century. Readings include Lichtenberg, Goethe, Friedrich Schlegel, Novalis, Nietzsche, Robert Walser, Benn, and Adorno.
Note: Expected to be given in 2014–15. Readings and discussions in German. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

German 146 (formerly Ethical Reasoning 26). The Ethics of Atheism: Marx, Nietzsche, Freud
Catalog Number: 12763
Peter J. Burgard
Half course (spring term). Tu., 2–4 and a weekly discussion section to be arranged.. EXAM GROUP: 16, 17
Examines the Western secular tradition through the work of three seminal figures whose critiques of religion - in social and political theory, philosophy, and psycho-analysis and anthropology - are motivated by ethical concerns. Introductory readings of Kant, Hegel, and Feuerbach ground analysis of Marx's, Nietzsche's, and Freud's ethical atheism. Students do not develop or debate formulae for behavior, but rather become critically aware of ethical considerations that underlie actions and that are negotiated vis-à-vis prevailing moral codes. Readings include *The German Ideology*, *The Communist Manifesto*, *The Gay Science*, *Beyond Good and Evil*, *On the Genealogy of Morals*, *The Anti-Christ*, *Three Essays on the Theory of Sexuality*, *Totem and Taboo*, *The Future of an Illusion*.
Note: Expected to be omitted in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning or Culture and Belief, but not both. This course, when taken for a letter grade, meets the Core area requirement for Moral Reasoning. No knowledge of German required. All readings and discussions in English. Not open to auditors.

[German 147. Nietzsche]
Catalog Number: 6994
Peter J. Burgard
Half course (spring term). Hours to be arranged.
Readings and discussions of Nietzsche's major works (in translation), including *The Birth of Tragedy*, *Untimely Meditations*, *Human, All Too Human*, *The Gay Science*, *Thus Spoke Zarathustra*, *Beyond Good and Evil*, *The Genealogy of Morals*, *Twilight of the Idols*, *The Antichrist*, and *Ecce Homo*.
Note: Expected to be given in 2015–16. No knowledge of German required. All readings and discussions in English.

German 149. Thomas Mann: Stories of Six Decades
Catalog Number: 71081
Peter J. Burgard
Half course (fall term). W., 3–5 and a weekly discussion section to be arranged. EXAM GROUP: 8, 9

Addresses Mann's short stories and novellas (in translation) individually and as a body of work, as well as in their various literary, cultural, intellectual, and historical contexts. Texts: "Death in Venice," "Tonio Kröger," "Tristan," "Disillusionment," "Little Herr Friedemann," "Gladius Dei," "The Blood of the Walsungs," "Disorder and Early Sorrow," "Mario and the Magician," among others. Term papers may address stories discussed in class or one of Mann's novels (e.g. *Buddenbrooks*, *The Magic Mountain*, *Doctor Faustus*).
Note: Expected to be omitted in 2014-15. No knowledge of German required. All readings and discussions in English. Not open to auditors.

[German 156. From Postwar to Postwall German Cinema]
Catalog Number: 14735
Eric Rentschler
Half course (fall term). Hours to be arranged.
The New German Cinema would become internationally prominent during the 1970s. This class will focus on exemplars of the movement and also important films that preceded and followed it, features by Staudte, Fassbinder, Herzog, Kluge, Schlöndorff, von Trotta, Wenders, Dörrie, Tykwer, and Petzold. What meanings do these works (both as single entries and as functions of a collective national ensemble) have for us today? No previous course work in film studies is required or presumed.
Note: Expected to be given in 2014–15.

German 167. History and Memory in the Literature of Migration - *(New Course)*
Catalog Number: 70362
Yasemin Yildiz
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
Explores the negotiation of history and memory in the German literature of migration from the 1970s to the present. How do writers relate to and reimagine the history of the country to which they have migrated? How do divergent histories and memories come into contact with each other in the literature of migration? Readings include recent theorizations of migration and memory and literary texts by authors such as Kara, Senocak, Vertlib, and Zaimoglu.
Note: Readings in German, discussions in German or English.

German 172. Hermeneutics and the Philology of the Flesh - *(New Course)*
Catalog Number: 93059
John T. Hamilton
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
The course offers an historical overview of theories of interpretation from Luther to Gadamer and Merleau-Ponty, with specific focus on metaphors of incarnation, embodiment, and revelation. In tracking the shift from interpretation as an auxiliary art to hermeneutics as a philosophical universal, the literary readings broach questions concerning theories of the verbal sign, understanding, self-consciousness, phenomenology, and the human condition – all in relation to the theological paradigms that have persistently motivated and shaped these investigations.

German 178. From *Metropolis* to *The Matrix*: The Dystopian in German Film and Fiction - *(New Course)*
Catalog Number: 25305
Ian Thomas Fleishman
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Explores depictions of the dystopian from early Expressionism to contemporary cinema, from the modern industrial metropolis to the digital age and from the Kafkaesque to the 'Matrix'. Adorno, Arendt and others offer theoretical perspectives for primary readings and viewings paired with popular films such as

Brazil and Bladerunner. Texts treated include literary works by Kafka and Georg Klein as well as films by Rainer Werner Fassbinder, Jean-Luc Godard, Steven Soderbergh and Florian Henckel von Donnersmarck.
Note: Taught in English.

[German 182. Music and German National Identity]
Catalog Number: 95593
Lisa Parkes
Half course (fall term). Hours to be arranged.
Introduction to the relationship between 'German' music, history, society and politics. By analyzing texted (vocal) music in various settings - historical, political, filmic, literary - this course revisits important and often controversial moments in musical history that have shaped German cultural and national identity. Musical genres include the Lied, folk song, the choral symphony, opera, cabaret, post-war popular music, and contemporary hip-hop.
Note: Expected to be given in 2014–15. Reading and listening in German and English; discussion in German. An ability to read musical notation is not required.

German 185. German Lyric Poetry: Tradition and Innovation
Catalog Number: 52546
Judith Ryan
Half course (spring term). M., 4–6. EXAM GROUP: 9
The course will explore the interplay between innovation and tradition in German poetry from 1770 to the present, focusing on such topics as originality and authenticity, difficulty and hermeticism, and poetic responses to crisis. Authors include Goethe, Hölderlin, Heine, Mörike, Droste, George, Rilke, Benn, and Celan.

Cross-listed Courses

[History 1266. Central Europe, 1789-1918: Empires, Nations, States]
[History 1322. Heidegger and Arendt]
History 1922. Habermas: Social Theory in Postwar Germany: Conference Course - *(New Course)
History of Art and Architecture 146s. Bible Stories : Narrative Strategies in High Medieval Art - *(New Course)*
History of Art and Architecture 147m. The Book of Hours : Pictures and Prayer in the Middle Ages - *(New Course)*
***History of Art and Architecture 149g. Casts, Construction and Commemoration: German Gothic in America and Abroad**
History of Art and Architecture 172x. Vienna Interior
Literature 155 (formerly Literature 110). Furor Poeticus: Madness, Inspiration, Genius
Philosophy 139x. Heidegger: Being and Time

Primarily for Graduates

German 203. Encounters with the Orient in Pre-Modern German Literature - *(New Course)*
Catalog Number: 91744
Christiane Ackermann
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
This course traces the emergence of the concept of 'the Orient' and its images in German literature from the thirteenth century into the sixteenth.

[German 210. Baroque]
Catalog Number: 8078
Peter J. Burgard
Half course (fall term). Hours to be arranged.
Examines the art of the European Baroque and the literature of the German Baroque. Focuses on questions of systems, identity, and excess in architecture, painting, sculpture, poetry, drama, and narrative.
Note: Expected to be given in 2014–15. Readings in German, discussions in English.

[German 221. Goethe: Seminar]
Catalog Number: 76159
Peter J. Burgard
Half course (spring term). Hours to be arranged.
Examines selected major works, including poetry, dramas, novels, and essays on art, literature, and science.
Note: Expected to be given in 2014–15. Readings in German, discussions in English.

German 234. The Voice: Between Media and Immediacy
Catalog Number: 58481
Markus Wilczek
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Tracing the history of the voice, this course analyzes the productive tension between theoretical reflections on voice (including rhetorics, orality/literacy studies, media studies, deconstruction) and artistic (re)presentations of voice (including Goethe, Hoffmann, Kafka, Cocteau, Baker).
Note: Course discussion and readings in English.

German 251. Kafka in Context - *(New Course)*
Catalog Number: 78016
Judith Ryan
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
Kafka's relation to his literary and cultural context, his characteristic narrative modes, humor and parody in his works, and the challenges his texts pose for readers.

[German 269. German Film: Analysis/History/Theory]
Catalog Number: 17159
Eric Rentschler
Half course (spring term). Hours to be arranged.
This course offers a comprehensive survey of German film history from its beginnings to the present. Each of our sessions will provide interactive discussions of selected sequences from exemplary films. These exercises will acquaint students with the tools, methods, and emphases of close analysis. This careful formal scrutiny will go together with an equally painstaking investigation of the discursive places assumed by individual film texts within film history and history at large. In that endeavor we will also take recourse to pertinent film theoretical paradigms.
Note: Expected to be given in 2014–15. The course will be conducted in English. No previous familiarity with film studies is required or presumed.

[German 275. From 'Natur' to 'Umwelt': Eco-Critical Approaches to German Literature]
Catalog Number: 77868
Markus Wilczek
Half course (fall term). Hours to be arranged.

This course probes the viability of current eco-critical approaches to literature in close readings of texts from the seventeenth to twenty-first century. Close attention will be given to the question of how particular themes - such as sustainability, the toxic discourse, biodiversity, nationalism, postcolonial heritage, and the global risk society - are negotiated in literary form. Readings include Grimmelshausen, Albrecht Haller, Lichtenberg, Goethe, Hölderlin, Storm, Fontane, Gerhart Hauptmann, Heiner Müller, Christoph Ransmayr, W. G. Sebald, and Ilija Trojanow.
Note: Expected to be given in 2015–16.

German 277. Postmonolingual Constellations - *(New Course)*
Catalog Number: 45949
Yasemin Yildiz
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Examines the tension between monolingual structures and multilingual practices in 20th century literature. Readings include theoretical and literary texts by authors such as Adorno, Bahktin, Benjamin, Canetti, Gal, Kafka, Kramsch, Ören, Özdamar, Sommer, and Tawada.
Note: Readings in German, discussions in English.

[German 288. German Novels Since Reunification: Seminar]
Catalog Number: 8467
Judith Ryan
Half course (spring term). Hours to be arranged.
A study of German novels since 1990, viewed within their social and cultural context and against the backdrop of contemporary literary theory. Authors include Beyer, Brussig, Drawert, Hein, Hilbig, Maron, Timm, and Wolf.
Note: Expected to be given in 2014–15. Readings in German, discussions in English.

[German 290. Experience and Remembrance in W. G. Sebald: Seminar]
Catalog Number: 7036
Judith Ryan
Half course (fall term). Hours to be arranged.
Close study of Sebald's narrative and poetic works, as well as a selection of his scholarly essays, against the backdrop of recent literary theory.
Note: Expected to be given in 2014–15. Readings in German, discussions in English.

Cross-listed Courses

History 2322. Adorno: Philosophy, Sociology, Aesthetics: Seminar - *(New Course)*
Music 218r. 20th-Century Music: Seminar
Music 230r. Topics in Music Theory
Romance Studies 201. Questions of Theory
***Visual and Environmental Studies 270. Proseminar in Film and Visual Studies: History**

Graduate Courses of Reading and Research

***German 300. Special Reading Programs and Research Problems for Advanced Students**
Catalog Number: 3646
Peter J. Burgard 2217, Eric Rentschler 2325, Judith Ryan 1135, Maria Tatar 3645, and Markus Wilczek 5863

Cross-listed Courses

***Visual and Environmental Studies 301. Film and Visual Studies Workshop**

Germanic Philology

Primarily for Graduates

Cross-listed Courses

Graduate Courses of Reading and Research

***Germanic Philology 300. Special Reading Programs and Research Problems for Advanced Students**
Catalog Number: 1045
Jay Jasanoff 1661

Germanic Studies

Primarily for Graduates

Germanic Studies 202. Germanic Mythology - *(New Course)
Catalog Number: 36062 Enrollment: Limited to 12.
Stephen A. Mitchell
Half course (fall term). M., 9–11. EXAM GROUP: 2, 3
Examines pre-Christian religions of the Germanic peoples, with an emphasis on Old Norse sources (especially *Snorra edda*, and eddic and scaldic poetry) but also with references to non-Scandinavian materials (e.g.*Heliand*; Old English metrical charms).

Scandinavian Languages

Primarily for Undergraduates

Swedish Aa. Beginning Swedish Language and Literature
Catalog Number: 7438
Maja Bäckvall
Half course (fall term). M. through Th., at 9. EXAM GROUP: 2, 11
A basic course focusing on listening, speaking, reading, and writing skills. During fall term, pronunciation and listening comprehension will be emphasized, as well as regular writing assignments. Literary, film, music and other cultural texts will be introduced relatively early on. By semester's end, students will have achieved a basic literacy in everyday Swedish.
Note: Not open to auditors.

Swedish Ab. Beginning Swedish Language and Literature
Catalog Number: 69695
Maja Bäckvall
Half course (spring term). M. through Th., at 9. EXAM GROUP: 2, 11
Continuation of the basic course focusing on a basic mastery of listening, speaking, reading, and writing skills. During spring term, the emphasis is on more advanced conversation and an exploration of Sweden's culture and civilization through selected texts and video. By semester's end, students will be able to carry on conversations in everyday Swedish, read news articles, and write letters and produce

substantial creative work.
Note: Not open to auditors.

Swedish Ba. Intermediate Swedish: Childhood in Swedish Literature and Culture
Catalog Number: 3104
Maja Bäckvall
Half course (fall term). M., W., at 12 and an additional hour to be arranged. EXAM GROUP: 5
Sweden and Swedish Finland have produced some of the most translated and beloved works of children's fiction in the world. In this intermediate Swedish language course, we will review the essentials of Swedish grammar and vocabulary as we explore some of these classic works of children's fiction, film, and comic books and the aspects of Swedish culture they illuminate. The final project for this class involves producing your own work of children's fiction or film.
Note: Conducted in Swedish. Not open to auditors.
Prerequisite: Swedish Ab or equivalent.

Swedish Bbr. Special Topics in Swedish Literature and Culture: "Det är jag som är Döden": Death in Swedish Fiction
Catalog Number: 3405
Maja Bäckvall
Half course (spring term). M., W., 12 and M., 1 . EXAM GROUP: 5
Swedish culture sometimes has a reputation of being gloomy and centred on death, a notion which has not lessened with the increasing interest in Scandinavian crime fiction. Focusing on contemporary horror and crime fiction, this course examines how death is used in some of Sweden's most popular literature. The course also introduces some classic poetry and film on the subject.
Note: Conducted in Swedish.
Prerequisite: Swedish Ba or equivalent.

***Scandinavian 90r. Scandinavian Language Tutorial**
Catalog Number: 11972
Stephen Mitchell and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of a Scandinavian language at the elementary, intermediate and advanced levels. Contact hours with language coach. Emphasis on literacy. Any language not listed as a course is taught under this number.
Note: For instruction in languages that are not listed (for example, modern Icelandic or Faroese), please consult the Director of Undergraduate Studies for Scandinavian. Not open to auditors.

***Scandinavian 90r.a. Danish**
Catalog Number: 91003
Stephen A. Mitchell
Half course (fall term; repeated spring term). Hours to be Arranged.
Individualized study of Danish at the elementary, intermediate and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Undergraduate Studies for Scandinavian for more information. Not open to auditors.

***Scandinavian 90r.b. Finnish**
Catalog Number: 84802
Stephen A. Mitchell

Half course (fall term; repeated spring term). Fall: Th., 7–9 p.m.; Spring: Th., 6:30–9 p.m.
Individualized study of Finnish at the elementary, intermediate, and advanced levels. Contact hours with a language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Undergraduate Studies for Scandinavian for more information. Not open to auditors.

***Scandinavian 90r.c. Norwegian**
Catalog Number: 63494
Stephen A. Mitchell
Half course (fall term; repeated spring term). Hours to be Arranged.
Individualized study of Norwegian at the elementary, intermediate and advanced levels. Contact hours with language coach. Emphasis on literacy.
Note: This course is offered only when there is demonstrated curricular and academic need on the part of the student. Please consult the Director of Undergraduate Studies for Scandinavian for more information. Not open to auditors.

Scandinavian Literature and Culture

Primarily for Undergraduates

Scandinavian 70. The Afterlife of Runes - *(New Course)*
Catalog Number: 77876
Maja Bäckvall
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
During the Viking and early Middle Ages, runic writing was a widespread writing system in Scandinavia. In later years, runes have continued to fascinate to such a degree that they have been used for a large number of purposes, including nationalistic propaganda, fantasy literature, tattoos and tourist kitsch. The course examines a range of these uses and purposes and discusses how modern ideas of the past influences identity, both national and personal. For the final project, students will choose one aspect of modern runes to investigate further.

***Scandinavian 91r. Supervised Reading and Research**
Catalog Number: 7308
Stephen A. Mitchell
Half course (fall term; repeated spring term). Hours to be arranged.
Advanced reading in topics not covered in regular courses.
Note: Permission of the Director of Undergraduate Studies for Scandinavian required.

***Scandinavian 97. Tutorial — Sophomore Year**
Catalog Number: 1592
Stephen A. Mitchell
Half course (fall term; repeated spring term). Hours to be arranged.
Group or individual tutorial designed to supplement course work and acquaint students with appropriate analytical methods.
Note: Open to concentrators in the Scandinavian option. Permission of the Director of Undergraduate Studies for Scandinavian required.

***Scandinavian 98. Tutorial — Junior Year**
Catalog Number: 4255

Stephen A. Mitchell
Half course (fall term; repeated spring term). Hours to be arranged.
Group or individual tutorial designed to supplement course work and to develop analytical techniques.
Note: Permission of the Director of Undergraduate Studies for Scandinavian required.

***Scandinavian 99. Tutorial — Senior Year**
Catalog Number: 5542
Stephen A. Mitchell
Full course. Hours to be arranged.
Open to concentrators writing an honors thesis under faculty supervision. Students are expected to enroll for the entire year.
Note: Permission of the Director of Undergraduate Studies for Scandinavian required.

For Undergraduates and Graduates

[Scandinavian 150r. The Vikings and the Nordic Heroic Tradition]
Catalog Number: 3974
Stephen A. Mitchell
Half course (spring term). Hours to be arranged.
Examines the historical events in Europe A.D. 800 to A.D. 1100, and the resulting heroic legacy in medieval poetry and Icelandic sagas. The course focuses on Viking Age figures as warriors, kings, poets, outlaws and adventurers; pre-Christian religion, the Viking raids and the Norse experience in "Vinland" carefully considered.
Note: Expected to be given in 2014–15. May be repeated for credit with permission of the instructor. All readings and discussions in English. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core requirement for Literature and Arts A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[Scandinavian 160a. Old Norse Language, Literature, and Culture: The Viking Legacy]
Catalog Number: 1139 Enrollment: Limited to 12.
Stephen A. Mitchell
Half course (fall term). Hours to be arranged.
Introduction to the language and literary culture of medieval Scandinavia, emphasizing works treating the Viking Age and their valorization of an heroic ideal. In addition to basic language skills, students acquire familiarity with key critical tools of the field. Readings include scaldic poetry, selections from *Egils saga* and the Vinland sagas, and various runic monuments.
Note: Expected to be given in 2014–15. May be counted toward the Folklore and Mythology 90 requirement.

[Scandinavian 160br. Old Norse Language, Literature, and Culture: Mythology]
Catalog Number: 7588 Enrollment: Limited to 12.
Stephen A. Mitchell
Half course (spring term). Hours to be arranged.
Builds on Scandinavian 160a, continuing the language study and cultural survey of the first term, but now considers mythological texts relating to Viking religious life, mainly selections from the prose and poetic *Eddas*. Special attention is paid to scholarly tools and debates concerned with the interpretation of these cultural monuments.
Note: Expected to be given in 2014–15. May be counted toward the Folklore and Mythology 90

requirement.
Prerequisite: Scandinavian 160a or equivalent.

***Scandinavian 191r. Supervised Reading and Research**
Catalog Number: 6175
Stephen A. Mitchell
Half course (fall term; repeated spring term). Hours to be arranged.
Advanced readings in topics not covered in regular courses.

Graduate Courses of Reading and Research

***Scandinavian 300. Special Reading Programs and Research Problems for Advanced Students**
Catalog Number: 1708
Stephen A. Mitchell 7056
Half course (fall term; repeated spring term). Hours to be arranged.

Global Health and Health Policy

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Global Health and Health Policy

David M. Cutler, Otto Eckstein Professor of Applied Economics *(Co-Chair)*
Paul Farmer, Kolokotrones University Professor of Global Health and Social Medicine *(Medical School) (Co-Chair)*
Barry R. Bloom, Harvard University Distinguished Service Professor and Joan L. and Julius H. Jacobson Professor of Public Health *(Public Health)*
Allan M. Brandt, Amalie Moses Kass Professor of the History of Medicine in the Faculty of Medicine, and Professor of the History of Science in the Faculty of Arts and Sciences *(on leave spring term)*
Daniel P. Carpenter, Allie S. Freed Professor of Government
Colleen M. Cavanaugh, Edward C. Jeffrey Professor of Biology
Michael Chernew, Professor of Health Care Policy *(Medical School)*
Jean Comaroff, Alfred North Whitehead Professor of African and African American Studies and of Anthropology
Christopher Paul Duggan, Associate Professor of Pediatrics, Associate Professor in the Department of Nutrition *(Medical School, Public Health)*
David A. Edwards, Gordon McKay Professor of the Practice of Idea Translation
Myron Essex, Mary Woodard Lasker Professor of Health Sciences *(Public Health)*
Susanne J. Goldie, Roger Irving Lee Professor of Public Health *(Public Health)*
Mary-Jo Del Vecchio Good, Professor of Global Health and Social Medicine *(Medical School)*
Evelynn M. Hammonds, Barbara Gutmann Rosenkrantz Professor of the History of Science and of African and African American Studies *(on leave 2013-14)*

David P. Harrington, Professor of Statistics *(FAS)* and Professor of Biostatistics *(Public Health)*
Daniel L. Hartl, Higgins Professor of Biology *(FAS)* and Professor in the Department of Immunology and Infectious Diseases *(Public Health)*
Ashish Kumar Jha, Professor of Health Policy and Management *(Public Health)*
David Shumway Jones, A. Bernard Ackerman Professor of the Culture of Medicine
Arthur Kleinman, Esther and Sidney Rabb Professor of Anthropology in the Faculty of Arts and Sciences and Professor of Medical Anthropology in the Faculty of Medicine, Harvard College Professor
Jennifer Leaning, Francois-Xavier Bagnoud Professor of the Practice of Health and Human Rights, Director of the Francois-Xavier Bagnoud Center for Health and Human Rights *(Public Health)*
Clifford Lo, Associate Professor in the Department of Nutrition, Harvard School of Public Health *(Public Health)*
Robert A. Lue, Professor of the Practice of Molecular and Cellular Biology
Erez Manela, Professor of History
John M. Mugane, Professor of the Practice of African Languages and Cultures and Director of the African Language Program
Joseph P. Newhouse, John D. MacArthur Professor of Health Policy and Management, Professor of Health Care Policy *(Kennedy School, Public Health, Medical School)*
Meredith B. Rosenthal, Professor of Health Economics and Policy *(Public Health)*
Joshua A. Salomon, Professor of Global Health *(Public Health)*
Daniel Louis Shapiro, Associate Professor of Psychology in the Department of Psychiatry *(Medical School)*
Doris Sommer, Ira Jewell Williams, Jr. Professor of Romance Languages and Literatures and of African and African American Studies *(on leave spring term)*
David Williams, Florence Sprague Norman and Laura Smart Norman Professor of Public Health in the School of Public Health and Professor of African and African American Studies in the Faculty of Arts and Sciences

Other Faculty Offering Instruction in Global Health and Health Policy

Davíd L. Carrasco, Neil L. Rudenstine Professor for the Study of Latin America in the Faculty of Divinity and the Faculty of Arts and Sciences
Joia Mukherjee, Associate Professor of Global Health and Social Medicine *(Medical School)*
James Robinson, David Florence Professor of Government

The Standing Committee on Global Health and Health Policy promotes expanded and enhanced curricular, research, and advising opportunities to undergraduate students interested in the various aspects of health around the world. This committee coordinates course offerings related to global health and facilitates research opportunities for undergraduates. The committee also coordinates a Secondary Field in Global Health and Health Policy.

Global health and health policy present a fundamentally interdisciplinary set of challenges, including problems in the life sciences, along with economic, political, social, and cultural factors that influence health. Harvard has a deep investment and scholarly capacity in the many areas critical to these challenges. The Committee on Global Health and Health Policy, with its diverse representation from across the Faculty of Arts and Sciences and other Harvard Faculties, provides an entrée to Harvard undergraduates as they explore the significant problems shaping health policy around the world.

Primarily for Undergraduates

***Global Health and Health Policy 50. The Quality of Health Care in America**
Catalog Number: 4832 Enrollment: Limited to 40.
Meredith B. Rosenthal (Public Health) and Ashish Kumar Jha (Public Health)
Half course (spring term). Tu., Th., 4:30-6 and a weekly section to be arranged. EXAM GROUP: 18
Offers information and experiences regarding most important issues and challenges in health care quality. Overview of the dimensions of quality of care, including outcomes, overuse, underuse, variation in practice patterns, errors and threats to patient safety, service flaws, and forms of waste. Each session focuses on one specific issue, exploring patterns of performance, data sources, costs, causes, and remedies. Explores desirable properties of health care systems that perform at high levels in many dimensions of quality.
Note: This course may not be taken for credit by students who have already taken either General Education 187 or Extra-Departmental Courses 187.

[*Global Health and Health Policy 60. Negotiation and Conflict Management: From the Interpersonal to the International]
Catalog Number: 52527 Enrollment: Limited to 20.
Daniel Louis Shapiro (Medical School)
Half course (fall term). M., 2:30–5:30. EXAM GROUP: 7, 8, 9
Around the world, conflict imposes profound direct and indirect costs on global health, ranging from death and injury to trauma, the loss of social networks, and destabilization of political systems. Rather than focusing on how to address the aftermath of conflict and violence, this course examines ways of preventing destructive conflict. Explores theory, frameworks, and tools developed to negotiate the substantive, emotional, and identity-based dimensions of conflict. Applies the theory to a diversity of real-life negotiations, ranging from interpersonal disputes between friends to international conflicts in the Middle East and elsewhere.
Note: Expected to be given in 2014–15. This highly interactive course aims to improve students' skill in resolving conflicts, and draws on a variety of learning methodologies, including lecture, case simulations, self-reflection exercises, and application of negotiation frameworks to conflicts depicted in movies. Students will have the opportunity to analyze firsthand case narratives of senior-level global leaders who have negotiated serious conflicts; these cases are part of an emerging Global Curriculum on Conflict Management spearheaded by the instructor, the Harvard International Negotiation Program, and the World Economic Forum. May not be taken for credit by students who have already completed Freshman Seminar 45s.

Global Health and Health Policy 71. Clinical Ethnography and Global Health Seminar - *(New Course)
Catalog Number: 19689 Enrollment: Limited to 2.
Arthur Kleinman
Half course (spring term). Hours to be arranged.
A GHEO Scholars tutorial in anthropological methods exploring critical theoretical issues related to health and health care in Latin America. Three preparatory sessions will take place on campus during pre-departure preparations; ten for-credit sessions will be conducted by videoconference while students are on-site in Chiapas, Mexico; and three additional sessions will take place on-campus after students return to Cambridge. Tutorial content will include ethnographic data collection, supervised by students' on-site PIH-affiliated mentors. The final paper will require students to present ethnographic data in an analytic frame that integrates theoretical content addressed in the course as well as the practical challenges encountered in their service-internship.
Note: Course is offered only to students in the GHEO Scholars Program.

Global Health and Health Policy 72. Topics in Global Health Care Delivery - *(New Course)
Catalog Number: 27211 Enrollment: Limited to 2.
Joia Mukherjee (Medical School)
Half course (spring term). Hours to be arranged.
Following the Global Health Delivery seminar in January, students will engage in research projects in global health care delivery. Culminating in a term paper, this course will extend the themes of the January seminar and allow students to investigate particular health care delivery challenges they witness at the PIH site in rural Chiapas. Students' projects will be supervised by Professor Joia Mukherjee (in Boston) and Dr. Daniel Palazuelos (on site). Students may pursue a number of themes, including health and human rights, global HIV control, global TB control, global malaria control, child health, and women's health, food and nutrition, health financing, advocacy and policy, and monitoring and evaluation for health systems. Students will be evaluated based on their final papers.
Note: Course is offered only to students in the GHEO Scholars Program.
Prerequisite: HSPH GHP 532: Introduction to Global Health Care Delivery, in Winter Session 2014.

Global Health and Health Policy 73. Topics in the Political Economy of Development - *(New Course)
Catalog Number: 66316 Enrollment: Limited to 2.
James Robinson
Half course (spring term). Hours to be arranged.
This seminar provides an overview of world economic history since the Neolithic revolution, with particular focus on the political economy of development in Latin America. It analyzes the main theories that have been proposed to explain these facts. Questions discussed are: why did the Neolithic revolution happen earlier in some parts of the world than others? Why did some societies which were initially very successful economically, subsequently decline? Three preparatory sessions will take place on campus during pre-departure, at least six for-credit sessions will be conducted via videoconferencing and online recorded lecture videos while students are on-site in Mexico, and two additional sessions will take place on campus after students return to Harvard.
Note: Course is offered only to students in the GHEO Scholars Program.

Global Health and Health Policy 74. Cosmovision, Ceremonial Centers and Rebellion in Chiapas - *(New Course)
Catalog Number: 60046 Enrollment: Limited to 2.
Davíd L. Carrasco
Half course (spring term). Hours to be arranged.
An introductory seminar dedicated to providing insight into the historical and cultural landscape of Chiapas, Mexico to help contextualize the lived experiences of disease and health care delivery in Chiapas. Two preparatory sessions will take place on campus during pre-departure, six for-credit sessions will be conducted via videoconferencing on-site, and 1-2 additional sessions will take place on campus after students return to Cambridge. This course will help students gain a necessary understanding of the religious world view, ritual practices and cultural aspects that shape the lived reality of present-day Chiapas. Students may be asked to submit response papers during the term. At times, this course may be conducted in Spanish.
Note: Course is offered only to students in the GHEO Scholars Program.

***Global Health and Health Policy 91r. Supervised Reading and Research**
Catalog Number: 37977
David M. Cutler and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading leading to a long term paper on a topic or topics not covered by regular courses of

instruction.
Note: May not be taken Pass/Fail. To enroll in the course, a written proposal and signature of advisor and chair of GHHP Committee is required.

***Global Health and Health Policy 99. Research in Global Health and Health Policy**
Catalog Number: 2981 Enrollment: Limited.
David M. Cutler
Half course (spring term). W., 3:30–5:30. EXAM GROUP: 8, 9
Explores research topics and methods that are critical to evaluating current issues in national and global health care policy. Students will develop and execute an original research project that utilizes quantitative or qualitative research approaches to studying a domestic and global health policy topic of their interest. Such topics may include: the elements of health care reform, cost containment, quality measurement and improvement, racial and ethnic disparities in care, politics of health care, comparative health systems, global health, and organizational influences on quality.
Note: This course fulfills the research requirement of the Secondary Field in Global Health and Health Policy and enrollment is ordinarily limited to seniors in the GHHP Secondary Field. Underclass GHHP students may petition to take the course if all other Secondary Field requirements have been met. Course is primarily taught by graduate students in the PhD in Health Policy program and guest lecturers. May not be taken pass/fail.

Cross-listed Courses

For additional courses taught at other Harvard Schools, consult the website for the Secondary Field in Global Health and Health Policy.

General Education

[Aesthetic and Interpretive Understanding 50 (formerly Literature 128). Literature and Medicine]
[Culture and Belief 11. Medicine and the Body in East Asia and in Europe]
[Culture and Belief 34 (formerly Historical Study A-87). Madness and Medicine: Themes in the History of Psychiatry]
Culture and Belief 58. Case Studies in the Medical Humanities: Interdisciplinary Perspectives on the Experience of Illness and Healing - *(New Course)*
Empirical and Mathematical Reasoning 20 (formerly Quantitative Reasoning 24). The Business and Politics of Health
Empirical and Mathematical Reasoning 22. Nutrition and Health: Myths, Paradigms, and Science - *(New Course)*
[Ethical Reasoning 24. Bioethics]
[Ethical Reasoning 33. Medical Ethics and History]
Science of Living Systems 11. Molecules of Life
Science of Living Systems 16. Human Evolution and Human Health
[Science of Living Systems 17 (formerly Science B-23). The Human Organism]
Science of Living Systems 19. Nutrition and Global Health
Societies of the World 24. Global Health Challenges: Complexities of Evidence-Based Policy
Societies of the World 25. Case Studies in Global Health: Biosocial Perspectives
Societies of the World 44. Human Trafficking, Slavery and Abolition in the Modern World
[United States in the World 11. American Health Care Policy]
United States in the World 13 (formerly Historical Study A-34). Medicine and Society in America
[United States in the World 31 (formerly Social Analysis 54). American Society and Public Policy]

Freshman Seminars

***Freshman Seminar 21s. Germs**
***Freshman Seminar 23k. Insights from Narratives of Illness**
***Freshman Seminar 23l. Medicine, Law, and Ethics: An Introduction**
***Freshman Seminar 23m. Nutrition and Public Health**
***Freshman Seminar 24g. A Brief History of Surgery**
***Freshman Seminar 24n. Child Health in America**
***Freshman Seminar 25e. Autism**
***Freshman Seminar 25g. The Impact of Infectious Diseases on History and Society**
***Freshman Seminar 25k. You Are What You Eat**
***Freshman Seminar 25n. Understanding Psychological Development, Disorder and Treatment: Learning through Literature and Research**
***Freshman Seminar 25p. Neurotoxicology: Biological Effects of Environmental Poisons**
***Freshman Seminar 25t. AIDS in Africa**
***Freshman Seminar 25x. Human Brain in Health and Disease: A Neurologist's Perspective**
***Freshman Seminar 25z. Stress and Disease (Biobehavioral Aspects of Health and Disease)**
***Freshman Seminar 26u. What is Mental Illness?**
***Freshman Seminar 26w. The Biology and Science of Cancer and Its Treatments: From Empiric to Scientific to Humanistic**
***Freshman Seminar 27i. Global Health: Comparative Analysis of Healthcare Delivery Systems**
***Freshman Seminar 40k. Health Care on Less Than 8,000 Dollars a Year**
***Freshman Seminar 48e. Health and Mental Health in Everyday Life**

African and African American Studies

African and African American Studies 178. Health, Society, and Subjectivity in the American Context
African and African American Studies 189x. Medicine, Culture, and Society
African and African American Studies 197. Poverty, Race, and Health

Anthropology

Anthropology 1882. The Woman and the Body

Applied Mathematics

Applied Mathematics 101. Statistical Inference for Scientists and Engineers

Biomedical Engineering

Biomedical Engineering 110 (formerly Engineering Sciences 145). Physiological Systems Analysis
Biomedical Engineering 125 (formerly Engineering Sciences 130). Tissue Engineering
[Biomedical Engineering 130 (formerly Engineering Sciences 149). Neural Control of Movement]

Chemistry and Chemical Biology

[Chemistry 101 (formerly Chemistry 201). Organic Synthesis Towards a Genomic Medicine]

The Classics

Classical Studies 165. Medicine in the Greco-Roman World
Greek 109. The Literature of Affliction - *(New Course)*

Economics

***Economics 980w. Industrial Organization and Health: Seminar**
Economics 1123a1 (formerly Economics 1123). Introduction to Econometrics
Economics 1123a2. Introduction to Econometrics - *(New Course)*
Economics 1126. Quantitative Methods in Economics
Economics 1389. Economics of Global Health
Economics 1460. Economics of Health Care Policy

Engineering Sciences

Engineering Sciences 6. Environmental Science and Technology
***Engineering Sciences 20. How to Create Things and Have Them Matter**
Engineering Sciences 53. Quantitative Physiology as a Basis for Bioengineering
[Engineering Sciences 103. Spatial Analysis of Environmental and Social Systems]
Engineering Sciences 165. Water Engineering

Environmental Science and Public Policy

Environmental Science and Public Policy 44. Environmental Health Perspectives - *(New Course)*
***Environmental Science and Public Policy 90j. Environmental Crises, Climate Change, and Population Flight**
Environmental Science and Public Policy 90t. Environmental Health: Your World and Your Life at Risk

Government

Government 50. Introduction to Political Science Research Methods
Government 94gk. The Politics and Ethics of Medical Care - *(New Course)
Government 1093. Ethics, Biotechnology, and the Future of Human Nature

History

[*History 87a. Health, Disease, and Ecology in African History]
History 97a. "What is the History of Medicine?" - *(New Course)

History of Science

[History of Science 108. Bodies, Sexualities, and Medicine in the Medieval Middle East]
History of Science 112. Magic, Medicine and Miracles: Health and Healing in the Middle Ages and Renaissance
[History of Science 113. Crusades, Plagues and Hospitals: Medicine and Society in the Islamic Middle Ages]
[History of Science 136. History of Biotechnology]

History of Science 142. History and Politics of the American Obesity Epidemic
History of Science 143v. Biomedicine and Health Policy in America - *(New Course)*
History of Science 145v. Advocacy, Activism, and Social Movements in Medicine - *(New Course)*
[History of Science 146. Introduction to Women's Bodies in Medicine]
[History of Science 148. History of Global Health]
History of Science 149v. Explaining Epidemics - *(New Course)*
History of Science 153. History of Dietetics
History of Science 196. Justice in Health: Ethics of Public Health in the Contemporary World
[*History of Science 253. Bioethics, Law, and the Life Sciences]

Human Evolutionary Biology

Human Evolutionary Biology 1424. Human Health in Evolutionary and Anthropological Perspective - *(New Course)*
[Human Evolutionary Biology 1500. Building Babies: Developmental Trajectories from Conception to Weaning]

Life Sciences

Life Sciences 2. Evolutionary Human Physiology and Anatomy
Life Sciences 60. Ethics, Biotechnology, and the Future of Human Nature
Life Sciences 120. Global Health Threats

Medical Sciences

BCMP 230. Principles and Practice of Drug Development

Mind, Brain, and Behavior

***Mind, Brain, and Behavior 980b (formerly *Mind, Brain, and Behavior 908b). Addiction, Choice, and Motivation**

Molecular and Cellular Biology

MCB 111. Mathematics in Biology
MCB 169. Molecular and Cellular Immunology
[MCB 192. Principles of Drug Discovery and Development]

Neurobiology

Neurobiology 101hfh. More than Glue: Glial Cells in Health and Neurological Disease - *(New Course)
Neurobiology 101hfj. Brain Rhythms in Cognition, Mental Health & Epilepsy - *(New Course)

Organismic and Evolutionary Biology

OEB 50. Genetics and Genomics
[OEB 123. Biology of Symbiosis]

OEB 221. Microbial Diversity
*OEB 290. Microbial Sciences: Chemistry, Ecology and Evolution

Psychology

[Psychology 1005. Health Psychology]
Psychology 1201. Your Brain on Drugs: Psychopharmacology
Psychology 1803. Vulnerability, Stress, and Mental Health
Psychology 1900. Introduction to Statistics for the Behavioral Sciences

Romance Languages and Literatures

French 103md (formerly French 90md). Doctors and Patients in Medieval and Early-Modern French Literature

Social Studies

*Social Studies 98kg. The Political Economy of Health in the Developing World
*Social Studies 98nw. Health Care in America

Sociology

*Sociology 98Ha. Sociology of Health
Sociology 156. Quantitative Methods in Sociology
[Sociology 160. Medicine, Health Policy and Bioethics in Comparative and Global Perspective: Conference Course]
Sociology 162. Medical Sociology
Sociology 165. Inequalities in Health Care

Statistics

Statistics 100. Introduction to Quantitative Methods for the Social Sciences and Humanities
Statistics 101. Introduction to Quantitative Methods for Psychology and the Behavioral Sciences
Statistics 102. Statistics in Medicine and Modern Biology - *(New Course)*
Statistics 104. Introduction to Quantitative Methods for Economics
Statistics 107. Introduction to Business and Financial Statistics
Statistics 110. Introduction to Probability

Stem Cell and Regenerative Biology

*SCRB 130. Biomedical Entrepreneuring: Turning Ideas into Medicine
SCRB 150 (formerly MCB 150). Human Genetics: Mining Our Genomes for an Understanding of Human Variation and Disease
*SCRB 167. Stem Cells and Regeneration in the Pathobiology and Treatment of Human Disease
[SCRB 170. Heart Stem Cell Therapeutics: A Case Study for Regenerative Medicine]
[*SCRB 185. Human Disease]
*SCRB 187. Brains, Identity, and Moral Agency

Women, Gender, and Sexuality

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

***Studies of Women, Gender, and Sexuality 1421. Medical Management of the Female Body**

Government

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Government

Timothy J. Colton, Morris and Anna Feldberg Professor of Government and Russian Studies *(Chair)*
Laura L. Adams, Lecturer on Government
James E. Alt, Frank G. Thomson Professor of Government *(on leave spring term)*
Stephen Daniel Ansolabehere, Professor of Government
Muhammet Ali Bas, Associate Professor of Government
Robert H. Bates, Eaton Professor of the Science of Government and Professor of African and African American Studies
Eric Beerbohm, Frederick S. Danziger Associate Professor of Government and of Social Studies *(on leave 2013-14)*
Aurel Braun, Visiting Professor of Government
Daniel P. Carpenter, Allie S. Freed Professor of Government
Carlos E. Díaz Rosillo, Lecturer on Government
Jorge I. Domínguez, Antonio Madero Professor for the Study of Mexico
Grzegorz Ekiert, Professor of Government *(on leave spring term)*
Ryan Enos, Assistant Professor of Government
Michael Frazer, Associate Professor of Government and of Social Studies *(on leave 2013-14)*
Charles David Freilich, Lecturer on Government
Jeffry Frieden, Stanfield Professor of International Peace *(on leave spring term)*
Katie Jane Gallagher, Lecturer on Social Studies, Lecturer on Government
Amanda Lynne Garrett, Lecturer on Government
Claudine Gay, Professor of Government and of African and African American Studies *(Director of Graduate Studies) (on leave 2013-14)*
Philipp Genschel, Lecturer on Government
Justin Gest, Lecturer on Sociology, Lecturer on Government
Adam Glynn, Associate Professor of Government
Jill Iris Goldenziel, Lecturer on Government, Lecturer on Social Studies
Frances Hagopian, Jorge Paulo Lemann Visiting Associate Professor
Peter A. Hall, Krupp Foundation Professor of European Studies
Chase Henri Harrison, Preceptor in Survey Research
Rowena Xiaoqing He, Lecturer on Government
Michael J. Hiscox, Clarence Dillon Professor of International Affairs
Jennifer L. Hochschild, Henry LaBarre Jayne Professor of Government and Professor of African and African American Studies *(on leave 2013-14)*
Nahomi Ichino, Associate Professor of Government *(on leave spring term)*

Maxine Isaacs, Lecturer on Government
Torben Iversen, Harold Hitchings Burbank Professor of Political Economy
Alastair Iain Johnston, Governor James Albert Noe and Linda Noe Laine Professor of China in World Affairs
Gary King, Albert J. Weatherhead III University Professor
Matthew Walter Landauer, College Fellow in the Department of Government
Horacio Alejandro Larreguy Arbesu, Assistant Professor of Government
Steven R. Levitsky, Professor of Government *(Acting Director of Graduate Studies)*
Ofrit Liviatan, Lecturer on Government, Lecturer on the Study of Religion
Harvey C. Mansfield, William R. Kenan, Jr. Professor of Government
Gwyneth McClendon, Assistant Professor of Government and of Social Studies
Payam Mohseni, Lecturer on Government
Russell Muirhead, Visiting Professor of Government
Eric M. Nelson, Professor of Government
Sang-hyoung John Park, Lecturer on Government
Gregg Andrew Peeples, Lecturer on Government
Mark J. Penn, Visiting Lecturer on Government
Elizabeth J. Perry, Henry Rosovsky Professor of Government
Paul E. Peterson, Henry Lee Shattuck Professor of Government
Susan J. Pharr, Edwin O. Reischauer Professor of Japanese Politics
Matthew B. Platt, Assistant Professor of Government
Robert D. Putnam, Peter and Isabel Malkin Professor of Public Policy
Patrick T. Riley, Lecturer on Government
James Robinson, David Florence Professor of Government
Michael E. Rosen, Professor of Government
Stephen P. Rosen, Beton Michael Kaneb Professor of National Security and Military Affairs
Nancy Lipton Rosenblum, Senator Joseph S Clark Professor of Ethics in Politics and Government
Pedram Safari, Preceptor in Government
Michael J. Sandel, Anne T. and Robert M. Bass Professor of Government *(on leave spring term)*
Mary Elise Sarotte, Visiting Professor of Government and of History
Kay L. Schlozman, Visiting Professor of Government *(Boston College)*
Kenneth A. Shepsle, George D. Markham Professor of Government *(on leave 2013-14)*
Beth A. Simmons, Clarence Dillon Professor of International Affairs
Prerna Singh, Assistant Professor of Government *(on leave fall term)*
Theda Skocpol, Victor S. Thomas Professor of Government and Sociology
Daniel M. Smith, Assistant Professor of Government
James M. Snyder, Leroy B. Williams Professor of History and Political Science
George Soroka, Lecturer on Government
Arthur P. Spirling, John L. Loeb Associate Professor of the Social Sciences *(on leave spring term)*
Sumeeta Srinivasan, Preceptor in Government
Jessica E. Stern, Lecturer on Government
Latanya Sweeney, Professor of Government and Technology in Residence
Dustin Tingley, Associate Professor of Government
Kris-Stella Trump, College Fellow in the Department of Government
Richard Tuck, Frank G. Thomson Professor of Government *(on leave spring term)*
Alexandra Mary Vacroux, Lecturer on Government
Alberto Vergara, Lecturer on Government
Cheryl Brown Welch, Senior Lecturer on Government *(Director of Undergraduate Studies)*
Daniel F. Ziblatt, Professor of Government

Other Faculty Offering Instruction in the Department of Government

Alberto Abadie, Professor of Public Policy at the John F. Kennedy School of Government *(Kennedy School)*
Graham T. Allison, Jr., Douglas Dillon Professor of Government in the John F. Kennedy School of Government *(Kennedy School)*
Arthur I. Applbaum, Adams Professor of Political Leadership and Democratic Values at the John F. Kennedy School of Government *(Kennedy School)*
Matthew A. Baum, Marvin Kalb Professor of Global Communications *(Kennedy School)*
Nara Dillon, Lecturer on East Asian Languages and Civilizations
Richard H. Fallon, Ralph S. Tyler, Jr. Professor in Constitutional Law *(Law School)*
Jacob E. Gersen, Professor of Law *(Law School)*
Christopher Jencks, Malcolm Wiener Professor of Social Policy at the John F Kennedy School of Government *(Kennedy School)*
Alexandra Achen Killewald, Assistant Professor of Sociology
Roderick Macfarquhar, Leroy B. Williams Professor of History and Political Science, Emeritus
Douglas A. Melton, Xander University Professor of Stem Cell and Regenerative Biology
Luke Weisman Miratrix, Assistant Professor of Statistics
Roger B. Porter, IBM Professor of Business and Government in the John Fitzgerald Kennedy School of Government *(Kennedy School)*
James M. Robins, Mitchell L. and Robin LaFoley Dong Professor of Epidemiology *(Public Health)*
Donald B. Rubin, John L. Loeb Professor of Statistics
David Sanger, Adjunct Lecturer in Public Policy *(Kennedy School)*
Thomas Simons, Lecturer on Government
Matthew C. Stephenson, Professor of Law *(Law School)*
Dennis F. Thompson, Alfred North Whitehead Professor of Political Philosophy in the Faculty of Arts and Sciences and in the John F. Kennedy School of Government, Emeritus
Roberto Mangabeira Unger, Roscoe Pound Professor of Law *(Law School)*
Tyler J. VanderWeele, Associate Professor of Epidemiology *(Public Health)*
Sidney Verba, Carl H. Pforzheimer University Professor, Emeritus
Christopher Winship, Diker-Tishman Professor of Sociology

A full list of courses that count toward undergraduate concentration is available in the Office of the Director of Undergraduate Studies.

Department of Government course listings are numerically ordered as follows:

10–64: Foundational Courses

91–99: Supervised Reading and Research, Tutorials and Seminars

1000–1024 and 2000–2024: Political Methodology and Formal Theory

1025–1099 and 2025–2099: Political Thought and Its History

1100–1299 and 2100–2299: Comparative Government

1300–1599 and 2300–2599: American Government, Public Law, and Administration

1700–1999 and 2700–2999: International Relations

3000–3999: Graduate Courses of Reading and Research and Dissertation Workshops

Foundational Courses

Primarily for Undergraduates

Government 10. Foundations of Political Theory
Catalog Number: 8836
Matthew Walter Landauer
Half course (spring term). M., W., at 10. EXAM GROUP: 3
This course investigates the central problems of political theory that concern the justification of democracy. Is democratic rule the uniquely just form of collective decision-making? What political institutions best express the democratic values of equality, deliberation, and participation? What are the moral responsibilities of citizens - whose representatives exercise political power in their name? Is democracy a human right? Readings integrate contemporary work in political philosophy with canonical thinkers, including Plato, Aristotle, Rousseau, and J.S. Mill.
Note: This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning or the Core area requirement for Moral Reasoning.

Government 20. Foundations of Comparative Politics
Catalog Number: 6166
Steven R. Levitsky
Half course (fall term). Tu., Th., at 10 and a weekly section to be arranged. EXAM GROUP: 12
Provides an introduction to key concepts and theoretical approaches in comparative politics. Major themes include the causes of democratization, economic development, ethnic conflict, and social revolutions; as well as the role of the state, political institutions, and civil society. Examines and critically evaluates different theoretical approaches to politics including modernization, Marxist, cultural, institutionalist, and leadership-centered approaches. Compares cases from Africa, Asia, Europe, Middle East and Latin America to provide students with grounding in the basic tools of comparative analysis.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Social Analysis.

Government 30. American Government: A New Perspective
Catalog Number: 0263
Paul E. Peterson
Half course (fall term). M., W., at 1. EXAM GROUP: 6
Provides an overview of contemporary American politics. It analyses the way in which recent changes in elections and media coverage have helped shape key aspects of American government, including the courts, Congress, and the Presidency, the workings of interest groups and political parties, and, also, the making of public policy. Permanent political campaigns have altered governmental institutions and processes. The course explains how and why.
Note: This course, when taken for a letter grade, meets the General Education requirement for United States in the World or the Core area requirement for Social Analysis. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

Government 40. International Conflict and Cooperation
Catalog Number: 72449 Enrollment: Limited to 90.
Dustin Tingley
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
This course is an introduction to the analysis of the causes and character of international conflict and cooperation. Theories of international relations are presented and then applied to historical cases to test those theories of international politics and to expand our understanding of the range of possible forms of

international behavior.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

Government 50. Introduction to Political Science Research Methods
Catalog Number: 6500
Arthur P. Spirling
Half course (fall term). M., W., at 11. EXAM GROUP: 4
This class will introduce students to techniques used for research in the study of politics. Students will learn to think systematically about research design and causality, how data and theory fit together, and how to measure the quantities we care about. Students will learn a 'toolbox' of methods---including statistical software---that enable them to execute their research plans. This class is highly recommended for those planning to write a senior thesis.
Note: This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core requirement for Quantitative Reasoning. This course must be taken for letter grade.

Government 61. Research Practice in Quantitative Methods
Catalog Number: 52605
Adam Glynn
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
Class introduces students to statistical methods and practice commonly used in political science and likely to be of utility to those undertaking a quantitative methods thesis in Government. Topics will include techniques for dealing with binary or ordinal dependent variables, time series and 'survival' models, along with applications of more complicated approaches. Students will learn new statistical software skills, and be expected to both gather and work on their own data throughout the semester.

Government 62. Research Practice in Qualitative Methods
Catalog Number: 67712
Frances Hagopian
Half course (spring term). W., 2–4.
With the goal of preparing students to undertake original research, this course introduces students to basic principles and tools of qualitative research in the social sciences. Focus is on comparative research design and the principal tools of qualitative research. Topics examined include the pitfalls of selection bias, the logic of causal inference, measurement and conceptualization, and the potential of mixed methods. Research techniques covered are process tracing, analytic narratives, natural experiments, archival research, interviews, and ethnography.

Government 63. Recent Political Theory: Topics and Resources
Catalog Number: 37498
Michael E. Rosen
Half course (fall term). Tu., 12–2.
An exploration of some central themes of recent work in English-language political philosophy, including Rawls and his critics, egalitarianism, and the nature of rights. Other topics will reflect the individual interests of students who enroll. This course is designed to help participants to make the transition from being critical readers of political thought to being independent contributors to debate.

Tutorials and Seminars

***Government 91r. Supervised Reading and Research**
Catalog Number: 2444
Cheryl Brown Welch
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading leading to a term paper in a topic or topics not covered by regular courses of instruction.
Note: Limited to juniors and seniors. Does not count for concentration credit. Offered at the discretion of the individual instructors. Written proposal and signature of Director of Undergraduate Studies required.

Government 92r. Faculty Research Assistant
Catalog Number: 35789
Cheryl Brown Welch, and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Note: This course must be taken Sat/Unsat.

Government 94. Undergraduate Seminars

***Government 94al. Global Distributive Justice**
Catalog Number: 14091 Enrollment: Limited to 16.
Katie Jane Gallagher
Half course (spring term). F., 11–1. EXAM GROUP: 4, 5
This course examines how concerns about socio-economic justice apply beyond the limits of the domestic state. Do we have reason to care about equality at the international level? If so, should we care about the relative standing of individuals, or of nation-states? Who, if anyone, is responsible for addressing global inequalities? Topics covered include the moral relevance of borders, natural resource distribution, immigration policy, climate change, the international status of women, and global institutional design.

***Government 94au (formerly *Government 98au). Political Economy**
Catalog Number: 8213 Enrollment: Limited to 16.
Torben Iversen
Half course (fall term). Th., 2–4.
Examines modern theories of political economy and their applications to macro problems in advanced democracies. Why do some governments and countries generate better economic performance than others? Why are some economies more egalitarian than others? How do politicians manipulate the economy for partisan gain, and how are politicians constrained by institutions and the global economy? We seek to answer these questions using the most promising theories in political science and economics.

***Government 94ch. Tactics & Ethics**
Catalog Number: 81876 Enrollment: Limited to 12.
Cheryl Brown Welch and members of the Department.
Half course (fall term). Tu., 4–6.
What is the relationship between moral ideals and political action? Do everyday moral standards apply to politics - or do the demands of politics supersede "normal" morality? What actions, if any, are never justified? This course explores questions of political ethics - violence, obedience, the relationship between means and ends - through the writings of philosophers and activists including Plato, Machiavelli, Thoreau, Lincoln, Douglass, Weber, Gandhi, Camus, King, Walzer, and Havel.

***Government 94da. Democracy, Alienation, and Muslims in the West**
Catalog Number: 71687 Enrollment: Limited to 16.

Justin Gest
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
This seminar develops an in-depth understanding of modern democratic citizenship and political identity, examining Western Muslim communities as an evocative case study. We first consider the shifting foundations of democratic participation and political alienation in a globalizing world. We then illustrate new developments by exploring the experiences of Muslim communities' in Western democratic polities. Finally, these concepts and observations are applied to understand three contemporary socio-political phenomena - global Islam, transnational Muslim politics, and terrorist networks.

***Government 94dn. Mapping Social and Environmental Space**
Catalog Number: 2017 Enrollment: Limited to 16.
Sumeeta Srinivasan
Half course (fall term). Th., 1–3.
This seminar will use mapping as a methodological technique to examine social and environmental issues. Students will be expected to use mapping software to examine spatial data for a location and topic of their choice for their final paper. Weekly discussions will be conducted in class on various mapping related topics. References will range from books like "How to lie with Maps" to current journal articles examining the use of GIS in social science.

***Government 94dz (formerly *Government 98dz). Is Democracy Possible Everywhere?**
Catalog Number: 48953 Enrollment: Limited to 16.
Daniel F. Ziblatt
Half course (spring term). Tu., 2–4.
Is democracy an obtainable ideal in all societies? This course introduces students to political science and sociological theories of democratization and offers the opportunity to apply these theories to diverse contexts, including the contemporary Middle East, Africa, and East Asia, and the history of Latin America, the U.S., and Europe. The quality of democracy in todays rich capitalist societies such as the United States is also examined.

***Government 94ek. Globalization and Private Governance**
Catalog Number: 13525 Enrollment: Limited to 16.
Michael J. Hiscox
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
This research seminar examines the impact of globalization on labor and environmental standards in developing nations. Topics include: the rules of the World Trade Organization and various preferential trade agreements, including NAFTA, and how these affect regulatory standards set by governments; the effects of corporate social responsibility (CSR) measures, including corporate codes of conduct; the effectiveness of activist campaigns, and; the impact of voluntary certification and labeling schemes such as Fair Trade.

***Government 94fg. Presidents, Governors, and Mayors: Chief Executive Power in Comparative Perspective**
Catalog Number: 8598 Enrollment: Limited to 16.
Carlos E. Díaz Rosillo
Half course (fall term). W., 7–9 p.m. EXAM GROUP: 9
Analyzes the foundation, development, and exercise of chief executive power at the national, state, and local levels of government in the United States. Examines the applicability of different political science theories of presidential power to the broader exercise of chief executive power. Explores the sources and limits of executive authority, the roles and responsibilities of political chief executives at different levels of government, and the way in which institutions affect the exercise of chief executive power.

***Government 94fp. The Military Instrument of Foreign Policy**
Catalog Number: 38494 Enrollment: Limited to 16.
Aurel Braun
Half course (fall term). W., 2–4.
This seminar analyzes the relationship of military force to politics. Nuclear war and deterrence, conventional war, revolutionary war and counter-insurgency are examined from the perspectives of the U.S., Russia, China and other contemporary military powers. The aim of this course is to help acquaint students of international relations with the vital importance of the military instrument in the formulation and implementation of foreign policy and in the functioning of the international system.

Government 94ga. Comparative Ethnic Politics and Conflict - *(New Course)
Catalog Number: 63983 Enrollment: Limited to 16.
Amanda Lynne Garrett
Half course (spring term). W., 2–4.
What is ethnicity? How is it relevant for political outcomes such as state-building, voting, violence and even civil war? This course examines these questions through a comparative study of ethnicity and ethnic conflict in Africa, the Middle East, Asia, Europe, and the United States.

Government 94gk. The Politics and Ethics of Medical Care - *(New Course)
Catalog Number: 57246 Enrollment: Limited to 12.
Cheryl Brown Welch and members of the Department
Half course (fall term). W., 4–6.
This course is an introduction to medical ethics and the ways in which political theory can inform our understanding of the moral and political dimensions of medical care. Using case studies as a launching point, we will explore ideas about autonomy, paternalism, beneficence, and distributive justice, and their application to issues such as informed consent, euthanasia, the right to refuse care, the distribution of scarce resources, and conflicts between patient rights and the public good.

***Government 94go (formerly *Government 90go). Politics of Religion in Liberal Democracies: America and the European Union**
Catalog Number: 19501 Enrollment: Limited to 16.
George Soroka
Half course (fall term). M., 4–6.
This course examines the various ways, normative and practical, in which politics interact with religion in the U.S. and select EU-member countries. Structuring it are three main tasks: to examine the utility of secularization theory in explaining changes on the political landscape; to compare and contrast American and European experiences with religion in the public sphere; and to consider the political implications of increasing religious/ideological pluralism within these societies.

***Government 94gs. Globalization and Civil Society**
Catalog Number: 7546 Enrollment: Limited to 16.
Susan J. Pharr
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
This seminar examines the rise of civil society worldwide and the role civil society organizations play in shaping social, economic, and political realities. It explores the origins of the concept; the relation between civil society and democracy; the complex roles of civil society in developed democracies, in democratic transitions, under conditions of repression, and in transborder advocacy and development. Cases include: Europe, U.S., Japan, Korea, Taiwan, and China.

***Government 94gz. International Human Rights: Law and Politics**
Catalog Number: 65876 Enrollment: Limited to 16.
Jill Iris Goldenziel
Half course (spring term). W., 10–12.
This course explores the political conditions — international and domestic — that influence the creation, acceptance, operation and effectiveness of the international rules governing individual human rights.

***Government 94hu. Human Rights Scholars Seminar**
Catalog Number: 68777 Enrollment: Limited to 12.
Cheryl Brown Welch and members of the Department
Half course (spring term). Tu., 4–6.
This seminar is open to juniors in any concentration interested in human rights research. During the first half of the semester, we will review key theoretical concepts and discuss various disciplinary approaches to and methodologies for conducting human rights scholarship. During the second half, students will develop and workshop a research prospectus on a human rights topic in which they are interested. Preference will be given to students intending on writing a senior thesis.
Note: Preference given to juniors considering writing a senior thesis on human rights related topic (from all concentrations) or engaged in a serious research project on a human rights topic

***Government 94ia. Sino-US Relations in an Era of Rising Chinese Power**
Catalog Number: 9006 Enrollment: Limited to 16.
Alastair Iain Johnston
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Assesses theoretical arguments and empirical evidence concerning the implications of Chinese economic and military modernization for conflict and cooperation between China and the US. Some issues examined include global arms control, trade, the environment, and regional security.

Government 94im. Comparative Electoral Systems - *(New Course)
Catalog Number: 11904 Enrollment: Limited to 16.
Daniel M. Smith
Half course (fall term). Tu., 2–4.
This seminar will survey and analyze the electoral systems used around the world to show how electoral rules can affect voters, politicians, parties, policymaking, and representation.

Government 94is. Individual and Society - *(New Course)
Catalog Number: 29395 Enrollment: Limited to 16.
Kris-Stella Trump
Half course (spring term). W., 10–12.
'No man is an island', John Donne wrote in 1624. How do the modern social sciences illuminate this timeless insight? How do human beings, living in technologically advanced large-scale societies, affect each others' beliefs, actions, perceptions and preferences? This course will cover modern classics of the social sciences to answer questions like these and many more, all aimed at improving our understanding of the complex interplay between societies and their individual members.

Government 94js. Political Parties and Interest Groups - *(New Course)
Catalog Number: 70917 Enrollment: Limited to 16.
James M. Snyder
Half course (fall term). W., 1–3.
This course explores the role of political parties and interest groups in the U.S. political system.

Government 94ka. Thinking Out of the Black Box - Exploring New Insights into North Korea - *(New Course)
Catalog Number: 19203 Enrollment: Limited to 16.
John Park
Half course (fall term). W., 11–1.
The course's objective is to hone students' critical thinking skills by exploring new insights into North Korea through the lens of recent interviews with defectors. The course will focus on deepening ties between the Workers' Party of Korea and the Communist Party of China; increasing commercialization in the elite regime circle (1%) through state trading company activities and among the masses (99%) through black markets; and how financial sanctions actually bolster North Korean procurement networks.

Government 94la. State-Society Relations in Latin America - *(New Course)
Catalog Number: 69063 Enrollment: Limited to 16.
Alberto Vergara
Half course (fall term). M., 4–6.
Although democracy has consolidated in much of LA, the region's democracies diverge on many fronts. Why is civil society strong in some countries but not others? Why are states effective in some cases but weak in others? What explains the rise of powerful leftist and indigenous movements in some countries but not others? This seminar examines how evolving patterns of state-society relations underlie the "varieties of democracy" in contemporary Latin America, with a focus on Argentina, Bolivia, Mexico and Peru.

Government 94le. Liberalism and Empire - *(New Course)
Catalog Number: 84202 Enrollment: Limited to 16.
Cheryl Brown Welch
Half course (fall term). M., 2–4.
Can theories grounded in moral universalism and democratic principles legitimate imperial domination and intervention? Modern liberal political thought emerged in tandem with European expansion into the "new world" and then into Asia and Africa, generating both critics and supporters of imperialism. Focusing on the imperial impulse in Britain, France, and the United States, this seminar examines the conceptual connections between liberal democracy and empire in political thinkers from John Locke to Niall Ferguson.

Government 94lg. Legalism - *(New Course)
Catalog Number: 62463 Enrollment: Limited to 16.
Nancy Lipton Rosenblum
Half course (spring term). Tu., 2–4.
The course invites students to explore the distinctive characteristics of legalistic modes of thought and the moral justifications offered for legalism. We will also consider a variety of moral objections to legalism: the power of romantic resistance to rule-making and rule-following, "realism" and others. Legalistic practices and institutions - juries, university disciplinary committees, contracts, "truth commissions", and others -- provide materials for reflecting on the use and misuse of rule-making and rule-following. Readings include political theory, literature, and court cases.

***Government 94mg. The Politics of Immigration**
Catalog Number: 20165 Enrollment: Limited to 16.
Justin Gest
Half course (fall term). W., 2–4.
This seminar examines the challenges posed by global migration and the political responses of local communities. We first consider the history of migration, and theoretical understandings that attempt to

explain the dynamics of migration, border control and integration. We next engage in a variety of policy debates about migrants and their inclusion, labor, rights, families, and legal status. We then apply this knowledge to four contemporary case studies which showcase divergent histories and approaches to immigration.

***Government 94ms. Contemporary European International Relations: Responding to the Past, Reshaping the Present**
Catalog Number: 99751 Enrollment: Limited to 16.
Mary Elise Sarotte
Half course (fall term). Tu., 11–1.
Contemporary European international relations represent an on-going attempt to overcome the damage done by events of the recent past. This seminar explores Europe's tragic path through the twentieth century, the bloodiest century ever. It examines Europe's subsequent Nobel Prize-winning efforts to create new forms of governance and relations among European states and the world at large. Finally, the class investigates twenty-first century challenges for the Eurozone, dealings with Russia, and transatlantic and global politics.

***Government 94nm. Race and Representation**
Catalog Number: 1424 Enrollment: Limited to 16.
Matthew B. Platt
Half course (spring term). Th., 2–4.
This course explores the fundamental question of whether black members of Congress provide the highest potential quality of representation for their black constituents. Beginning with Reconstruction and continuing throughout the present Congress, we chart how the nature of black representation has changed in accordance with broader changes among black Americans themselves.

***Government 94oa. Inequality and American Democracy**
Catalog Number: 2053 Enrollment: Limited to 16.
Theda Skocpol
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
The "rights revolutions" of the 1960s and 1970s removed barriers to full citizenship for African Americans, women, and other formerly marginalized groups. But inequalities of wealth and income have grown since the 1970s. How do changing social and economic inequalities influence American democracy? This seminar explores empirical research and normative debates about political participation, about government responsiveness to citizen preferences, and about the impact of public policies on social opportunity and citizen participation.

***Government 94of. Law and Politics in Multicultural Democracies**
Catalog Number: 14911 Enrollment: Limited to 16.
Ofrit Liviatan
Half course (fall term). M., 2–4.
Examines the role of law in the governance of cultural diversity drawing on examples from the USA, Western Europe, India and Israel. Central themes at the intersection of law and politics will be explored, including: the impact of courts on rights protections, law's function as a venue of conflict resolution, and courts' relationship with other political institutions. Specific attention will be given to contemporary controversies such as Islamic veiling, abortion and same sex marriage.

***Government 94pr. Constitutionalism and the Principles of Democratic Government**
Catalog Number: 10858 Enrollment: Limited to 12.
Cheryl Brown Welch and members of the Department

Half course (spring term). W., 4–6.
This course studies some of the most common features of the constitutional arrangements characterizing liberal democratic regimes, with the aim of better understanding the relationship between constitutionalism and democratic politics. Topics covered include federalism, separation of powers, judicial interpretation, and fundamental freedoms such as those of speech, equal protection and property. Readings draw on historical discussions, caselaw, and contemporary legal scholarship. Students who are considering writing a thesis in American government or constitutional politics are strongly encouraged to take this seminar.

Government 94py. Revolution and Politics in Contemporary Iran - *(New Course)
Catalog Number: 70025 Enrollment: Limited to 16.
Payam Mohseni
Half course (fall term). Tu., 4–6.
Iran is increasingly a significant power in the Middle East and a salient country to global affairs. Accordingly, this course examines the intricacies of Iranian politics since the 1979 revolution. It explores a broad range of topics including the causes of the Iranian revolution; the political implications of the Islamic regime's institutional architecture; the competitive factional dynamics within the ruling elite; Iranian foreign policy, Iran-US relations, and nuclear negotiations; and Shia political ideology.

[*Government 94qa. Community in America]
Catalog Number: 4941 Enrollment: Limited to 16.
Robert D. Putnam
Half course (fall term). Hours to be arranged.
Has the social fabric of America's communities and the civic engagement of its citizens changed over the last generation? Why? Does it matter? What lessons might we find in American history? These questions are at the focus of this seminar.
Note: Expected to be given in 2014–15.

Government 94saf. Safra Undergraduate Ethics Fellowship Seminar - *(New Course)
Catalog Number: 45386 Enrollment: Limited to and required of undergraduate fellows in the Safra Center for Ethics
Arthur I. Applbaum (Kennedy School)
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Topics in moral philosophy and political theory that illuminate normative issues in public and professional life. Prepares undergraduate fellows across the social sciences, natural sciences, and the humanities to pursue research on normative questions.

Government 94so. Combative Pasts: The Politics of History in Post-WWII Europe - *(New Course)
Catalog Number: 87402 Enrollment: Limited to 16.
George Soroka
Half course (spring term). Th., 4–6.
A well-worn adage holds that "history is politics projected into the past." In this course we will examine the applicability of that statement in relation to contemporary European politics and integration efforts.

***Government 94sp. Future of War**
Catalog Number: 6012 Enrollment: Limited to 16.
Stephen P. Rosen
Half course (spring term). M., 2–4.
Examines the character and implications of political and technological factors that could affect the future conduct of war.

Government 94sz. Rights in Conflict - *(New Course)
Catalog Number: 34968 Enrollment: Limited to 16.
Kay L. Schlozman (Boston College)
Half course (spring term). Tu., 2–4.
This course examines American political controversies in which at least one side makes a claim on the basis of rights: demands made, for example, in the name of property rights, First Amendment rights, and the right to vote as well as rights-based assertions by the disabled. Throughout we ask who enjoys which rights and inquire why political controversies in America so often engage rights conflicts and whether it makes a difference that they do.

Government 94ul. Science and Democracy - *(New Course)
Catalog Number: 85383 Enrollment: Limited to 16.
Matthew Walter Landauer
Half course (fall term). W., 4–6.
This course investigates the relationship between science and democracy, and between knowledge and power, in the modern world. Topics covered include the epistemic properties of democratic institutions; the place of expertise in democratic politics; the role of values in science and public policy; democracy and technology; and the relationship between democracy and the social sciences. Course readings range across political theory, philosophy, history, and the social sciences.

Government 94xp. Cyberpolitics - *(New Course)
Catalog Number: 93956 Enrollment: Limited to 12.
Cheryl Brown Welch and members of the Department
Half course (spring term). Tu., 4–6.
This seminar examines how the digital age has transformed politics around the world, in democratic and authoritarian contexts. Information and communication technologies change how people, states, and non-state actors interact. Social media (Facebook, Twitter) facilitate information-sharing and collective action. Technology creates new access points and new vulnerabilities. The course includes four modules: e-Democracy (civic engagement, elections, accountability); Online Revolutions (resistance, repression, mobilization); Security (cyberwar, terrorism, hacking); and Beyond State Boundaries (international cooperation, diasporas, transnational activism).

Tutorials

***Government 97. Tutorial — Sophomore Year**
Catalog Number: 3023
Nancy Lipton Rosenblum and Stephen Daniel Ansolabehere
Half course (spring term). M., 2-3:30, and tutorial sections to be arranged. EXAM GROUP: 7, 8
This one-semester course is designed to provide all Government Department concentrators with a unified and challenging intellectual experience in the study of politics. The course covers a selection of topics on the theme of "Democracy" and draws on materials ranging from classics in political theory to cutting edge research in the discipline today.

***Government 99r. Tutorial — Senior Year**
Catalog Number: 3652
Cheryl Brown Welch and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Taken as two half courses by those who have elected the honors program and in order to write their senior theses.
Prerequisite: Two half courses of Government 94.

Cross-listed Courses

East Asian Studies 98b. Junior Tutorial--Japan and the World
East Asian Studies 98d. Junior Tutorial--The Political Economy of Modern China
[East Asian Studies 121. Global Cities in East Asia]

Political Methodology and Formal Theory

For Undergraduates and Graduates

***Government 1000. Quantitative Methods for Political Science I**
Catalog Number: 3990
Adam Glynn
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
An introduction to statistical research in political science with a focus on applied multiple linear regression.
Note: Frequently taken by graduate students satisfying department requirements. Also open to qualified undergraduates. This course, when taken for a letter grade, meets the Core requirement for Quantitative Reasoning.
Prerequisite: Gov. 50, or equivalent, or permission of the instructor.

Government 1002. Advanced Quantitative Political Methodology
Catalog Number: 0181
Gary King
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
Introduces theories of inference underlying most statistical methods and how new approaches are developed. Examples include discrete choice, event counts, durations, missing data, ecological inference, time-series cross sectional analysis, compositional data, causal inference, and others.
Prerequisite: Government 2000 or the equivalent.

Government 1008. Introduction to Geographical Information Systems
Catalog Number: 9732
Sumeeta Srinivasan
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course introduces Geographical Information Systems and their applications. GIS is a combination of software and hardware with capabilities for manipulating, analyzing and displaying spatially referenced information. The course will meet two times a week. Every week, there will be a lecture and discussion as well as a laboratory exercise where students will work with GIS software on the computer.
Note: No prerequisites.

Government 1009. Advanced Geographical Information Systems Workshop
Catalog Number: 8150
Sumeeta Srinivasan
Half course (spring term). M., W., at 10. EXAM GROUP: 3
This course is a workshop for students who have taken the introductory Geographical Information Systems course and want to explore detailed applications. The course will meet two times a week for a lecture and a laboratory exercise.

Government 1010. Survey Research Methods
Catalog Number: 8482

Chase Henri Harrison
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
This course introduces students to the theoretical underpinnings and practical challenges of survey research, designed to help students better understand, interpret and critically evaluate surveys and public opinion polls.

Government 1011. Practicum in Survey Research Field Methods - *(New Course)*
Catalog Number: 52365
Chase Henri Harrison
Half course (spring term). Tu., 4–6. EXAM GROUP: 18
This course is targeted toward undergraduate students who are planning on designing or implementing an original survey research project as part of a thesis or similar project. It provides a focused opportunity to learn the principles and methods of survey research first-hand by designing an original survey or similar project.

Government 1016. Spatial Models for Social and Environmental Policy
Catalog Number: 0737
Sumeeta Srinivasan
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Introduces the fundamental statistical and mapping tools needed for analysis of environmental and social policy. Topics are linked by environmental and social themes and include spatial statistics; surface estimation; raster algebra; suitability modeling and remote sensing. Students acquire technical skills in both mapping and spatial models. Software packages used include STARS - Space-Time Analysis of Regional Systems, GeoVISTA, ArcGIS, Geoda and MULTISPEC.
Prerequisite: Some prior experience with GIS and knowledge of basic statistics.

Government 1019. Basic Mathematics for Social Scientists
Catalog Number: 0989
Pedram Safari
Half course (fall term). W., F., 1–2:30. EXAM GROUP: 6, 7
The aim of this course is to provide the students of social sciences with a conceptual understanding of the basic notions of calculus and matrix algebra.

Government 1020. Intermediate Mathematics for Social Scientists
Catalog Number: 7487
Pedram Safari
Half course (spring term). W., F., 1–2:30. EXAM GROUP: 6, 7
This course is geared toward graduate students of social sciences (such as government, education, psychology, etc.). The focus is on a conceptual understanding of vector calculus and probability, as well as applications.

Cross-listed Courses

[Empirical and Mathematical Reasoning 13 (formerly Social Analysis 46). Analyzing Politics]

Primarily for Graduates

***Government 2000. Introduction to Quantitative Methods I**
Catalog Number: 2281
Adam Glynn

Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Graduate-level version of Government 1000. Meets with Government 1000, an introduction to statistical research in political science with a focus on applied linear regression. Will require extra homework and examination problems in addition to those for Government 1000.
Prerequisite: Permission of the instructor for anyone other than Government Department graduate students.

***Government 2000e. Introduction to Quantitative Methods I**
Catalog Number: 36268
Adam Glynn
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Essential elements of Gov. 2000. Meets with Government 2000 and provides an introduction to statistical research in political science with a focus on applied linear regression. Some of the statistical computing from Government 2000 will not be required.
Prerequisite: Permission of the instructor required for anyone other than Government Department graduate students.

Government 2001. Advanced Quantitative Research Methodology
Catalog Number: 8941
Gary King
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
Graduate-level version of Gov. 1002. Meets with Gov. 1002, introduces theories of inference underlying most statistical methods and how new approaches are developed. Examples include discrete choice, event counts, durations, missing data, ecological inference, time-series cross sectional analysis, compositional data, causal inference, and others. Will require extra homework and examination problems in addition to those for Gov. 1002.
Prerequisite: Government 2000 or the equivalent.

Government 2002. Topics in Quantitative Methods
Catalog Number: 8168
Adam Glynn and Arthur P. Spirling
Half course (fall term). Th., 10–12. EXAM GROUP: 12, 13
Will cover topics of general interest to political methodology: causal inference, graphical models, mixed methods, contest modeling, text-as-data, item response. Illustrates how ideas and methods from these areas can be applied to substantive questions.
Prerequisite: Government 2000 and Government 2001, or equivalent, or permission of the instructor.

Government 2005. Formal Political Theory I
Catalog Number: 1719
Horacio Alejandro Larreguy Arbesu
Half course (fall term). W., 10–12.
A graduate seminar on microeconomic modeling, covering price theory, decision theory, social choice theory, and game theory.

***Government 2006. Formal Models of Domestic Politics**
Catalog Number: 5487
Horacio Alejandro Larreguy Arbesu
Half course (spring term). Th., 10–12. EXAM GROUP: 12, 13
An understanding of introductory game theory and basic mathematical tools is required. Topics covered include some combination of the following: electoral competition under certainty and uncertainty, special

interest politics, veto players, coalitions, delegation, political agency, and regime change.
Prerequisite: Government 2005 or permission of instructor

***Government 2009. Methods of Political Analysis**
Catalog Number: 1080 Enrollment: Limited to 15.
Peter A. Hall
Half course (fall term). Th., 4–6. EXAM GROUP: 18
Covers the issues and techniques central to designing and researching a good dissertation, whether quantitative or qualitative, including principles of research design, case selection, comparison, measurement, and causal relations, with many practical examples.
Note: Open to all doctoral students, regardless of year, and to advanced undergraduates.

Government 2011. Graduate Practicum in Survey Research - *(New Course)*
Catalog Number: 86602
Chase Henri Harrison
Half course (spring term). Th., 4–6.
This course is geared to graduate students who are designing an original survey. Assignments cover core aspects of survey design. By the end of the course, students should have produced a comprehensive research plan which can be implemented or submitted as part of a proposal to a funding agency.

Political Thought and Its History

For Undergraduates and Graduates

Government 1060. Ancient and Medieval Political Philosophy
Catalog Number: 4978
Harvey C. Mansfield
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Classical and medieval political philosophy, from Plato to Thomas Aquinas, with special attention to the question of natural right.
Note: This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning or the Core area requirement for Moral Reasoning.

Government 1061. The History of Modern Political Philosophy
Catalog Number: 5035
Harvey C. Mansfield
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Political philosophy from Machiavelli to Nietzsche, with attention to the rise and complex history of the idea of modernity.
Note: This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning or the Core area requirement for Moral Reasoning.

Government 1080. American Political Thought - *(New Course)*
Catalog Number: 22788
Russell Muirhead
Half course (spring term). M., W., at 1. EXAM GROUP: 6
American political thought, with a focus on the period 1760-1865. Topics include religion, revolution, natural rights, federalism, race, and national identity. Readings drawn mainly from primary sources, including the writings of Franklin, Madison, Hamilton, Adams, Webster, Calhoun, Anthony, Stanton,

Douglas, and Lincoln. Course will also consider contemporary interpretations of the American political tradition.

Government 1082. What is Property?
Catalog Number: 2723
Eric M. Nelson
Half course (spring term). Tu., Th., at 1. EXAM GROUP: 15
This course will investigate the major theories of property in the Western political tradition and address such key questions as: How do we come to own things? What claims do others have on the things we own? Is the community the ultimate owner of all goods? Do property rights really exist, and, if so, what is their source? Readings will include the Bible, Plato, Aristotle, Cicero, More, Harrington, Locke, Marx, and Nozick.
Note: This course, when taken for a letter grade, meets the Core area requirement for Moral Reasoning.

Government 1092. Progressive Alternatives: Institutional Reconstruction Today
Catalog Number: 6197
Roberto Mangabeira Unger (Law School)
Half course (spring term). Tu. 1-3, and a weekly section to be arranged. EXAM GROUP: 15, 16
An exploration of the past and future agenda of progressives, whether self-described as liberals or as leftists. What should they propose, now that they no longer believe in the usefulness of governmental direction of the economy or in the sufficiency of redistributive social programs? A basic concern is the relation of programmatic thought to the understanding of change and constraint.The course will draw on many disciplines and consider examples from many settings. It will try to develop ways of thinking as well as proposals for change. Readings from classic and contemporary social and political theory.
Note: Extended take-home examination. Offered jointly with the Law School as 2391. Fifteen seats are reserved for FAS students.

Government 1093. Ethics, Biotechnology, and the Future of Human Nature
Catalog Number: 4613 Enrollment: May be limited.
Michael J. Sandel and Douglas A. Melton
Half course (fall term). M., 2–4, and a weekly section to be arranged. EXAM GROUP: 7, 8
Explores the moral, political, and scientific implications of new developments in biotechnology. Does science give us the power to alter human nature? If so, how should we exercise this power? The course examines the science and ethics of stem cell research, human cloning, sex selection, genetic engineering, eugenics, genetic discrimination, and human-animal hybrids.
Note: Priority given to undergraduate students. May not be taken concurrently with Life Sciences 60. May not be taken for credit if Life Sciences 60 has already been taken. The course is open to both science and non-science concentrators. Ethical Reasoning 22 (Justice) is recommended as a background. This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning or the Core area requirement for Moral Reasoning.

Government 1096. Legal Thought Now: Law and the Structure of Society - *(New Course)*
Catalog Number: 47232
Roberto Mangabeira Unger (Law School)
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
This course explores central themes of legal and social theory. It takes as its focus the relation of law and legal thought to the formative institutional arrangements and ideological assumptions of society: that is to say, to the structure of society. The course can serve as an introduction to jurisprudence. However, it is not a survey; it seeks to offer a sustained treatment of a fundamental question. Readings are drawn from classic and contemporary legal and social theory.The final takes the form of an extended take-home

examination.
Note: Offered jointly with the Law School as 2389. Meets at Law School.

Cross-listed Courses

Note: These courses do *not* satisfy the political theory field requirement in Government except Ethical Reasoning 22 and Ethnical Reasoning 16.

[Ethical Reasoning 11. Human Rights: A Philosophical Introduction]
[Ethical Reasoning 22 (formerly Moral Reasoning 22). Justice]
[Ethical Reasoning 30. The Just World]
[Ethical Reasoning 34. Liberty]
[*History 73a. Republics and Republicanism]
[History 1322. Heidegger and Arendt]
[History 1323. German Social Thought, Nietzsche to Habermas]
[History 1324. French Social Thought]
[History 1326. The Frankfurt School and Religion: Conference Course]
History 1922. Habermas: Social Theory in Postwar Germany: Conference Course - *(New Course)
Philosophy 178q. Equality and Liberty

Primarily for Graduates

Government 2026. Ancient Greek Political Thought - *(New Course)*
Catalog Number: 88324
Eric M. Nelson
Half course (spring term). W., 2–4.
This course will explore the varieties of Greek political philosophy from the classical period, with particular attention to the works of Plato and Aristotle. All texts will be read in translation.

***Government 2030. Political Concepts: Field Seminar**
Catalog Number: 0551 Enrollment: Open to PhD students in Government and in Philosophy, and to other qualified students by permission of the instructor
Arthur I. Applbaum (Kennedy School)
Half course (spring term). Tu., 10–12.
A thematic exploration of important normative concepts such as freedom, equality, justice, legitimacy, obligation and democracy. Readings are drawn largely from contemporary scholarship.

***Government 2034. Ethics Economics, and Law**
Catalog Number: 4652
Michael J. Sandel
Half course (fall term). M., 5–7 p.m.
Explores controversies about the use of markets and market reasoning in areas such as organ sales, procreation, environmental regulation, immigration policy, military service, voting, health care, education, and criminal justice. The seminar will examine arguments for and against cost-benefit analysis, the monetary valuation of life and the risk of death, and the use of economic reasoning in public policy and law.
Note: Offered jointly with the Law School as LAW - 2076. Meets at the Law School. Open to GSAS students with permission of the instructor.

***Government 2080. Aristotelian Political Science**
Catalog Number: 4345 Enrollment: Limited to 20.
Harvey C. Mansfield
Half course (fall term). W., 4–6.
Aristotle's political science compared to our political science today, with readings from both, in order to judge which is better.
Note: Open to selected undergraduates.

Government 2087. Leibniz, Kant, and the Origins of German Idealism - *(New Course)*
Catalog Number: 49811
Patrick T. Riley
Half course (spring term). Tu., 2–4.
A reading of the main political, moral, jurisprudential, historical, and theological works of the founders of "German Idealism".

Government 2088. Ethical Foundations of Political Thought
Catalog Number: 2378
Michael E. Rosen
Half course (fall term). Th., 1–3.
This class will cover areas of contemporary moral philosophy (for instance, utilitarianism, freedom, the nature of value, consent, well-being and desert) that are of particular relevance to political theorists.

Cross-listed Courses

Economics 2080. Economics and Politics: The Foundations of Economics in Political Theory
History 2322. Adorno: Philosophy, Sociology, Aesthetics: Seminar - *(New Course)*
Philosophy 272. Foundations of Justice - *(New Course)

Comparative Government

For Undergraduates and Graduates

Government 1171. The Making of Modern Politics: The Development of Democracy in Europe from the Middle Ages to the European Union
Catalog Number: 8261
Peter A. Hall
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
How are democracies created and why do they collapse? What causes revolution? What were the consequences of the industrial revolution? What roles do ideas, institutions and interests play in processes of political change? This course examines the long-term historical developments behind the creation of modern politics. Focusing on Britain, France, Germany and Italy from the 1600s to the 2000s, it explores the lessons Europe offers for the development of democracy.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

Government 1181. Politics of the European Union - *(New Course)*
Catalog Number: 36997
Philipp Genschel
Half course (spring term). Tu., Th., 4–5:30. EXAM GROUP: 18

The European Union (EU) has evolved into a multi-level governance system. It shapes the policies, politics and institutions of its member states to an unprecedented extent, and plays an important role on the world stage. This course looks at how the EU works, how it is distinct from a state and from an international organization, and how it might develop in the future. The course is introductory. No prior knowledge of EU politics is required.

Government 1197. The Political Economy of Africa
Catalog Number: 9130
James Robinson and Robert H. Bates
Half course (spring term). M., W., at 10. EXAM GROUP: 3
The basic social science literature on Africa's development. Particular emphasis on political economy.

Government 1207. Comparative Politics of the Middle East
Catalog Number: 69802
Payam Mohseni
Half course (spring term). W., F., at 3. EXAM GROUP: 8
The Middle East is currently in the midst of a dramatic transformation since the Arab uprisings in 2011. This course situates the ongoing developments within the broader historical and political context of the region. It examines the politics of the Middle East through a variety of topics, including the modern state-building project, the legacy of empires and Western colonialism, Islam and politics, monarchies and authoritarianism, political economies, war and conflict, and the prospects for democratization.

***Government 1209. Post-Communist Central Asia and the Caucasus: History, Political Economy, Religion**
Catalog Number: 5816 Enrollment: Limited to 25.
Thomas Simons
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Examines the contemporary situations of the Muslim-majority countries of the post-Soviet space. After sessions on Islam as a religion and in history and on Muslim areas in the Russian Empire and under Communism, focuses on post-Soviet developments in the two main Eurasian areas where Muslims live, given their geo-strategic and global economic contexts. Main theme: the interplay of socio-economic development, religion, and politics.

Government 1243. Russian Politics in Transition
Catalog Number: 1982
Timothy J. Colton
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An examination of politics in the Russian Federation since the collapse of Soviet communism, focusing on the factors promoting and impeding the development of a stable democratic regime. Topics include the general dynamics of political and economic transformation, leadership, institution building, political culture, regionalism and federalism, electoral and party politics, state-society relations and interest groups, and Russian nationalism and neo-imperialism.

Government 1270. Government and Politics of Modern Japan
Catalog Number: 11288
Daniel M. Smith
Half course (spring term). M., W., at 1. EXAM GROUP: 6
An introduction to political life in contemporary Japan. Explores the interaction of political parties, the bureaucracy, interest groups, the media and the government, with an emphasis on the ongoing transformation of the Japanese political system. Special attention will be paid to contemporary issues,

such as economic policy, social welfare programs, national security, disaster response, and administrative reform.

Government 1280. Government and Politics of China
Catalog Number: 1643 Enrollment: Approval of instructor is needed for Graduate students to enroll in this course.
Nara Dillon
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
General introduction to the politics of contemporary China. Basic objectives are to provide a working knowledge of Chinese political programs and practices, and to encourage a critical evaluation of the positive and negative aspects of China's socialist experiment.

Government 1292. Politics in Brazil - *(New Course)*
Catalog Number: 28365
Frances Hagopian
Half course (fall term). M., W., at 10 and a weekly section to be arranged. EXAM GROUP: 3
Introduces students to politics and political change in Latin America's largest country. Outlines historical perspectives and contemporary challenges, and examines political institutions, civil society, and contemporary politics and policy. Emphasis is on how institutional change, decentralization, and the mobilization of civil society have interacted to change the trajectory of Brazilian politics by deepening citizen participation, strengthening political parties and political representation, reforming social policy, guaranteeing citizenship rights, and ultimately reducing inequality and deepening democracy.

Government 1295. Comparative Politics in Latin America
Catalog Number: 4241
Steven R. Levitsky
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Examines dynamics of political and economic changes in modern Latin America, focusing on Argentina, Brazil, Chile, Cuba, Mexico and Venezuela. Topics include the rise of populism and import-substituting industrialization, revolutions and revolutionary movements, the causes and consequences of military rule, the politics of economic reform, democratic transitions, and democratic consolidation. The course analyzes these phenomena from a variety of different theoretical perspectives, including cultural, dependency, institutionalist, and leadership-centered approaches.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Social Analysis.

Cross-listed Courses

Economics 1340. World Economic History
[Economics 1370. Media, Democracy and Economics]
[Religion 1832. Political Islam in the 20th and 21st Centuries]
Societies of the World 15 (formerly Historical Study B-64). The Cuban Revolution, 1956-1971: A Self-Debate
[Sociology 164. Successful Societies: Markers and Pathways]
[The Modern Middle East 120. The Arab Revolutions: popular uprisings and political transformations]

Primarily for Graduates

***Government 2105. Comparative Politics: Field Seminar**
Catalog Number: 0154
Robert H. Bates and Torben Iversen
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Surveys topics in comparative politics (both the developed and the developing world), including the rise of the modern state; institutions of government; interest mediation; democracy and authoritarianism; revolution; political parties; mass and elite political behavior; political economy.
Note: Preference given to FAS Government graduate students.

Government 2131. Comparative Politics of Latin America
Catalog Number: 3337
Jorge I. Domínguez and Steven R. Levitsky
Half course (fall term). M., 4–6.
Topics: historical paths, economic strategies, inflation and exchange rates, international explanations of domestic outcomes, authoritarian and democratic regimes, state institutions, the Roman Catholic Church, social movements, parties and party systems, and voters and voting behavior.

Government 2148. Civil Society, West and East
Catalog Number: 4675
Susan J. Pharr and Grzegorz Ekiert
Half course (fall term). Th., 2–4.
Focusing in particular on European and Asian settings, the seminar examines debates over what civil society is, notions of public space and social capital, and the role of civil society in political transitions.

Government 2151. The Comparative Politics of Eurasia - *(New Course)*
Catalog Number: 17965
Timothy J. Colton and Alexandra Mary Vacroux
Half course (spring term). M., 2–4.
Examines trends in national and transnational politics in the post-Soviet states with special attention to identity, leadership, institutions, economic problems, and the role of great powers. Explores these topics through readings, discussion, and focused case studies.

Government 2176. Varieties of Capitalism and Social Inequality
Catalog Number: 7083 Enrollment: Open to qualified undergraduates.
Peter A. Hall and Kathleen Thelen (MIT)
Half course (spring term). W., 10–12. EXAM GROUP: 3, 4
Explores economic and social inequality in the affluent democracies. How do institutional arrangements reconcile efficiency and equality and affect the dynamics of redistribution? How is institutional change best understood? Taught with Kathleen Thelen of MIT.

Government 2227. The Politics and Economics of Africa
Catalog Number: 8307 Enrollment: Open to juniors and seniors with permission of instructor.
Nahomi Ichino
Half course (fall term). Th., 2–4.
Examines social science research on the politics and political economy of Africa.

***Government 2285. Political Science and China**
Catalog Number: 1566
Elizabeth J. Perry
Half course (spring term). Th., 2–4.

This graduate seminar gives students control over the secondary literature on Chinese politics, with special attention to competing theoretical and methodological approaches.
Note: Requires background in contemporary Chinese history/politics.

Cross-listed Courses

Economics 2325. Comparative Historical Economic Development
[Economics 2328. The Emergence of Modern Economic Growth: A Comparative and Historical Analysis]

American Government, Public Law and Administration

For Undergraduates and Graduates

Government 1358. Presidential Power in the United States
Catalog Number: 65711
Carlos E. Díaz Rosillo
Half course (spring term). M., W., at 11. EXAM GROUP: 4
Analyzes the origins and evolution of presidential power in the United States. Studies the powers of the President and how those powers translate into power. Examines and evaluates the most prominent political science theories, scholarly debates, and public controversies about presidential power. Explores the strategic choices available to modern American presidents in their efforts to augment the power of the presidency and provide active leadership to the political system.

Government 1360. American Public Opinion - *(New Course)*
Catalog Number: 22949
Stephen Daniel Ansolabehere and Mark Penn
Half course (spring term). Tu., 9–11. EXAM GROUP: 11, 12

Government 1368. The Politics of American Education
Catalog Number: 8971
Paul E. Peterson
Half course (fall term). Tu., 2–4; Tu., at 4; Tu., at 5; Th., at 2. EXAM GROUP: 16, 17
This course examines historical and contemporary forces shaping American K-12 education policy. It also reviews research and commentary on contemporary issues: class size, fiscal policy, teacher recruitment, compensation and tenure, accountability, school vouchers, charter schools and digital learning.
Note: Offered jointly with the Kennedy School as SUP 447 (formerly HLE 347).

Government 1372. Political Psychology
Catalog Number: 40477
Kris-Stella Trump
Half course (spring term). M., W., 4–5:30. EXAM GROUP: 9
This course examines the psychological mechanisms behind political behaviors and institutions. Topics covered will include voting behavior, campaigns and media, partisanship, political violence, and racial attitudes. For these and other topics we will not only ask what happens but examine how human psychology makes it happen.

Government 1430. The Politics of Personal Data - *(New Course)
Catalog Number: 68912 Enrollment: Limited to 20.
Latanya Sweeney

Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Course examines legal, political, social, commercial and technical struggles for control over personal data in our globally connected data-rich world. Case studies include data sharing mandated by the state, traded for personal services, and controlled by individuals. Analyses demonstrate ways to think about clashes and the interplay between technology design and policy. Includes a data lab component, but course is accessible to all students willing to experiment with new technologies and participate in class discussions.

***Government 1510. American Constitutional Law**
Catalog Number: 0383 Enrollment: Limited to 250.
Richard H. Fallon (Law School)
Half course (fall term). Tu., Th., 1–2:30, and a weekly section to be arranged. EXAM GROUP: 15, 16
Provides an introduction to contemporary American constitutional law, with a principal focus on decisions by the Supreme Court of the US. Topics to be studied include freedom of speech and religion, guarantees of due process and equal protection, and the powers of Congress and the courts.
Note: This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning or the Core area requirement for Moral Reasoning.

Government 1540. The American Presidency
Catalog Number: 4925
Roger B. Porter (Kennedy School)
Half course (fall term). Tu., Th., 11:30–1, and a weekly section to be arranged. EXAM GROUP: 13, 14
Course analyzes the development and modern practice of presidential leadership. Examines the institutional presidency, presidential selection, decision making, and the relationship of the presidency with the executive branch, Congress, courts, interest groups, the press and the public. Considers the political resources and constraints influencing the President's ability to provide leadership in the US political system.
Note: Offered jointly with the Kennedy School as DPI-115. Meets at FAS.

Government 1545. Gender and Politics - *(New Course)
Catalog Number: 42317 Enrollment: Limited to 30.
Kay L. Schlozman (Boston College)
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course investigates the role of gender in American politics. Topics covered include the roles of women and men as citizens and as political elites; the nineteenth and twentieth century movements on behalf of the collective political interests of women; and, in the second half of the course, the politics of public policies having an explicit gender dimension--among them, various workplace issues, equal educational opportunity, family matters, reproductive issues, and sexual assault.

Cross-listed Courses

Environmental Science and Public Policy 77. Technology, Environment, and Society - *(New Course)*
[Environmental Science and Public Policy 78. Environmental Politics]
[United States in the World 15 (formerly Social Analysis 66). Is the American Racial Order Being Transformed?]
[United States in the World 18. Thinking About the Constitution]
United States in the World 20 (formerly Moral Reasoning 74). The Theory and Practice of Republican Government
[United States in the World 31 (formerly Social Analysis 54). American Society and Public Policy]

Primarily for Graduates

***Government 2305. American Government and Politics: Field Seminar**
Catalog Number: 2305
Stephen Daniel Ansolabehere
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
Designed to acquaint PhD candidates in Government with a variety of approaches that have proved useful in examining important topics in the study of American government and politics.

Government 2340a. Proseminar on Inequality and Social Policy I
Catalog Number: 93024
Theda Skocpol and Christopher Jencks (Kennedy School)
Half course (fall term). W., 2–4.
Considers effects of varied political activities on creating or reducing inequality in U.S., and at effects of inequality on political activity and policy choices. Examines electoral participation, social movements, lawmaking, etc. on policies like education, ERA, welfare.
Note: Offered jointly with the Kennedy School as SUP 921

***Government 2356. Agenda Setting and Representation in Congress**
Catalog Number: 50174 Enrollment: Open to qualified undergraduates with instructor's permission
Matthew B. Platt
Half course (spring term). Th., 4–6.
This graduate level seminar approaches the Congressional literature with a focus on how to further research in two key areas: agenda setting and representation.

***Government 2360. Obama's Presidency and the Dynamics of U.S. Politics: Seminar**
Catalog Number: 51678 Enrollment: Limited to 16.
Theda Skocpol
Half course (fall term). Tu., 2–4.
Dissects political forces affecting the fate of Obama's priorities in health care, financial regulation, environment, immigration, higher education, tax/revenue reform, labor reform, and citizen engagement. Students are expected to develop and present their own research.
Note: Instructor's permission required. Open to graduate students and advanced undergraduate students.

Government 2430. Data Science to Save the World - *(New Course)
Catalog Number: 28112 Enrollment: Limited to 20. Open to qualified undergraduates with instructor's permission
Latanya Sweeney
Half course (fall term). Th., 4–6. EXAM GROUP: 18
This course explores ways to create and use technology to assess and solve real-world societal, political and governance problems. Case studies involve real-world data (e.g., twitter, online ads, and images). Hands-on lab format.

***Government 2453. Practical and Theoretical Regulation of Voting**
Catalog Number: 9666
James M. Snyder and Stephen Daniel Ansolabehere
Half course (spring term). W., 2–4.
The course will focus on points of contact between legal scholarship on voting rights and election law and the political science literature on redistricting, voting behavior, and elections. Emphasis will be placed on how observed data can be, and should be, used as evidence.
Note: Offered jointly with the Law School as LAW-2622

Government 2473. Parties and Interest Groups in the U.S.
Catalog Number: 32723
James M. Snyder
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
This course explores the role of political parties and interest groups in the U.S. political system.
Note: Open to undergraduate juniors or seniors with permission of instructor

***Government 2490. The Political Economy of the School**
Catalog Number: 3399
Paul E. Peterson
Half course (fall term). W., 4–6.
Identifies political and economic influences on education policy, expenditure levels, and governance. Examines classic and recent studies of selected school policies (class size, charters, vouchers, accountability, school organization, etc.), giving particular attention to research design and methodological issues as well as to theories and interpretations of institutions and processes.
Note: Background in statistics expected. Permission of instructor required for all students who are not graduate degree candidates in the FAS Department of Government. Offered jointly with the Kennedy School as HLE-348. Meets at the Kennedy School.
Prerequisite: Government 1368, or permission of instructor.

Cross-listed Courses

[*Sociology 223. American Society and Public Policy: Research Seminar]

International Relations

For Undergraduates and Graduates

Government 1729. Models of Conflict in International Relations - *(New Course)*
Catalog Number: 55278
Muhammet Ali Bas
Half course (spring term). M., W., at 11. EXAM GROUP: 4
This course is both a simple introduction to game theory, and a literature review of game theoretical approaches to the study of international conflict and war. Game theory is a tool for analyzing strategic interaction between rational actors. The course will feature games like the Prisoners' Dilemma, the Chicken, and models of bargaining. Students will learn how these and related tools can be used to understand and analyze historical and current instances of international conflict. Specifically, we will try to answer questions like: why do states fight costly wars in international relations? Why do peaceful negotiations fail? How does deterrence work? Why do states get into costly arms races? How does domestic politics shape international conflict?

Government 1730. War and Politics
Catalog Number: 6806
Stephen P. Rosen
Half course (fall term). Tu., Th., 2-4.
Explores the organized use of violence for the purposes of the state, with particular attention paid to the question of strategy and the sources of victory.
Note: This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

Government 1750. International Institutions - *(New Course)*
Catalog Number: 89518
Philipp Genschel
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
The governance structures of the nation state are increasingly complemented and partially challenged by international institutions. This seminar offers an in-depth overview of the structures, operating procedures and effects of international institutions. The empirical focus is on key international institutions in the fields of security, money and trade: the UN Security Council, NATO, the IMF and the WTO. The course is introductory. No prior knowledge of international politics is required.

***Government 1760. International Relations of East Asia**
Catalog Number: 2733 Enrollment: Limited to 50.
Alastair Iain Johnston
Half course (fall term). M., W., at 1, and a weekly section to be arranged. EXAM GROUP: 6
Introduction to the historical, military, political, economic, and cultural features of interstate relations in East Asia and the Pacific. The course also presents some theoretical and methodological tools for more systematic analysis of these issues. The goal is to understand changing levels of conflict and cooperation in the region.

Government 1780. International Political Economy
Catalog Number: 0272
Jeffry Frieden
Half course (fall term). M., W., 2–3:30; W., 4:30–6; W., 7–8:30 p.m.; Th., 10:30–12. EXAM GROUP: 7, 8
Analyzes the interaction of politics and economics in the international arena. Focuses on international trade, investment, monetary, and financial relations. Includes discussion of developed, developing, and formerly centrally-planned nations.
Note: This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Government 1793. Media, Public Opinion and Foreign Policy - *(New Course)*
Catalog Number: 40813
Matthew A. Baum (Kennedy School)
Half course (spring term). Tu., Th., 1:30–3. EXAM GROUP: 15, 16
This course investigates the means through which the media and public opinion influence U.S. foreign policy. We will consider how the public learns about foreign policy, whether and when they care about it, and when political leaders will be responsive to public preferences. We will also consider the effects of real-time global news reporting and media fragmentation. The goal is to understand the interaction between the media, the public and political leaders.

***Government 1796 (formerly *Government 2790). Central Challenges of American National Security, Strategy, and the Press**
Catalog Number: 3567 Enrollment: Limited to 30.
Graham T. Allison, Jr. (Kennedy School) and David Sanger (Kennedy School)
Half course (fall term). Tu., 8:40–11:30. EXAM GROUP: 10, 11, 12, 13
Using a series of case studies from the front page, and from the most urgent issues on the U.S. national security agenda, this course will engage students in grappling with the hardest American national security challenges of the decade ahead. Issues range from the Arab Awakening and intervention in civil wars to combating Iran's nuclear ambitions and dealing with the economic and military rise of China. Assignments require strategic thinking: analyzing dynamics of issues and developing strategies in a government whose deliberations are discombobulated by leaks, reports about internal differences among

policymakers, and press analyses. Students will learn to devise strategies and write strategic options memos as participants in the policymaking process. Strategic options memos combine careful analysis and strategic imagination, on the one hand, with the necessity to communicate to major constituencies in order to sustain public support, on the other. A subtheme of the course explores coping with a world where a pervasive press makes secrecy more often the exception than the rule. In each case, there will be exploration of how media coverage affects decision making, with an examination of WikiLeaks, the revelations about drones and secret, American-led cyberattacks, and other examples of the publication of classified information. Because of time constraints, Mr. Sanger will be joining a limited number of class sessions, and will join some remotely.
Note: Offered jointly with the Kennedy School as IGA-211. Meets at BL-1

Cross-listed Courses

***History 82f. The Origins of the Cold War: The Yalta Conference (1945)**
[History 1465. The United States in the World since 1900]
United States in the World 40 (formerly History 1989). New World Orders? From the Cold War to Contemporary International Relations

Primarily for Graduates

***Government 2710. International Relations: Field Seminar**
Catalog Number: 8310
Beth A. Simmons
Half course (spring term). W., 4–6. EXAM GROUP: 9
A survey of the field.
Note: Limited to Government graduate students. Suitable for students preparing for general examinations.

Government 2735. Empirical Models in International Relations
Catalog Number: 9499
Muhammet Ali Bas
Half course (spring term). Tu., 2–4.
This course examines statistical issues relevant to the study of international politics. The purpose is to familiarize students with different models that have been employed in research on international conflict, IPE and international institutions.

Government 2755. International Political Economy
Catalog Number: 7392
Jeffry Frieden
Half course (fall term). M., 10–12.
A graduate-level introduction to the theoretical and empirical literature on the political economy of international trade, monetary, regulatory, and investment policies.

Government 2791. Comparative Foreign and Security Policy
Catalog Number: 7696
Alastair Iain Johnston
Half course (fall term). Tu., 1–3.
Focus is on the theory, methods, and data used in the empirical analysis of the foreign security policies of states. Examines the sources of state preferences, the structural and domestic constraints on state action, and foreign policy change.
Prerequisite: Prior training in international relations theory strongly recommended.

Cross-listed Courses

History 2222. The Cold War and Its Collapse: Seminar - *(New Course)

Graduate Courses of Reading and Research

***Government 3000. Reading and Research**
Catalog Number: 3391
James E. Alt 1593 (on leave spring term), Robert H. Bates 1251, Eric Beerbohm 5558 (on leave 2013-14), Daniel P. Carpenter 4509, Timothy J. Colton 2269, Jorge I. Domínguez 3823, Grzegorz Ekiert 2718 (on leave spring term), Jeffry Frieden 1627 (on leave spring term), Claudine Gay 5485 (on leave 2013-14), Adam Glynn 5600, Peter A. Hall 7272, Michael J. Hiscox 4104, Jennifer L. Hochschild 3785 (on leave 2013-14), Nahomi Ichino 5316 (on leave spring term), Torben Iversen 1250, Alastair Iain Johnston 3213, Gary King 1723, Steven R. Levitsky 2395, Roderick Macfarquhar 7856, Harvey C. Mansfield 1731, Eric M. Nelson 5345, Elizabeth J. Perry 3074, Paul E. Peterson 2114, Susan J. Pharr 1518, Robert D. Putnam 6193, Patrick T. Riley 5944, James Robinson 5022, Michael E. Rosen 5610, Stephen P. Rosen 2721, Nancy Lipton Rosenblum 3786, Pedram Safari 5849, Michael J. Sandel 7065 (on leave spring term), Kenneth A. Shepsle 1421 (on leave 2013-14), Beth A. Simmons 4487, Theda Skocpol 1387, Sumeeta Srinivasan 5215, Dennis F. Thompson 1426, Richard Tuck 1704 (on leave spring term), and Daniel F. Ziblatt 4641
Note: Requires written work of sufficient quantity and quality so that the course is equivalent to a lecture course or a seminar. Students who want supervised reading without substantial written work should take TIME-C (catalog number 8899) instead.

***Government 3000a. Reading and Research Seminar**
Catalog Number: 4143
Members of the Department
Small seminar on special topics. May be arranged with faculty listed under Government 3000. Requires written work as does Government 3000, but also involves regular class meetings.

***Government 3001. Approaches to the Study of Politics**
Catalog Number: 21415 Enrollment: Limited to and required of first year department graduate students.
Daniel P. Carpenter 4509
Half course (fall term). Tu., 10–12.
Graduate Seminar designed to introduce research questions and frontiers across political science.

[*Government 3100. Safra Graduate Fellowship Seminar]
Catalog Number: 40555 Enrollment: Limited to graduate fellows of the Safra Center only.
Eric Beerbohm 5558 (on leave 2013-14)
Full course (indivisible). .
This seminar examines how moral and political theories should be brought to bear on institutional and policymaking choices. Special attention will be given to the relation between ideal and nonideal theory.
Note: Expected to be given in 2014–15. Not repeatable for credit.

Government 3100hf. Safra Graduate Fellowship Seminar - *(New Course)
Catalog Number: 26859 Enrollment: Limited to graduate fellows of the Safra Center only
Eric Beerbohm 5558 (on leave 2013-14)
Half course (throughout the year). .
This seminar examines how moral and political theories should be brought to bear on institutional and

policymaking choices. Special attention will be given to the relation between ideal and nonideal theory.
Note: Not repeatable for credit

Research Workshops

All Department of Government graduate students who have passed generals are eligible to enroll in one of the following research workshops. Others may attend with permission of instructor.

Government 3003. Seminar on Law and Political Science - *(New Course)
Catalog Number: 41625
Stephen Daniel Ansolabehere 6377, Jacob E. Gersen (Law School) 7335, and Matthew C. Stephenson (Law School) 5298
Half course (spring term). F., 3–4:30.
This interdisciplinary seminar, offered jointly with the Harvard Law School, will provide students and faculty with an opportunity to engage with scholarship at the intersection of law and political science. Seminar meetings will feature invited speakers presenting their current research. The seminar is intended primarily for students interested in pursuing academic careers, particularly those enrolled in or considering a joint JD-PhD program.
Note: Offered jointly with the Law School as 2553.

***Government 3004. Research Workshop in American Politics**
Catalog Number: 8566
Daniel P. Carpenter 4509
Full course (indivisible). Tu., 12–2.
A forum for the presentation and discussion of research in progress by graduate students (second year and above), faculty, and visiting scholars. Anyone working on contemporary American politics or on US political development welcome. Occasional presentations by invited speakers.

***Government 3005 (formerly *Government 3005b). Research Workshop in International Relations**
Catalog Number: 1016
Beth A. Simmons 4487, Stephen P. Rosen 2721 (fall term only), and Dustin Tingley 6836 (spring term only)
Full course (indivisible). Th., 12–2.
Research workshop for advanced graduate students working on dissertation proposals in international relations.

***Government 3006. Research Workshop in Comparative Politics**
Catalog Number: 0910
Daniel F. Ziblatt 4641
Full course (indivisible). W., 4–6. EXAM GROUP: 9
The workshop offers advanced graduate students an opportunity to present their work-in-progress, benefit from critiques of it, and discuss theoretical and methodological issues.
Note: Doctoral students from other departments and faculties admitted if space permits.

***Government 3007. Research Workshop in Political Economy**
Catalog Number: 0968
Muhammet Ali Bas 5883 and Robert H. Bates 1251
Full course (indivisible). M., 12–2. EXAM GROUP: 5, 6
Intended for graduate students in the third year and above, this course welcomes scholarship of all types

and on all aspects of political economy. Intended to provide a venue in which to develop and to debate work in progress.

***Government 3008. Research Workshop in Political Theory**
Catalog Number: 1704
Michael E. Rosen 5610 and Nancy Lipton Rosenblum 3786
Full course (indivisible). W., 12–2.

***Government 3009. Research Workshop in Applied Statistics**
Catalog Number: 8142
Alberto Abadie (Kennedy School) 5277, Adam Glynn 5600, Alexandra Achen Killewald 7028, Gary King 1723, Luke Weisman Miratrix 6490, James M. Robins (Public Health) 1492, Donald B. Rubin 7966, Arthur P. Spirling 6062 (on leave spring term), Tyler J. VanderWeele (Public Health) 6574, and Christopher Winship 3189, Teppei Yamamoto (Political Science, MIT)
Full course (indivisible). W., 12–2.
A forum for graduate students, faculty, and visiting scholars to present and discuss work in progress. Features a tour of Harvard's statistical innovations and applications with weekly stops in different disciplines. Occasional presentations by invited speakers.

Health Policy

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on the Doctor of Philosophy in Health Policy

Joseph P. Newhouse, John D. MacArthur Professor of Health Policy and Management, Professor of Health Care Policy *(Kennedy School, Public Health, Medical School) (Chair)*
Nava Ashraf, Associate Professor *(Business School)*
Katherine Baicker, Professor of Health Economics *(Public Health)*
Robert J. Blendon, Richard L. Menschel Professor of Public Health, Professor of Health Policy and Political Analysis *(Public Health)*
Barry R. Bloom, Harvard University Distinguished Service Professor and Joan L. and Julius H. Jacobson Professor of Public Health *(Public Health)*
David E. Bloom, Clarence James Gamble Professor of Economics and Demography *(Public Health)*
Allan M. Brandt, Amalie Moses Kass Professor of the History of Medicine in the Faculty of Medicine, and Professor of the History of Science in the Faculty of Arts and Sciences *(on leave spring term)*
Daniel P. Carpenter, Allie S. Freed Professor of Government
Amitabh Chandra, Professor of Public Policy *(Kennedy School)*
Michael Chernew, Professor of Health Care Policy *(Medical School)*
I. Glenn Cohen, Professor of Law *(Law School)*
Jessica L. Cohen, Assistant Professor of Global Health *(Public Health)*
David M. Cutler, Otto Eckstein Professor of Applied Economics

Norman Daniels, Mary B. Saltonstall Professor of Population Ethics and Professor of Ethics and Population Health *(Public Health)*
Amy C. Edmondson, Novartis Professor of Leadership and Management *(Business School)*
Arnold M. Epstein, John H. Foster Professor of Health Policy and Management *(Public Health)*
Richard G. Frank, Margaret T. Morris Professor of Health Care Policy *(Medical School)*
Julio Jose Frenk, T & G Angelopoulos Professor of Public Health and International Development, Dean of the Faculty of Public Health *(Kennedy School, Public Health)*
Guy S. Gazelle, Professor in the Department of Health Policy and Management, Professor of Radiology *(Public Health, Medical School)*
Susanne J. Goldie, Roger Irving Lee Professor of Public Health *(Public Health)*
David C. Grabowski, Professor of Health Care Policy *(Medical School)*
James K. Hammitt, Professor of Economics and Decision Sciences *(Public Health)*
John Hsu, Associate Professor of Health Care Policy *(Medical School)*
Robert S. Huckman, Albert J. Weatherhead III Professor of Business Administration *(Business School)*
Haiden A. Huskamp, Professor of Health Care Policy *(Medical School)*
Anupam Bapu Jena, Assistant Professor of Health Care Policy, Assistant Professor of Medicine *(Medical School)*
Ashish Kumar Jha, Professor of Health Policy and Management *(Public Health)*
Nancy M. Kane, Professor of Management *(Public Health)*
Jane Jooyun Kim, Assistant Professor *(Public Health)*
Gary King, Albert J. Weatherhead III University Professor
Bruce E. Landon, Professor of Health Care Policy *(Medical School)*
Mary Elizabeth Landrum, Professor of Health Care Policy *(Medical School)*
Peter V. Marsden, Edith and Benjamin Geisinger Professor of Sociology and Dean of Social Science
Marie C. McCormick, Sumner and Esther Feldberg Professor of Maternal and Child Health *(Public Health)*
Thomas G. McGuire, Professor of Health Economics in the Department of Health Care Policy *(Medical School)*
Barbara J. McNeil, Ridley Watts Professor of Health Care Policy *(Medical School)*
John Michael McWilliams, Assistant Professor of Health Care Policy *(Medical School)*
Michelle M. Mello, Professor of Law and Public Health *(Public Health)*
Carl N. Morris, Professor of Statistics *(on leave spring term)*
Sharon-Lise T. Normand, Professor of Health Care Policy (Biostatistics), Professor in the Department of Biostatistics *(Medical School, Public Health)*
Jukka-Pekka Onnela, Assistant Professor of Biostatistics *(Public Health)*
Gary Pisano, Harry E. Figgie Jr. Professor of Business Administration *(Business School)*
Meredith B. Rosenthal, Professor of Health Economics and Policy *(Public Health)*
Donald B. Rubin, John L. Loeb Professor of Statistics
Joshua A. Salomon, Professor of Global Health *(Public Health)*
Sara Jean Singer, Assistant Professor of Health Care Management and Policy, Assistant Professor of Medicine *(Public Health, Medical School)*
Benjamin D. Sommers, Assistant Professor of Health Policy and Economics *(Public Health)*
Stephen B. Soumerai, Professor of Population Medicine *(Medical School)*
B. Katherine Swartz, Professor of Health Policy and Economics *(Public Health)*
Milton C. Weinstein, Henry J. Kaiser Professor of Health Policy and Management, Professor of Medicine *(Public Health, Medical School)*
Alan M. Zaslavsky, Professor of Health Care Policy (Statistics) *(Medical School)*
Richard J. Zeckhauser, Frank Plumpton Ramsey Professor of Political Economy in the John F. Kennedy School of Government *(Kennedy School)*

Other Faculty Offering Instruction in Health Policy

Michael R. Kremer, Gates Professor of Developing Societies *(on leave 2013-14)*

Graduate Program in Health Policy

The PhD in Health Policy, awarded by the Faculty of Arts and Sciences, draws upon the resources of six Harvard faculties: the Faculty of Arts and Sciences, Harvard School of Public Health, Harvard Medical School, Harvard Kennedy School, Harvard Law School, and Harvard Business School. This degree is intended primarily for students seeking teaching careers in institutes of higher learning and/or research careers in policy.

Students in the PhD Program in Health Policy choose a concentration and meet specific curriculum requirements in one of six disciplines: decision sciences, economics, ethics, evaluative science and statistics, management, or political analysis. In addition to choosing a concentration, students specialize in one of four areas of policy interest: health care services, global health, mental health, or public health.

Decision Sciences (Professor Milton C. Weinstein, Chair). Decision sciences are the collection of quantitative techniques that are used for decision making at the individual and collective level. They include decision analysis, risk analysis, cost-benefit and cost-effectiveness analysis, decision modeling, and behavioral decision theory, as well as parts of operations research, microeconomics, statistical inference, management control, cognitive and social psychology, and computer science. The concentration in decision sciences prepares students for research careers that involve the application of these methods to health problems.

Economics (Professor Joseph P. Newhouse, Chair). The concentration in economics focuses on the economic behavior of individuals, providers, insurers, and international, federal, state, and local governments and actors as their actions affect health and medical care. In addition to examining the literature on health economics, the training emphasizes microeconomic theory, econometrics, and interactions with other disciplines, including clinical medicine. The concentration prepares students for research and teaching careers as health economists.

Ethics (Professor Norman Daniels, Chair). The ethics concentration integrates quantitative, qualitative, and normative approaches to the analysis of ethical issues in health policy and clinical practice. Increasingly, the investigation of ethical issues in medicine and health policy has not only drawn on normative ethics and political philosophy, but has included empirical research concerning attitudes and practices in clinical and broader institutional settings. A grasp of normative theories and tools is important because ethical principles and approaches underlie, explicitly or implicitly, the formulation of particular health policies at both the macro and micro level. Students in this track will focus on developing skills in a range of disciplines, with the goal of evaluating how ethical and socio-cultural values shape - and should shape - health policies as well as clinical and public health practices.

Evaluative Science and Statistics (Professor B. Stephen Soumerai and Professor Alan M. Zaslavsky, Co-Chairs). Training in this concentration will enable students to study the effects of a wide range of policies and health services (e.g., health insurance, health-care quality improvement, clinical decision-making, drug policy, cost-containment, and socioeconomic factors) on behaviors, access, processes and quality of health care, health outcomes, or costs. Students in this concentration will develop proficiency in experimental and quasi-experimental research design, statistics, relevant social sciences, and other methodological approaches (e.g., epidemiology, program evaluation, qualitative methods, and survey design).

Management (Professor Robert S. Huckman, Chair). The management concentration prepares students to do research on the organizational, managerial, and strategic issues facing health care providers, payers,

and other players in the health care market. Students in this track will learn how theories and concepts from fields such as technology and operations management, organizational behavior, organizational economics, and competitive strategy can be applied to - and further developed for understanding - health care organizations.

Political Analysis (Professor Robert J. Blendon, Chair). This concentration is intended for students who wish to do research on the relationship between politics and health policy. Students will study theories of individual opinion formation, voting behavior, legislative organization, and interest group formation. In addition, students will examine the role of public opinion, interest groups, the media, and institutions in influencing health policy outcomes. The research methodologies most utilized in this track include survey research methods and quantitative statistical methods appropriate for large-scale databases.

Applications: Prospective students should visit the Graduate School of Arts and Sciences website at www.gsas.harvard.edu to apply online. Important additional information on financial aid and other aspects of the PhD Program in Health Policy is available from Deborah Whitney, Director, PhD Program in Health Policy (deborah whitney@harvard.edu) and Ayres Heller, Assistant Director, PhD Program in Health Policy (ayres heller@harvard.edu). Website: www.healthpolicy.fas.harvard.edu.

Health Policy Courses

Health Policy 2000. Core Course in Health Policy
Catalog Number: 4522
Joseph P. Newhouse (Kennedy School, Public Health, Medical School), Richard G. Frank (Medical School), and Alan M. Zaslavsky (Medical School)
Full course (indivisible). Tu., Th., 4–6. EXAM GROUP: 18
Topics include the financing and organization of health care, public health, political analysis, medical manpower, health law and ethics, technology assessment, prevention, mental health, long-term care, and quality of care.
Note: Required for doctoral candidates in Health Policy and open to others by permission of instructor. Offered jointly with the Kennedy School as SUP-957 and SUP-958 and with the School of Public Health as HPM 246.

***Health Policy 3000. Doctoral Dissertation Research**
Catalog Number: 8422
Members of the Committee
Dissertation research.

***Health Policy 3002. Graduate Reading Course: Mental Health Policy**
Catalog Number: 3528
Richard G. Frank (Medical School) 1371
Half course (spring term). Hours to be arranged.
Participants discuss research on the politics surrounding mental health policy and examine how to apply existing work and methodological approaches to their own work.
Note: Offered in alternate years.

***Health Policy 3010. First-Year Graduate Reading Course: Ethics**
Catalog Number: 9241
Norman Daniels (Public Health) 4722
Examines issues in ethics and health policy, including a basic account of justice and health; ethical

critique of maximization methodologies, including cost-effectiveness analysis; individual and social responsibility for health; and other topics.

***Health Policy 3015. Second-Year Graduate Reading Course: Ethics**
Catalog Number: 4380
Norman Daniels (Public Health) 4722
Student-led course reviews basic issues in ethics, political philosophy, and their bearing on health policy and is important preparation for the qualifying examinations.

***Health Policy 3020. Graduate Reading Course: Political Analysis**
Catalog Number: 3781
Robert J. Blendon (Public Health) 2712
Participants present their own ongoing research on the politics surrounding health policy and discuss recent research drawn from various methodological approaches. Graduate students, faculty, and visiting scholars are welcome to present research at all stages.
Note: Offered in alternate years.

***Health Policy 3030. Graduate Reading Course: Medical Sociology**
Catalog Number: 1826
Thomas G. McGuire (Medical School) 4723

***Health Policy 3040hf. Research Seminar in Health Policy**
Catalog Number: 8870
B. Katherine Swartz (Public Health) 2461
Half course (throughout the year). Hours to be arranged.

Health Policy 3050. Federal Research Funding - *(New Course)
Catalog Number: 11537
John Hsu (Medical School) 7389
Half course (fall term). .
This course focuses on federal scientific research grant applications. Students will learn about the most common forms of federal grant applications, basic components of applications, and the scientific review process for NIH / AHRQ. Students will develop a dissertation grant application, and will review actual grant applications as part of the course.
Note: Required of AHRQ trainees. For more information, see the course website.

***Health Policy 3060hf. Research Seminar in Decision Sciences**
Catalog Number: 2133
Joshua A. Salomon (Public Health) 5759
Half course (throughout the year). Hours to be arranged.
Explores key conceptual and methodological issues relevant to research in health decision sciences. Faculty members and invited speakers will assign readings and present examples of theoretical and applied work. Students are required to participate in class discussion and to present their own research work in progress.

***Health Policy 3070. Graduate Reading Course: Economics**
Catalog Number: 7439
Joseph P. Newhouse (Kennedy School, Public Health, Medical School) 2425

***Health Policy 3080hf. Graduate Reading Course: Evaluative Science and Statistics**
Catalog Number: 9516
John Michael McWilliams (Medical School) 1447, Stephen B. Soumerai (Medical School) 1906, and Alan M. Zaslavsky (Medical School) 1927
Half course (throughout the year). .

***Health Policy 3090. Graduate Reading Course: Management**
Catalog Number: 2492
Robert S. Huckman (Business School) 5234

Courses of Interest

Economics 2460. Health Economics Workshop
Economics 2465. Health Economics
***Economics 3460c. Research in Health Economics**

History

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of History

David R. Armitage, Lloyd C. Blankfein Professor of History *(Chair)*
Emmanuel K. Akyeampong, Professor of History and of African and African American Studies *(on leave fall term)*
Dimiter Georgiev Angelov, Visiting Associate Professor of History
Sven Beckert, Laird Bell Professor of History
Ann M. Blair, Henry Charles Lea Professor of History, Harvard College Professor *(Director of Undergraduate Studies)*
Sugata Bose, Gardiner Professor of Oceanic History and Affairs
Vincent Brown, Charles Warren Professor of American History and Professor of African and African American Studies
Sarah Anne Carter, Lecturer on History
Joyce E. Chaplin, James Duncan Phillips Professor of Early American History
Lizabeth Cohen, Howard Mumford Jones Professor of American Studies, and Dean of the Radcliffe Institute for Advanced Study *(on leave 2013-14)*
Nancy F. Cott, Jonathan Trumbull Professor of American History
Robert Darnton, Carl H. Pforzheimer University Professor
Alejandro de la Fuente, Robert Woods Bliss Professor of Latin-American History and Economics and Professor of African and African American Studies and of History *(on leave 2013-14)*
Emma Dench, Professor of the Classics and of History, Harvard College Professor
Caroline M. Elkins, Professor of History

Drew Gilpin Faust, Lincoln Professor of History, and President of Harvard University
Niall Ferguson, Laurence A. Tisch Professor of History
Brett Flehinger, Lecturer on History
Andrew Gordon, Lee and Juliet Folger Fund Professor of History
Peter E. Gordon, Amabel B. James Professor of History, Harvard College Professor
Annette Gordon-Reed, Professor of Law in the Faculty of Law; and Professor of History in the Faculty of Arts and Sciences
Frances Gouda, Erasmus Lecturer on the Civilization of the Netherlands
James Hankins, Professor of History *(on leave spring term)*
Tamar Herzog, Monroe Gutman Professor of Latin American Affairs and Professor of History
Evelyn Brooks Higginbotham, Victor S. Thomas Professor of History and of African and African American Studies *(on leave 2013-14)*
Patrice Higonnet, Robert Walton Goelet Professor of French History *(on leave 2013-14)*
Maya Jasanoff, Professor of History *(on leave 2013-14)*
Andrew Jewett, Associate Professor of History and of Social Studies *(on leave 2013-14)*
Alison Frank Johnson, Professor of History
Walter Johnson, Winthrop Professor of History and Professor of African and African American Studies
Daniel Juette, Lecturer on History
Cemal Kafadar, Vehbi Koc Professor of Turkish Studies
William C. Kirby, T. M. Chang Professor of China Studies and Spangler Family Professor of Business Administration
Mark A. Kishlansky, Frank B. Baird, Jr. Professor of History
James T. Kloppenberg, Charles Warren Professor of American History
Stephen Lassonde, Lecturer on History
Jill M. Lepore, David Woods Kemper ’41 Professor of American History, Harvard College Professor
Mary D. Lewis, Professor of History
Allan Edward Lumba, Lecturer on History
Charles S. Maier, Leverett Saltonstall Professor of History
Erez Manela, Professor of History *(Director of Graduate Studies)*
Terry D. Martin, George F. Baker III Professor of Russian Studies
Michael McCormick, Francis Goelet Professor of Medieval History
Lisa M. McGirr, Professor of History
Elizabeth Mesok, Lecturer on History
Ian J. Miller, Associate Professor of History
Sreemati Mitter, Lecturer on History
Roy Mottahedeh, Gurney Professor of History *(on leave spring term)*
Afsaneh Najmabadi, Francis Lee Higginson Professor of History and Professor of the Studies of Women, Gender, and Sexuality
Kelly A. O’Neill-Uzgiris, Associate Professor of History
Steven Ozment, McLean Professor of Ancient and Modern History
Serhii Plokhii, Mykhailo S. Hrushevs’kyi Professor of Ukrainian History
Jacob A. C. Remes, Lecturer on History
Emma Rothschild, Jeremy and Jane Knowles Professor of History
Jonathan D. Sarna, Joseph Engel Visiting Professor of American Jewish Studies
Mary Elise Sarotte, Visiting Professor of Government and of History
Daniel L. Smail, Professor of History
Theodore E. Stebbins, Lecturer on History
Hue-Tam Ho Tai, Kenneth T. Young Professor of Sino-Vietnamese History
Heidi Jacqueline Tworek, Lecturer on History
Laurel Thatcher Ulrich, 300th Anniversary University Professor

Kirsten A. Weld, Assistant Professor of History
Alexia Yates, Lecturer on History

Other Faculty Offering Instruction in the Department of History

Asad A. Ahmed, Associate Professor of Anthropology
William P. Alford, Henry L. Stimson Professor of Law *(Law School)*
Bernard Bailyn, Adams University Professor, Emeritus and James Duncan Phillips Professor of Early American History, Emeritus
Theodore C. Bestor, Reischauer Institute Professor of Social Anthropology
Thomas N. Bisson, Henry Charles Lea Professor of Medieval History, Emeritus
David Blackbourn, Coolidge Professor of History, Emeritus
Peter K. Bol, Charles H. Carswell Professor of East Asian Languages and Civilizations *(on leave spring term)*
Tomiko Brown-Nagin, Professor of Law *(Law School)*
Janet Browne, Aramont Professor of the History of Science, Harvard College Professor
Lawrence Buell, Powell M. Cabot Professor of American Literature, Emeritus
Steven C. Caton, Khalid Bin Abdullah Bin Abdulrahman Al Saud Professor of Contemporary Arab Studies *(on leave spring term)*
John H. Coatsworth, Monroe Gutman Professor of Latin American Affairs, Emeritus
Kathleen M. Coleman, James Loeb Professor of the Classics *(on leave 2013-14)*
John Comaroff, Hugh K. Foster Professor of African and African American Studies and of Anthropology
Albert M. Craig, Harvard-Yenching Professor of History, Emeritus
Christine Desan, Professor of Law *(Law School)*
Charles Donahue, Jr., Paul A. Freund Professor of Law *(Law School)*
Carter J. Eckert, Yoon Se Young Professor of Korean History
Mark C. Elliott, Mark Schwartz Professor of Chinese and Inner Asian History
Noah R. Feldman, Bemis Professor of International Law *(Law School)*
Francis Fiorenza, Charles Chauncey Stillman Professor of Roman Catholic Theological Studies *(Divinity School)*
Rachel L. Greenblatt, Associate Professor of Near Eastern Languages and Civilizations
David D. Hall, Professor of Divinity, Emeritus *(Divinity School)*
Peter A. Hall, Krupp Foundation Professor of European Studies
Morton J. Horwitz, Charles Warren Professor of American Legal History *(Law School)*
David Howell, Professor of Japanese History
Akira Iriye, Charles Warren Professor of American History, Emeritus
Christopher P. Jones, George Martin Lane Professor of the Classics and of History, Emeritus
Edward L. Keenan, Andrew W. Mellon Professor of History, Emeritus
Robin E. Kelsey, Shirley Carter Burden Professor of Photography
Alexander Keyssar, Matthew W. Stirling, Jr. Professor of History and Social Policy at the Kennedy School of Gov't *(Kennedy School)*
Sun Joo Kim, Harvard-Yenching Professor of Korean History
Elisabeth Koll, Associate Professor of Business Administration *(Business School)*
Philip A. Kuhn, Francis Lee Higginson Professor of History and of East Asian Languages and Civilizations, Emeritus
Bruce H. Mann, Carl F. Schipper, Jr. Professor of Law *(Law School)*
Louis Menand, Anne T. and Robert M. Bass Professor of English
Mo Moulton, Lecturer on History and Literature
E. Roger Owen, A. J. Meyer Professor of Middle East History, Emeritus
Richard Pipes, Frank B Baird, Jr Professor of History, Emeritus
Michael J. Puett, Walter C. Klein Professor of Chinese History

Julie A. Reuben, Charles Warren Professor of the History of American Education *(Faculty of Education)*
Stephanie Sandler, Ernest E. Monrad Professor of Slavic Languages and Literatures
Ajantha Subramanian, Professor of Anthropology
Michael A. Szonyi, Professor of Chinese History *(on leave 2013-14)*
Roman Szporluk, Mykhailo S. Hrushevs'kyi Professor of Ukrainian History, Emeritus
Stephan Thernstrom, Winthrop Professor of History, Emeritus
John Womack, Jr., Robert Woods Bliss Professor of Latin-American History and Economics, Emeritus

Undergraduate Seminars

Primarily for Undergraduates

Required for History concentrators; open to non-concentrators as well. Graduate students may enroll with the instructor's permission.

***History 13a (formerly *History 1305). The European Enlightenment**
Catalog Number: 3702 Enrollment: Limited to 15.
James Hankins
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Reading and discussion of major texts of the European Enlightenment, from the late 17th century to the late 18th century, with particular attention to the promotion of useful knowledge and to the theory of religion. Readings in Spinoza, Locke, Bayle, Montesquieu, La Mettrie, Voltaire, D'Alembert, Diderot, Rousseau, Hume and Kant.

History 60a. Global Cities: A Modern History - *(New Course)
Catalog Number: 23878 Enrollment: Limited to 15.
Alexia Yates
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
Cities and their processes organize the material conditions of our daily lives on a planetary scale. This course explores the history of the industrial and post-industrial metropolis, focusing on the politics of urban space and the evolution of the urban experience from the early nineteenth century to early twenty-first. From London to Lagos, Paris to Rio de Janeiro, special attention will be given to the ways that cities shape and manage economic and political inequality.

History 60b. The Pacific World - *(New Course)
Catalog Number: 50637 Enrollment: Limited to 12.
Holger Droessler
Half course (fall term). W., 4–6. EXAM GROUP: 9
Home to a third of humanity, the Pacific has long been one of the most diverse regions on earth. This seminar introduces students to the rich histories that make up the Pacific World and provides historical perspective to the renewed importance of the Pacific in today's globalizing world. Topics to be discussed include the environment, missionary and scientific explorations, migration, language, labor, gender, race, and imperialism.

History 60c. The Nature of Modern China: Space, Science, and Environment - *(New Course)
Catalog Number: 84665 Enrollment: Limited to 12.
Sakura Christmas
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
This seminar explores the significance of nature in the emergence of modern China. How did the state seek to understand nature and what did that nature of understanding entail for humans and non-humans

alike? Focusing on the nineteenth and twentieth centuries, we will compare how successive regimes that ruled China in this period approached space, science, and the environment. Topics covered include the intersection of state policies with ethnic identity, public health, and ecological warfare.

History 60d. Out of Eden: Histories of Expulsion in the Premodern West - *(New Course)
Catalog Number: 36413 Enrollment: Limited to 12.
Rowan William Dorin
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Contemporary practices of deportation and expulsion have a long pedigree in Western societies, from the forced resettlements of the ancient world to the culture of civic exile in Renaissance Italy. This seminar explores the diversity of such practices as well as the connections between them, with weekly readings introducing different approaches to studying the history of expulsion, banishment, and exile. The course focuses on Europe and the Mediterranean from antiquity to the early modern period, but students are welcome to venture beyond these geographical and chronological boundaries for their final research papers.

***History 60e (formerly History 1025). Overlapping Spheres: Jewish Life in Early Modern Europe**
Catalog Number: 76199 Enrollment: Limited to 15.
Rachel L. Greenblatt
Half course (fall term). M., 3–5. EXAM GROUP: 8, 9
Examining primary and secondary sources (relating to c. 1500-1750), we will consider multiple aspects of the ways Jews lived among their Christian neighbors-peacefully, antagonistically and in myriad combinations of those poles-during this exciting crossroads between traditional society and the beginnings of what came to be called, "modernity," an age that included the wide-scale adoption of movable-type print, increasing use of the written vernacular, changing gender roles, Protestant challenge to Catholic hegemony and the rise of capitalism, absolutism and toleration.

History 60f. "Nothing Pleases Me": Understanding Modern Middle Eastern History Through Literature - *(New Course)
Catalog Number: 84912 Enrollment: Limited to 15.
Sreemati Mitter
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
This seminar examines the major themes and events in the history of the Middle East in the 20th century through a close reading of literary texts and, in some cases, films. Throughout the course we will try to locate the perspectives of the "ordinary people" of the region, and will pay special attention to the voices of those who are rarely heard from in discourses on the Middle East: religious minorities, women, children, homosexuals.

History 60g. Debates in Middle Eastern History - *(New Course)
Catalog Number: 46931 Enrollment: Limited to 15.
Sreemati Mitter
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
This seminar investigates some of the key debates which dominate present-day discussions on the political, economic, and social history of the Middle East in the 19th and 20th centuries. These include debates on colonialism and its legacies; problems associated with the post-colonial Middle Eastern state (the "democracy deficit"; human rights, and, particularly, the position and rights of minorities; directions of economic development; causes for the rise of political Islam); and the causes and consequences of major events such as the Israel-Palestinian conflict; the Iranian revolution; the Lebanese civil war; 9/11 and the Iraq invasion; and the Arab Spring.

[*History 70c. Topics in Natural History]
Catalog Number: 9332 Enrollment: Limited to 15.
Daniel L. Smail
Half course (fall term). Hours to be arranged.
A reading seminar focused on literature relevant for a natural history of humankind from several million years ago to the present. Topics will include population diasporas; long-distance exchange; coevolution; family, sex, and marriage; food; communication; goods and things; technology; human contact with ecosystems; status; demography and scale; and cognitive studies. The course will introduce students to the rapidly growing field of big history or deep history.
Note: Expected to be given in 2016–17.

***History 70j. Changing Landscapes in the Eastern Mediterranean: Byzantium between the Crusades and the Islamic World, c.1100-c.1450**
Catalog Number: 93766 Enrollment: Limited to 15.
Dimiter Georgiev Angelov
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
The seminar focuses on the eastern Mediterranean in a period of economic integration and political fragmentation marked by the crusades, the expansion of the Italian maritime republics, western colonization, and the conquests of the Turks. How did the Byzantines react to the new unsettled world around them? What was the role of the newcomers? Special attention will be paid to the crusades, cross-cultural contacts, and the Mediterranean economy.

***History 71b. The European Renaissance and Reformation, 1350-1650**
Catalog Number: 6819 Enrollment: Limited to 15.
Steven Ozment
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
A structured introduction to European Renaissance and Reformation Europe. Both classic and recent studies will be read and discussed. Attention is given to a variety of European lands and cultures. Recommended to undergraduates from all fields of study.
Note: This course is open to first and second year graduate students.

[*History 72b. On Display: Commemoration, Collection and Public Spaces (c. 1600-2000)]
Catalog Number: 9970 Enrollment: Limited to 15.
Rachel L. Greenblatt
Half course (spring term). Hours to be arranged.
Traces the collection, commissioning, creation and display of artworks and objects from their development in religious and royal settings of the early modern period to their uses in nation-building and self-representation in the twentieth-century. Topics include monuments and urban spaces in Christian-Jewish polemics, collections as displays of political power, and museums as sites of national, cultural and ethnic identity. Geographical focus on Central Europe, but Western Europe and North America will also be considered.
Note: Expected to be given in 2014–15.

[*History 72d. Paris from the French Revolution through the 19th Century]
Catalog Number: 6355 Enrollment: Limited to 15.
Patrice Higonnet
Half course (fall term). Hours to be arranged.
Examines the art, literature, and history of the "capital of the 19th century." Subjects will include Balzac, Flaubert, and Baudelaire; Delacroix, Manet, and Degas; the Revolutions of 1789, 1848, and 1871.

Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

[History 72e. The Life and Reign of Catherine the Great]
Catalog Number: 9664 Enrollment: Limited to 15.
Kelly A. O'Neill-Uzgiris
Half course (fall term). Hours to be arranged.
Examines the private and public worlds of one of Russia's most famous rulers. Introduces students to the political, social, and cultural transformation of the eighteenth-century empire, as well as to longstanding debates about Catherine's reign and the conflicting images of the empress herself. Topics include gender and authority, the Russian Enlightenment, architecture and urban planning, cultural life, religious and ethnic diversity.
Note: Expected to be given in 2015–16.

[*History 72k. The Worlds of Joseph Conrad]
Catalog Number: 74011 Enrollment: Limited to 15.
Maya Jasanoff
Half course (fall term). Hours to be arranged.
Anarchists, asylum-seekers, gun-runners, sea captains and corporate agents gone rogue: all these figures and more populated the world of Joseph Conrad, the greatest novelist to explore the working of modern imperialism. This course uses three major works - The Secret Agent, Lord Jim, and Heart of Darkness - as windows onto empire and globalization c. 1900. Topics under consideration include informal imperialism, "going native," migration, seafaring, and technological change. Readings and assignments facilitate an interdisciplinary approach to history.
Note: Expected to be given in 2015–16.

[*History 73a. Republics and Republicanism]
Catalog Number: 2494 Enrollment: Limited to 15.
James Hankins and Harvey C. Mansfield
Half course (fall term). Hours to be arranged.
Surveys the history of republican political theory from antiquity to the modern era. Themes to be discussed include: the relationship between republicanism and liberalism; the roots of republicanism in Greek and Roman political thought; Italian civic humanism; and the ideological origins of the English and American Revolutions. Readings will be drawn from Aristotle, Cicero, Machiavelli, More, Montesquieu, the Federalist Papers, Tocqueville, and others.
Note: Expected to be given in 2014–15.

***History 74j. Children and Childhood in America, 1640-Present**
Catalog Number: 3174 Enrollment: Limited to 15.
Stephen Lassonde
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
This course explores the literature in the history of children and childhood in America from the 17th century to the present. It is organized chronologically but is also topical in approach. Fundamental questions posed by historians in this burgeoning field will be examined. Students will learn how to develop a nuanced critique of works in the field and how to write a professional book review during the course of the seminar.

***History 74l. The New Deal and American Liberalism**
Catalog Number: 86716 Enrollment: Limited to 15.
Brett Flehinger

Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
This course studies the responses to the Great Depression that formed the New Deal. Particular attention will be paid to the connection of between policy development and the rise of American Liberalism. Major topics include Social Security, economic redistribution, Keynesianism, social planning, regulatory reform, conservative critiques of the New Deal and others.

***History 74n. U.S. History: Major Themes in the Twentieth Century**
Catalog Number: 26718 Enrollment: Limited to 15.
Lisa M. McGirr
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
The twentieth-century United States is a vibrant and flourishing field of historical study. The goal of this seminar is to introduce students to the central questions, problems and debates in the history of the "American century." Students will learn how the literature of history has developed through reading both older and newer approaches. Readings focus on questions of politics, political culture, the state and social life. The course is both thematic and chronological (as well as necessarily selective). Students are expected to prepare well for seminar and to participate actively in discussion. Each class will begin with a brief introduction to the readings (no more than five minutes) by a member of the seminar. The idea here is for one student to take special responsibility for leading discussion, raising questions and problems posed by the reading.

[*History 74v. Public Opinion and American Democracy]
Catalog Number: 10907 Enrollment: Limited to 15.
Andrew Jewett
Half course (fall term). Hours to be arranged.
Explores how Americans have understood the role of public opinion in their democracy since the founding period. Topics include the emergence of public education before the Civil War, the Progressives' push for direct democracy, the growing use (and fear) of propaganda techniques between the wars, the rise of opinion polling, the devaluation of political engagement during the Cold War, and the post-1960s renewal of emphasis on civic and political participation.
Note: Expected to be given in 2014–15.

[*History 75f. Before and After 2012: History of the Maya]
Catalog Number: 58679 Enrollment: Limited to 15.
Kirsten A. Weld
Half course (fall term). Hours to be arranged.
An exploration - beginning with a look at the alleged Mayan prediction of the world's end on December 12, 2012 - of the long history of the Maya past and present. Covers the ancient Maya, Mayan experiences of Spanish colonialism, and Mayan history and politics in modern Mexico and Central America. Critically examines representations and appropriations of indigenous peoples in scholarship, national narratives, and popular culture over time, and highlights examples of Mayan self-representation.
Note: Expected to be given in 2015–16.

[*History 76a. Japanese Imperialism and the East Asian Modern]
Catalog Number: 6688 Enrollment: Limited to 15.
Ian J. Miller
Half course (fall term). Hours to be arranged.
Explores the role of Japanese imperialism in the making of modern East Asia. By the 1940s Japan's empire stretched from the cold northern woods of Sakhalin Island to Taiwan, Korea, China, and Southeast Asia. We use the analysis of this world-historical force to examine the tensions between modernization and imperialism across the region. Readings will take us to Manchurian museums, Shanghai jazz clubs,

and Burmese battlefields.
Note: Expected to be given in 2014–15. No knowledge of Japanese language or history required.

[*History 76c. Major Themes in World History: Colonialism, Imperialism, and Post-Colonialism]
Catalog Number: 0119 Enrollment: Limited to 15.
Hue-Tam Ho Tai
Half course (fall term). Hours to be arranged.
A general introduction to theories of imperialism, nationalism, and post-colonialism. Case studies to include Asia and Africa. Will combine the study of theory with examination of particular anti-colonial and anti-imperialist movements.
Note: Expected to be given in 2014–15.

History 76g. Building the Modern Chinese Nation - *(New Course)
Catalog Number: 74178 Enrollment: Limited to 15.
Elisabeth Koll (Business School)
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
This seminar will explore China's transition from the last decades of the Qing empire to the republic founded in 1911 to the PRC after the 1949 revolution. We will focus on important social, political, economic, and cultural aspects of "building" a nation and creating "modern" citizens, including the introduction of modern educational and economic institutions, legal reforms, public health and infrastructure, dress codes and new gender roles. The course will address the role of nationalism in the Chinese, East Asian and international context and its continuing relevance for our understanding of contemporary China.

[*History 77a. Alcohol in Sub-Saharan Africa, 1850 to the Present]
Catalog Number: 2765 Enrollment: Limited to 15.
Emmanuel K. Akyeampong
Half course (spring term). Hours to be arranged.
Examines the uses and meanings of alcohol in precolonial and rural Africa, its place in European-African trading contacts, and its role in the process of colonization. The course ends with a review of alcohol in nationalist politics, the place of the alcohol industry in the economies of independent African states and addiction in contemporary Africa.
Note: Expected to be given in 2014–15.

***History 79e. Commodities in International History**
Catalog Number: 17812 Enrollment: Limited to 15.
Alison Frank Johnson 5313
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
Introduces students to international history through the study of commodities ranging from oil, coal, and cotton to potatoes, rum, coffee, and sugar. Showcases historical writings that transcend geographic, cultural, and political boundaries between East and West, North and South, Atlantic and Pacific as well as methodological boundaries between cultural, economic, business, and environmental history, the history of food, of technology, and of ideas.

***History 80a. Roman Imperialism**
Catalog Number: 0336 Enrollment: Limited to 15.
Emma Dench
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Whether regarded as a model for European empires or as a precursor of western colonialism and globalization, Roman imperial expansion has captured both popular and scholarly imaginations. We

proceed thematically, analyzing a variety of textual and material evidence for the changing nature of Roman imperialism between the mid-Republican and early imperial periods, and its impact on the politics, culture, religion, and society of Roman and local communities alike.

[*History 80f. Carolingian Civilization]
Catalog Number: 10546 Enrollment: Limited to 15.
Michael McCormick
Half course (spring term). Hours to be arranged.
What were the distinctive features of Charlemagne's civilization in terms of its value systems, economic and environmental structures, and social and cultural features? Meetings will pair student critiques or original essays on each theme with close analysis or written, natural scientific, GIS and archaeological evidence, and teach students how to conduct a major research project, from finding a topic to a finished paper, via oral presentation.
Note: Expected to be given in 2014–15.

[*History 80g. Travelers to Byzantium]
Catalog Number: 27137 Enrollment: Limited to 15.
Dimiter Georgiev Angelov
Half course (fall term). Hours to be arranged.
This seminar is based on the fascinating firsthand accounts of travelers who visited Constantinople and other areas of Byzantine world. The texts will generate questions for discussion and research on a wide range of issues, such as Byzantine civilization, cross-cultural contacts in the Middle Ages, the practice and experience of travel, and the interrelationship of travel, ethnography, and politics. Sources will be chosen from among the works of western, Islamic, Jewish, and Russian travelers.
Note: Expected to be given in 2014–15.

[*History 81c. The English Revolution]
Catalog Number: 0296 Enrollment: Limited to 15.
Mark A. Kishlansky
Half course (spring term). Hours to be arranged.
This course will fulfill the concentration requirement for a research course requiring the completion of an historical essay based on primary materials. It will explore the causes, course, and consequences of the English Revolution by focusing on selected topics covering the range of issues that dominated the period from the convening of the Lord Parliament to the execution of Charles I. Emphasis will be on research techniques and the use of seventeenth century sources.
Note: Expected to be given in 2014–15.

[*History 81f. Women's Voices in Medieval and Early Modern Europe]
Catalog Number: 7597 Enrollment: Limited to 15.
Rachel L. Greenblatt
Half course (fall term). Hours to be arranged.
Seeks out the voices of Jewish, Protestant and Catholic women, with an emphasis on women's writings, and examines methods for uncovering information about women's lives when their own voices are absent from the historical record. Considers ideal images and the daily realities of both men's and women's gendered roles in such areas as life-cycle rituals, livelihood and spirituality.
Note: Expected to be given in 2014–15.

[*History 81j. What Was an Early Modern Author?]
Catalog Number: 75134 Enrollment: Limited to 15.
Ann M. Blair

Half course (spring term). Hours to be arranged.
This course, designed for advanced undergraduates and graduate students, will examine forms of authorship in early modern Europe broadly defined and the contextual factors that help explain them. Topics include: authenticity and plagiarism, collaborations, compilations, anonymous and pseudonymous writing, women's authorship and the rise of the romantic author. Students will write a research paper on a topic of their choice.
Note: Expected to be given in 2014–15.

[*History 82b. Fin-de-Siècle Vienna]
Catalog Number: 1471 Enrollment: Limited to 15.
Alison Frank Johnson 5313
Half course (fall term). Hours to be arranged.
Explores the history of the political, social, and cultural center of the largest continental European Empire in modern history, and one of the birthplaces of European modernism. From the 1880s through WWI and into the early years of the Republic of Austria, the course examines not only Vienna's intellectual vitality, but also the social and ideological divisions underlying the human catastrophes of World War and genocide in the twentieth century.
Note: Expected to be given in 2015–16.

[*History 82c. Vichy France]
Catalog Number: 8154 Enrollment: Limited to 15.
Patrice Higonnet
Half course (fall term). Hours to be arranged.
First, we cover the background of the Vichy years and the legacy of 1789 and the First World War; military affairs; Vichy's social policy; Vichy, the Germans, and the Jews; Vichy and Free France; and the legacy of the Vichy years. In the second half of the course, we move on to compare occupied France to other occupied countries of Europe.
Note: Expected to be given in 2014–15. Students interested in this course should contact Professor Higonnet at higonnet@fas.harvard.edu. Films will be shown weekly.

[*History 82f. The Origins of the Cold War: The Yalta Conference (1945)]
Catalog Number: 1959 Enrollment: Limited to 15.
Serhii Plokhii
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
The Yalta Conference is analyzed in the context of the long-term geostrategic goals of the United States, the United Kingdom, and the USSR. Special attention is paid to psychological and cultural aspects of the negotiating process.

[*History 82l. The French Revolution]
Catalog Number: 1914 Enrollment: Limited to 15.
Patrice Higonnet
Half course (fall term). Hours to be arranged.
The history of Jacobinism during the French Revolution.
Note: Expected to be given in 2014–15.

[*History 82m. The Modern Mediterranean: Connections and Conflicts between Europe and North Africa]
Catalog Number: 92643 Enrollment: Limited to 15.
Mary D. Lewis
Half course (spring term). Hours to be arranged.

This course examines relations between European and North African societies, economies, and peoples from the age of "Barbary Piracy" through colonial conquests, anti-colonial nationalism and decolonialization, to post-World War II migrations and reverberations from the "Arab Spring" of 2011. Students will consider crucial turning points in European-North African relations and will write a substantial research paper focusing in on some aspect of Mediterranean history in the modern era.
Note: Expected to be given in 2014–15.

[*History 82n. Mapping History]
Catalog Number: 71335 Enrollment: Limited to 15.
Kelly A. O'Neill-Uzgiris
Half course (spring term). Hours to be arranged.
This course explores the history of maps and mapping from the age of Enlightenment to the era of Google and GIS. Maps are a universal medium for conveying geographic information; they are also rich sources for understanding how mobility, exchange, and interaction have shaped human experience. Students will learn how to read maps; they will also learn how to construct them as part of an original research project. Topics include famine, migration, voyages of exploration.
Note: Expected to be given in 2015–16.

[*History 83a. Markets and States: The History of Economic Thought Since 1750]
Catalog Number: 5927 Enrollment: Limited to 15.
Emma Rothschild
Half course (fall term). Hours to be arranged.
Examines the history of various kinds of economic thought, including 18th century laissez-faire political economy and late 19th century theories of economic and social reform. Will consider writings in different media from scientific theories to economic periodicals. Students will prepare individual research projects.
Note: Expected to be given in 2015–16.

[*History 84c. Confronting Objects/Interpreting Culture: Interdisciplinary Perspectives on North America]
Catalog Number: 2479 Enrollment: Limited to 15.
Laurel Thatcher Ulrich
Half course (spring term). Hours to be arranged.
Working with museum collections as well as written documents, students will explore the interplay between particular objects and larger historical themes, such as colonialism, nationalism, scientific and ethnographic exploration, or expanding commerce. Employing a range of scholarly tools, emphasizing visual and material analysis and including archival research, students will help prepare materials for a future exhibit.
Note: Expected to be given in 2014–15.

[*History 84e. How to Read a Book]
Catalog Number: 90475 Enrollment: Limited to 15.
Jill M. Lepore and Leah Price
Half course (fall term). Hours to be arranged.
This hands-on interdisciplinary undergraduate seminar is for students who want to think about what a book is and how to read one. Readings include historical and literary narratives of reading by Cervantes, Richardson, Franklin, Sterne, Ellison, and Bradbury, together with research exercises in Harvard library and museum collections.
Note: Expected to be given in 2015–16.

[*History 84h. The Northern Side of the Civil Rights Movement]
Catalog Number: 8594 Enrollment: Limited to 15.
Evelyn Brooks Higginbotham
Half course (fall term). Hours to be arranged.
Examines the movement for racial equality outside the South from the 1940s and into the early 1970s, and will examine integrationist efforts, as well as competing ideologies of black power through weekly urban case studies.
Note: Expected to be given in 2014–15.

[*History 84i. Secularization in Europe and the United States, c. 1780-2000]
Catalog Number: 6171 Enrollment: Limited to 15.
David Neil Hempton (Divinity School)
Half course (spring term). Hours to be arranged.
It is commonly asserted that the United States is more religious and less secular than Europe. The purpose of this seminar is to test that claim by looking at the respective religious characteristics of these two large and diverse areas from the age of revolution in the late eighteenth century to the present. Among the topics to be considered in comparative religious perspective are industrialization and modernization, the rise of cities, the fate of established churches, the relationship between religion and popular culture, patterns of immigration, and trajectories of secularization. In the light of these comparisons, the course will address the complex issues at stake in the debates between those who make claims either for American or European exceptionalism.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2356.

***History 84l. Democracy and Education in Modern America**
Catalog Number: 9674 Enrollment: Limited to 15.
James T. Kloppenberg
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
The birth of contemporary American politics and our current regime of primary, secondary, and university education both date from the 1890-1930 period. Focusing on psychology, philosophy, and political and educational reform, with particular emphasis on the writings of William James and John Dewey, this course examines the shaping of modern American democracy and education.

[*History 84m. The New Deal: The United States during the Roosevelt Years]
Catalog Number: 4878 Enrollment: Limited to 15.
Lisa M. McGirr
Half course (spring term). Hours to be arranged.
An exploration of the trajectory of New Deal reform and the broader social, economic, political, and cultural changes in the US in this period. Topics will include the First and Second New Deal, the rise of liberalism, the Roosevelt administration, the social movements of the Left and the Right during the 1930s, the coming of war, and the waning of the reform impulse.
Note: Expected to be given in 2014–15.

[*History 84x. The US and Europe in Twentieth-Century Thought and Culture]
Catalog Number: 77536 Enrollment: Limited to 15.
Andrew Jewett
Half course (spring term). Hours to be arranged.
This seminar explores the intellectual and cultural dimensions of the complex relationship between Europe and the United States in the twentieth century. You will also contribute to telling the story of that relationship, by producing a long research paper based on original sources. Shared readings will provide a

common fund of knowledge and a common language for discussion.
Note: Expected to be given in 2014–15.

[*History 86e. Nation, Reason and Religion in South Asia]
Catalog Number: 1447 Enrollment: Limited to 15.
Sugata Bose
Half course (spring term). Hours to be arranged.
Examines the connections between nation, reason and religion in South Asian political thought and practice. Precolonial patriotisms, rational and religious reforms, colonial modernity and anti-colonial nationalisms, visions of nationhood and forms of state power, and post-colonial nationalisms for and against the state.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

[*History 86f. Tagore and his Times]
Catalog Number: 81003 Enrollment: Limited to 15.
Sugata Bose
Half course (fall term). Hours to be arranged.
An exploration of global cultural history through the life and literature of Rabindranath Tagore (1861-1941), and his engagements with intellectuals worldwide.
Note: Expected to be given in 2014–15.

[*History 86h. Asia after Europe]
Catalog Number: 20604 Enrollment: Limited to 15.
Sugata Bose
Half course (spring term). Hours to be arranged.
The history of the decline and rise of a continent between 1813 and 2013 in the domains of economy, politics and culture.
Note: Expected to be given in 2014–15.

[*History 87a. Health, Disease, and Ecology in African History]
Catalog Number: 5905 Enrollment: Limited to 15.
Emmanuel K. Akyeampong
Half course (fall term). Hours to be arranged.
Examines the history of disease and health in sub-Saharan Africa from the 19th century to recent times, exploring African and western concepts of health, disease and healing. Illustration through discussion of case studies of individual diseases, including malaria/sickle cell trait, trypanosomiasis, tuberculosis, sexually transmitted diseases, alcoholism, AIDS, and onchocerciasis, and the public health policies affecting them.
Note: Expected to be given in 2014–15.
Prerequisite: Senior level undergraduates.

[*History 88b. Medieval History and Cinema]
Catalog Number: 70486 Enrollment: Limited to 15.
Cemal Kafadar
Half course (spring term). Hours to be arranged.
This course deals with the challenges of representing medieval history by focusing on selected films, which will be viewed at two levels at once, as films and as history. What are the uses of cinema as a vehicle for thinking about the past? What qualities, other than accuracy, make for good history in films? What are the advantages, if any, of cinematic representation of the premodern past with its different sense

of intimacy with the supernatural?
Note: Expected to be given in 2014–15. There will be a group viewing of selected films each week and a class meeting to discuss films and related readings.

***History 89a. British Colonial Violence in the 20th Century**
Catalog Number: 4626 Enrollment: Limited to 15.
Caroline M. Elkins
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
Will explore Britain's deployment of various forms of violence in its 20th-century empire, and how this violence was understood, justified, and represented in the empire and at home. Imperial objectives and policies will be weighed alongside local factors such as race, settler presence, indigenous responses to colonial rule, and economic and strategic interests to assess the universality and particularity of British colonial violence.

[*History 89h. Henry Kissinger: Statecraft in Theory and Practice]
Catalog Number: 38953 Enrollment: Limited to 15.
Niall Ferguson
Half course (fall term). Hours to be arranged.
As National Security Adviser and Secretary of State, Henry Kissinger was the architect of the policy of détente with the Soviet Union, of the "opening" to China, and of the effort to salvage "peace with honor" in Vietnam. Yet Kissinger should be understood as a scholar as well as a statesman. Using selections from his writings, this seminar will assess Kissinger in his own terms and in the context of modern international history.
Note: Expected to be given in 2014–15.

***History 89j. The United States and China: Opium War to the Present**
Catalog Number: 41121 Enrollment: Limited to 15.
Erez Manela 4762
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
This research seminar will focus on the history of Sino-American relations and interactions since the Opium War (1840s). It will examine major episodes such as the Boxer intervention, the first and second world wars, the Korea and Vietnam wars, the Mao-Nixon rapprochement, and the post-Mao transformations, and explore central themes such as immigration, trade, culture, diplomacy, and security.

Directed Study for Undergraduates

The Department makes available, so far as its resources permit, opportunity for individual instruction in fields of special interest in which a regular course is not offered.

***History 91r. Supervised Reading and Research**
Catalog Number: 1458
Ann M. Blair and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Limited to juniors and seniors. Students wishing to enroll must petition the DUS for approval, stating the proposed project, and must have the consent of the proposed instructor. Ordinarily, students are required to have taken some course work as background for their project.

History 92r. History Lab - *(New Course)
Catalog Number: 31181
Daniel L. Smail

Half course (fall term; repeated spring term). Fall: F., 10–12.
History Lab offers History concentrators and other students a chance to spend a semester working with History faculty on faculty research projects. Outcomes will include familiarity with a range of digital tools for research and data visualization and insights on how to design and execute a major research project. Students will be assessed on the basis of blogs and presentations of research assignments. Consult http://dighist.fas.harvard.edu for more details.

Tutorials in History

The Sophomore Tutorials are an introduction to the ways in which historians formulate historical arguments and research topics. Taught in seminars (capped at 15) and in smaller tutorials, with occasional plenary events in the evening. Required of, and ordinarily limited to, all History concentrators in the spring term of their sophomore year (or at the first opportunity for those joining the concentration late). Not required for a secondary field in History.

Sophomore Tutorials

History 97a. "What is the History of Medicine?" - *(New Course)
Catalog Number: 69581 Enrollment: Limited to 15.
Emmanuel K. Akyeampong
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
The emergence of the science of medicine and its professionalization have been integral aspects of human history. The history of medicine allows us to trace the various traditions that have come together to create "modern medicine." In this section, students will examine the human endeavor to be healthy and to cure disease. The practice of medicine draws on changing ideas about the natural world and the body. It also demands interventions in the physical environment so as to maximize public health, and readily incorporates transformative technologies from other sectors of human society. Students will be asked to reflect on the interaction of medicine and culture through questions such as: How did western powers use biomedicine in the context of empire? How do non-western cultures appropriate and indigenize biomedicine?

History 97b. "What is Intellectual History?" - *(New Course)
Catalog Number: 20768 Enrollment: Limited to 15.
David R. Armitage
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Intellectual historians study almost every period, place, and theme in human history: from classical times to the present, from Asia to the Americas, and from cannibalism to capitalism, by way of politics, philosophy, literature, art and other expressions of human agency and intention. This section will draw examples from a wide range of moments and regions to ask how intellectual history has developed as a field, what methods it uses, and how it can be distinguished from other forms of history even as it informs debates of interest to all historians.

History 97c. "What is the History of History?" - *(New Course)
Catalog Number: 38556 Enrollment: Limited to 15.
Ann M. Blair
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Everything has a history, and the discipline of history has a particularly long and broad one. In this section we'll focus on ideas about how and why to study history and on the practices of historical research and writing as they have varied across different cultural contexts. In selected case studies we will consider who wrote and who read history, and how historians answered questions that we also ask ourselves today.

E.g. What features are essential to a good historical account? Does the study of history teach moral lessons? How does history interact with memory?

History 97d. "What is Environmental History?" - *(New Course)
Catalog Number: 45123 Enrollment: Limited to 15.
Joyce E. Chaplin
Half course (spring term). Th., 4–6; Th., 4–6.
This section gives new History concentrators an introduction to environmental history. Most historians leave the natural world out of the story, but environmental historians regard nature as the inescapable context for human history, including the human impact on nature. We will explore how the histories of the environment and of humans can (and perhaps should) be written together. Is there a "natural archive" which historians can consult in parallel with conventional libraries and archives? Do places have "biographies," just as people do? Can natural entities (mountains, dogs, rivers, microbes, climate) have "agency" in the same way human actors can?

History 97e. "What is Imperial History?" - *(New Course)
Catalog Number: 31936 Enrollment: Limited to 15.
Kelly A. O'Neill-Uzgiris
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Though empires have recently disappeared from the map, for historians these sprawling multi-ethnic, multi-confessional states remain crucial laboratories for the study of violence, power, ideology, aesthetics, and identity. This section will introduce students to the many ways historians define empires and interpret the experiences of those who inhabited them. How does one write the history of such diverse, expansive entities? How does imperial history incorporate the perspectives of disenfranchised, enslaved, and colonized peoples? What is its scale? How does the work of historians relate to images of empire generated through public commemoration and popular memory?

History 97f. "What is Material History?" - *(New Course)
Catalog Number: 15967 Enrollment: Limited to 15.
Daniel L. Smail
Half course (spring term). Th., 1–3; Th., 4–6. EXAM GROUP: 15, 16
This section offers new History concentrators an overview of the history and anthropology of material culture. Our coverage will range widely across both time and space; major themes will include things created in the deep human past as well as the habits of consumption and even addiction that define our relationship with things in the present day. Do we own things? Or do things own us? Does having more stuff necessarily lead to happiness? Readings will offer students a chance to work not just with history and historical sources, but also art history, literary studies, archaeology, environmental history, and cognitive neuroscience.

Senior Tutorial

***History 99. Senior Thesis Tutorial**
Catalog Number: 5803
Heidi Jacqueline Tworek
Full course. W., 6–9 p.m.
Research and writing the senior thesis in History.
Note: Required of, and ordinarily limited to, seniors completing the History concentration's thesis program. Permission must be obtained from the Tutorial Office.

Lecture Courses

For Undergraduates and Graduates

[History 1011. The World of the Roman Empire]
Catalog Number: 45321
Emma Dench
Half course (fall term). Hours to be arranged.
An introduction to Roman history from the mid third century BCE to the mid third century CE, with emphasis on the multiple cultures of the Roman empire and their diverse involvement in, and perspectives on, Roman conquest and rule. Challenging traditional narratives of Roman political history, we will seek a much more dynamic view of 'Roman' culture and society, based on both literary and archaeological evidence.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Historical Study B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[History 1020 (formerly History 1920). A Global History of Modern Times]
Catalog Number: 1925
Charles S. Maier
Half course (spring term). Hours to be arranged.
A historical survey of world societies since roughly the 16th century designed to emphasize their interactions and interdependence. Covers transnational forces such as demographic change and migration, religious revivals, rural stratification, industrial development, and upheavals in racial and gender relationships; also comparative political transformation within empires and states, including the impact of the great revolutions, imperialism and war, trade and investment, and cultural diffusion.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

History 1035. Byzantine Civilization
Catalog Number: 42244
Dimiter Georgiev Angelov
Half course (spring term). M., W., at 11, and a weekly section on Thursday at 2:00. EXAM GROUP: 4
The Byzantine (Eastern Roman) Empire outlived the fall of Rome by a thousand years. In what ways did Byzantium preserve the institutions and politics of imperial Rome? In what ways was it a medieval civilization? How did Byzantium's professional armies, able diplomats, and brilliant intellectuals ensure its survival and renewed expansion? This course traces the story of the Byzantine Empire between c. 600 and 1453, setting it in the context of medieval and world history.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[History 1055. Vengeance, Hatred, and Law in Premodern Europe]
Catalog Number: 7743
Daniel L. Smail
Half course (spring term). Hours to be arranged.
Will explore the great transformation in European legal habits that took place between 500 and 1600, as family-based forms of law, vengeance, and regulation gave way to royal, municipal, and ecclesiastical justice. Topics include the blood feud, the judicial ordeal, and judicial torture. The course is designed to

raise ethical and substantive issues that are relevant to an understanding of the function of law and justice in the modern world.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

History 1063 (formerly History 1963). America and Vietnam: 1945-1975
Catalog Number: 3447
Hue-Tam Ho Tai and Brett Flehinger
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
Examines modern conflicts in Vietnam and their implications for the US from 1945–75, from both Vietnamese and American perspectives. Seeks to provide an understanding of the complexity of the war and the ethical dilemmas it raised by examining issues ranging from the power-politics assumptions of decision makers to the personal experiences of those caught in the war. Covers both background and consequences of the war, but the main focus is on the 30-year period during which the fortunes of America and Vietnam became intertwined.
Note: This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

History 1067 (formerly History 1967). An Introduction to the History of Economic Thought
Catalog Number: 64646
Emma Rothschild
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
The course provides an introduction to the history of economic thought, from Huan K'uan to Adam Smith, Karl Marx and Paul Samuelson; and to economic concepts in historical perspective, from the state and the market to natural resources and financial crises.

History 1079 (formerly *History 79i). Breaking Headlines: The History of News
Catalog Number: 83327
Heidi Jacqueline Tworek
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
An untold story lies behind the news that we read, hear or see every day and the media sources that we mine constantly as historians. This lecture course introduces students to the major themes and approaches to the historical study of news from the 'invention' of modern newspapers in the seventeenth century to the multiplication of media today. Topics include journalism, propaganda, public opinion, news agencies, radio, television, and Twitter.

History 1083. American Jewish History - *(New Course)*
Catalog Number: 52092
Jonathan D. Sarna
Half course (spring term). M., W., at 12, and a weekly section on Monday at 1:00. EXAM GROUP: 5
A history of American Jews and Judaism from the colonial period to the present, with particular emphasis on the various streams of American Judaism., Judaism's place in American religion, and comparisons to Judaism in other countries.

History 1133. The British Revolutions
Catalog Number: 26014
Mark A. Kishlansky
Half course (fall term). Tu., Th., at 1, and a weekly section to be arranged. EXAM GROUP: 15
This course will explore the causes and consequences of the political upheavals that transformed Britain during the seventeenth century. The English Revolution witnessed the first trial and execution of a lawful monarch in European history. The so-called Glorious Revolution of 1688-89 made Britain a great

European power. Why was it necessary for Britons to overthrow constituted authority and how did they do it? Readings will include works from among James I, the Levellers, Milton, Hobbes, and Locke as well as writings of modern historians. No prior knowledge expected.

[History 1144 (formerly Historical Study B-19). The Renaissance in Florence]
Catalog Number: 4631
James Hankins
Half course (spring term). Hours to be arranged.
The Renaissance has been described by historians as a revival of antiquity, as a revolt against the Middle Ages, and as the beginning of the modern world. This course examines these claims in the context of a detailed examination of the society and culture of Florence, the most important Renaissance center, from the time of Dante to the time of Machiavelli.
Note: Expected to be given in 2015–16. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for either Historical Study B or Literature and Arts C, but not both.

[History 1151. Culture and Society in Early Modern France, 1500-1715]
Catalog Number: 7575
Ann M. Blair
Half course (fall term). Hours to be arranged.
An introduction to French history from Francis I through Louis XIV, with a special emphasis on topics in cultural history, including: Renaissance humanism and printing, Protestantism and wars of religion, political thought, court culture and the early Enlightenment. Assigned readings from Rabelais, Montaigne, Pascal, Molière, and Voltaire among the primary sources; from Fernand Braudel, Natalie Davis, and Robert Darnton among the secondary sources. All assignments in English.
Note: Expected to be given in 2014–15. An optional extra French-language reading section will be arranged if there is interest, which can count toward the foreign language requirement in History and Literature; a graduate section will be arranged.

History 1155. Early Modern Europe, 1450-1789
Catalog Number: 56228
Daniel Juette
Half course (spring term). M., W., (F.), at 1. EXAM GROUP: 6
This survey course explores European history from the end of the Middle Ages to the eighteenth century. Topics include the Renaissance in Southern and Northern Europe, the Reformation and the wars of religion, the rise of Absolutism, and the Enlightenment. The course will introduce students to key figures (such as Machiavelli, Luther, Montaigne, Bacon and Kant) as well as to topics in cultural and everyday history.

[History 1167 (formerly Historical Study B-18). The Protestant Reformation]
Catalog Number: 0623
Steven Ozment
Half course (spring term). Hours to be arranged.
In the 16th century hundreds of thousands of people surrendered religious beliefs, practices, and institutions that had organized and given meaning to daily life for the greater part of a millennium. The Protestant Reformation attempts to explain why this happened and how it changed history. Lectures, art, and readings present the movers and shakers of the Reformation; its development in representative cities and lands; its theologies and social philosophies; its impact on contemporary society and culture; the

Catholic response; and its legacy to the modern world.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

History 1206. Empire, Nation, and Immigration in France since 1870
Catalog Number: 41522
Mary D. Lewis
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
This course explores the history of France from the foundation of the Third Republic to the beginning of the 21st century. Topics include the advent of modern left-wing, right-wing, and anti-Semitic politics; imperial expansion and its consequences; the devastating impact of the First World War; the tumultuous interwar era; the Second World War and the politics of resistance, collaboration, and memory; decolonization; the May 1968 movement; immigration and identity politics since the 1970s.

[History 1214. Encountering of the Other: The Expansion of the Christian West, 1650-1830]
Catalog Number: 2392
David Hempton (Divinity School)
Half course (fall term). Hours to be arranged.
Investigates themes in the History of Christian Expansion to new geographical spaces in the early modern period. Questions raised will include what was at stake in the multifaceted cultural encounters between European Christianity and native religious traditions as Christianity expanded into new social spaces, and what was the relationship between Protestant and Roman Catholic missionary movements and the rise of the European seaborne empires. Locations will include the Americas, Africa, India, and Asia.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2355.

History 1230. Troubled Unions: England, Scotland, Ireland, and Wales from the 18th Century to the Present - *(New Course)*
Catalog Number: 20528
Mo Moulton
Half course (spring term). M., W., (F.), at 1. EXAM GROUP: 6
This course looks at British history in the 19th and 20th centuries from the vantage point of its Celtic margins. The central themes of democratization, national identity, empire, and the land are addressed through the prism of the Irish Famine, Highland Clearances, the industrialization of the Welsh coalfields, and the forces of separatism down the modern day. Primary sources will be our main medium; the course expects no special background in British or Irish history.

[History 1257. History of European Capitalism: Conference Course]
Catalog Number: 24891
Sven Beckert
Half course (spring term). Hours to be arranged.
During the past 250 years, Europe's economies were revolutionized by the advent and spread of capitalism. Exploring the origins and economic, political, social and cultural consequences of this change, this course will deal with a wide range of issues from the transformation of the countryside in eighteenth century England, to the emergence of heavy industry in the Ruhr Valley a hundred years later, to the history of European labor movements. We will pay special attention to the connections between Europe and the rest of the world and the varieties of capitalism as they came to characterize the European continent.
Note: Expected to be given in 2014–15.

History 1265. German Empires, 1848-1948 - *(New Course)*
Catalog Number: 61673
Alison Frank Johnson
Half course (fall term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
This course examines the history of Germans in Europe and elsewhere, starting with the revolutions of 1848 and ending with the separation of Austria, West Germany, and East Germany following the Second World War. We will consider multiple different visions of what "Germany" should be, what borders it should have, and who should be considered "German."
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Historical Study B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[History 1266. Central Europe, 1789-1918: Empires, Nations, States]
Catalog Number: 3736
Alison Frank Johnson
Half course (fall term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
Examines the development of nationalism and socialism as ideologies intended to shape group loyalties, public and private behavior, and political activities of subjects of the continental European, empires in the long nineteenth century. Primary focus will be on the Habsburg Empire, with attention paid to other German-speaking lands and to the western territories of the Russian Empire (especially Poland).
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Historical Study B. This course fulfills the requirement that one of the eight General Education courses also engages substantially with Study of the Past.

History 1270. Frontiers of Europe: Ukraine since 1500
Catalog Number: 1910
Serhii Plokhii
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
The history of Ukrainian territory and its people within a broad context of political, social and cultural changes in Eastern Europe in the course of the half of a millennium. Special emphasis on the role of Ukraine as a cultural frontier of Europe, positioned on the border between settled areas and Eurasian steppes, Christianity and Islam, Orthodoxy and Catholicism, as well as a battleground of major imperial and national projects of modern era.
Note: This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

[History 1280. History of the Soviet Union, 1917-1991]
Catalog Number: 4501
Terry D. Martin
Half course (spring term). Hours to be arranged.
Examines the history of the Soviet Union from the Russian Revolution to Gorbachev's failed reforms. Focus on the period 1928-53 when industrialization, nationalization and political terror created a distinct Soviet society and culture. Readings include novels, short stories, memoirs, Soviet propaganda, high policy deliberations, letters, journalism, songs, jokes, etc.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures or Historical Study A, but not both.

History 1281. The End of Communism
Catalog Number: 84441
Terry D. Martin

Half course (fall term). M., W., at 10, and a weekly section to be arranged. EXAM GROUP: 3
Examines how and why communism collapsed in the Soviet Union and Eastern Europe. Places the events of 1989/1991, usually considered sudden and shocking, within the political, economic, social, and cultural context of the surrounding decades (1970-2000). Considers both international and domestic factors, including the Cold War and the arms race; ideology and dissent; consumption and culture; oil, economics and the environment; nationalism and civil war; gender and health. Investigates the role of structural conditions and contingency in history.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[History 1290. The History of the Russian Empire]
Catalog Number: 9566
Kelly A. O'Neill-Uzgiris
Half course (fall term). Hours to be arranged.
The history of Russia from the conquest of Kazan and Astrakhan in the sixteenth century to 1917. Topics include the struggle with "westernization", the nature of autocratic authority, the role of the Orthodox Church, the integration of non-Russian peoples, industrialization and modernization, and the inevitability of the revolutions of 1905 and 1917.
Note: Expected to be given in 2015–16. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

History 1300. Western Intellectual History: Greco-Roman Antiquity
Catalog Number: 6308
James Hankins
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
A survey of major themes in the intellectual history of the Greek and Roman World, with special attention to metaphysics, psychology, ethics and the philosophic life. Readings in the Presocratics, Plato, Aristotle, Lucretius, Epictetus, Cicero, Seneca, Marcus Aurelius, Plotinus, Augustine, and Boethius.
Note: This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B or Moral Reasoning, but not both.

[History 1301. Western Intellectual History II: The Prehistory of Modern Thought]
Catalog Number: 7573
James Hankins
Half course (spring term). Hours to be arranged.
A survey of major themes in medieval and early modern intellectual history. Readings in Anselm, Abelard, Thomas Aquinas, William of Ockham, Petrarch, Machiavelli, Thomas More, Martin Luther, Montaigne, Francis Bacon, Descartes, Hobbes.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Historical Study B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

History 1318. History of the Book and of Reading
Catalog Number: 7410
Ann M. Blair
Half course (fall term). M., W., (F.), at 10. EXAM GROUP: 3

An introduction to the cultural history of the book and its functions as both material object and text. Major themes include the techniques of book production, authorship, popular and learned readership, libraries and censorship. The course surveys developments from scroll to web with a special focus on printing and developments in early modern Europe, 16th-18th centuries.
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[History 1322. Heidegger and Arendt]
Catalog Number: 1906
Peter E. Gordon
Half course (spring term). Hours to be arranged.
This course investigates the complex philosophical affiliation between Martin Heidegger and Hannah Arendt. Will address how various themes of Heideggerian philosophy were borrowed, displaced, revised, and challenged in Arendt's political theory. The first half of the course addresses texts by Heidegger, esp. selections from *Being and Time*, and *An Introduction to Metaphysics*. The second half of the course addresses Arendt's major theoretical works, *The Origins of Totalitarianism*, *The Human Condition*, and *On Revolution*.
Note: Expected to be given in 2014–15. Open only to students with prior experience in social and political theory, intellectual history, and/or political philosophy.

[History 1323. German Social Thought, Nietzsche to Habermas]
Catalog Number: 78728
Peter E. Gordon
Half course (fall term). Hours to be arranged.
A philosophical and historical survey of major debates in modern German social theory over the span of a century, from Nietzsche's anti-foundationalist critique of morality and truth to Habermas's attempt to rebuild a pragmatic-transcendentalist theory for ethical and discursive reason after the collapse of metaphysics. Readings by Nietzsche, Weber, Heidegger, Adorno, Horkheimer, and Habermas.
Note: Expected to be given in 2014–15.

[History 1324. French Social Thought]
Catalog Number: 27206
Peter E. Gordon
Half course (spring term). Hours to be arranged.
A survey of major themes and debates in modern French social theory over the span of a century, from Durkheim's neo-Kantian theory of the social symbolic to Foucault's conception of the historical a priori, concluding with the recent emergence of neo-liberal conceptions of both history and society. Major readings by Durkheim, Mauss, Lévi-Strauss, Canguilhem, Foucault, Lefort, Furet, and Gauchet.
Note: Expected to be given in 2014–15.

[History 1326. The Frankfurt School and Religion: Conference Course]
Catalog Number: 42879 Enrollment: Limited to 15.
Peter E. Gordon
Half course (spring term). Hours to be arranged.
This course examines major thinkers and themes associated with the Frankfurt School - Adorno, Horkheimer, Benjamin, and Habermas. We will focus primarily on their theoretical writings concerning the status of religion in political modernity and the significance of theological concepts for modern social theory.

Note: Expected to be given in 2014–15. This course is open only to students of junior or senior standing, and to graduate students.

History 1330. Social Thought in Modern America
Catalog Number: 8440
James T. Kloppenberg
Half course (fall term). Tu., Th., 11:30–1, and a weekly section to be arranged. EXAM GROUP: 13, 14
An inquiry into American ideas since 1870, examining developments in political and social theory, philosophy, and literature in the context of socioeconomic change. Topics include the breakdown of Victorian idealism and laissez-faire; the emergence of social science and progressivism; conflicts over gender, race, and ethnicity; interwar cultural ferment and political reform; post-World War II theories of consensus and 1960s radicalism; and the consequences for democracy of our contemporary culture of hyper-partisanship.
Note: This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

***History 1390. Understanding Democracy through History**
Catalog Number: 1517 Enrollment: Limited to 40.
Alexander Keyssar (Kennedy School)
Half course (spring term). M., W., 2:40–4. EXAM GROUP: 7, 8
Examines the evolution of democracies in different nations over extended periods of time, and will focus on one fundamental issue: Under what circumstances or conditions have democracies (or political rights) expanded, and under what circumstances of conditions have they contracted? Readings will include historical studies as well as comparative theoretical works.
Note: Offered jointly with the Kennedy School as DPI-703. This course may be lotteried.

History 1400. Introduction to American Studies - *(New Course)
Catalog Number: 30373 Enrollment: Limited to 36.
Jill M. Lepore and Louis Menand
Half course (spring term). Tu., 11:30–1, plus a section meeting. EXAM GROUP: 13, 14
The course is designed primarily for students interested in further study in the field, but all students are welcome. We cover topics, from the seventeenth- to the twenty-first century, in political, social, intellectual, and cultural history. Students read both primary and secondary materials, and receive intensive guidance for their writing.
Note: Ninety-minute lecture-discussion, plus one-hour section led by the instructors.

[*History 1404. The American Revolution: Conference Course]
Catalog Number: 7369 Enrollment: Limited to 15.
Jill M. Lepore
Half course (fall term). Hours to be arranged.
This hands-on research seminar will take you out of the classroom and into the archives. An intensive study of the political, cultural, literary, and social history of the American Revolution, with an emphasis on Boston from the Writs of Assistance, in 1761 to the British evacuation of the city, in 1776. The class includes field trips to Boston and Cambridge historic sites, archives, museums, and graveyards.
Note: Expected to be given in 2015–16.

History 1405. American Legal History, 1776-1865
Catalog Number: 84704 Enrollment: Limited to 30.
Annette Gordon-Reed
Half course (spring term). Tu., W., 10:30–12. EXAM GROUP: 3, 4, 12, 13
This course will trace the development of the American legal and political system from 1776 to 1865. We

will discuss the formation of state constitutions and the Federal Constitution, slavery and law, the development of American private law, the "Revolution of 1800" and the "Age of Jefferson", the mechanisms of westward expansion, the "Age of Jackson", and the coming of the Civil War.
Note: Offered jointly with the Law School as 2163. This course will meet at the Harvard Law School.

[History 1410. American Families, 1600-1900]
Catalog Number: 20517
Laurel Thatcher Ulrich
Half course (spring term). Hours to be arranged.
Family forms in the United States have varied widely over the centuries. This course will consider the radical innovations of 17th century Puritans, eighteenth-century Moravians, and nineteenth-century Mormons; the role of the family in debates over slavery, immigration, and the status of American Indians; and the impact of legal, economic, and social changes on mainstream ideals and practices. Students will work with a wide variety of family records as well as public documents and will have the option of writing about their own family history.
Note: Expected to be given in 2014–15.

History 1412 (formerly *History 74a). African Diaspora in the Americas
Catalog Number: 9564
Vincent Brown
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
Africans and their descendants in the Americas have drawn upon their experiences to create enduring cultural forms that seem simultaneously to be thoroughly American and distinctly African. How can we best understand these diverse cultural practices? From where did they derive? How are they related to each other? The course explores how transnational affinities have been articulated, debated, and put to use from the Transatlantic slave trade to the present.

[History 1433. American Populisms: Thomas Jefferson to Rush Limbaugh]
Catalog Number: 86765
Brett Flehinger
Half course (spring term). Hours to be arranged.
This course studies the American Populist tradition that defines the common "people" as the centerpiece of American economic and political life and thrives on opposition between the people and "elite" interests. The class focuses on the formal Populist movement and the People's Party of the late nineteenth century, and places this history in broader context, from Jeffersonian tradition through the rise of anti-elitist and anti-government movements characterized by Rush Limbaugh, Sarah Palin, and the rise of the Tea Party.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

[History 1434. American Public Life in the 20th Century]
Catalog Number: 33407
Brett Flehinger
Half course (fall term). Hours to be arranged.
A course covering the major public and political events in America from the administration of Teddy Roosevelt through Ronald Reagan. Focuses on both rising national unity and power, as well as persistent racial, gender, and economic division that conflicted with this unity. Topics include: the Progressive Era, New Deal, World Wars, and Civil Rights Movement, and Watergate.
Note: Expected to be given in 2014–15.

[History 1445. Science and Religion in American Public Culture]
Catalog Number: 99245
Andrew Jewett
Half course (spring term). Hours to be arranged.
This lecture course explores the multivalent interactions of science and religion in the United States, with a particular focus on the influence of democratic politics. Circling outward from the Scopes trial of 1925, it reaches back to the "pan-Protestant establishment" and the Darwinian controversies of the nineteenth century, and forward to today's debates over abortion and bioengineering. Students read a wide range of primary sources and examine visual material. No previous coursework is required.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for United States in the World or Culture and Belief, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

History 1457. History of American Capitalism
Catalog Number: 75535 Enrollment: Limited to 100.
Sven Beckert
Half course (spring term). Tu., Th., at 12, and a weekly section to be arranged. EXAM GROUP: 14
Examines the development of the American economy from its beginnings to the present. Focuses on the nature of economic change during the past 400 years and the reasons for and effects of capitalist growth. Topics include Native-American economies, the industrial revolution, slavery, the rise of new business structures, labor relations, and technological change.
Note: This course, when taken for a letter grade, meets the General Education requirement for United States in the World, or the Core area requirement for Historical Study B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. Students who have taken Historical Study B-49 may not take this course for credit.

History 1462. History of Sexuality in the Modern West
Catalog Number: 83347
Nancy F. Cott
Half course (fall term). M., W., at 12, and a weekly section to be arranged. EXAM GROUP: 5
This course will examine sexual rules and behavior over four centuries in the U.S. and Europe, probing the making of sexual categories such as 'normal' and 'deviant', and asking how understandings of men and women as sexual beings have changed over time. A premise of the course is that human sexual behavior is malleable, and that understanding a society's values about what is right and wrong in sex sheds light on social relations as a whole. Likewise, modes of sexual regulation reveal a social order's priorities. We will consider how popular beliefs, dominant discourses on sexuality and modes of sexual regulation relate to assumptions about class, gender, race, and age.
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[History 1465. The United States in the World since 1900]
Catalog Number: 4745
Erez Manela
Half course (fall term). Hours to be arranged.
A wide-ranging overview of American interactions with the world from the Spanish-American War through 9/11 and beyond. We will consider the changing patterns of international politics, the causes and implications of imperialism and decolonization, the pivotal impact of the world wars and the Cold War,

the significance of cultural interactions and social movements, the challenges of globalization, the complexities of international development, and the roots of current world (dis)orders.
Note: Expected to be given in 2015–16. This course, when taken for a letter grade, meets the General Education requirement for The United States in the World or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

History 1511. Latin America and the United States
Catalog Number: 22264
Kirsten Weld
Half course (spring term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
Surveys the complex, mutually constitutive, and often thorny relationship - characterized by suspicion and antagonism, but also by fascination and desire - between the United States and the diverse republics south of the Rio Grande. Examines public policy, US expansionism and empire, popular culture and consumption, competing economic development models, migration, tourism, the Cold War, sovereignty, dissent, and contrasting visions of democratic citizenship.
Note: This course, when taken for a letter grade, meets the General Education requirement for United States in the World or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[*History 1512. Dirty Wars, Peace Processes, and the Politics of History in Latin America: Conference Course]
Catalog Number: 88893 Enrollment: Limited to 15.
Kirsten A. Weld
Half course (spring term). Hours to be arranged.
Latin America's "dirty wars" generated intense struggles over historical memory. Course focuses on Chile, Argentina, El Salvador, and Guatemala, and comparatively examines how societies reckon with bloody recent pasts that are anything but settled. Looks at both these countries' dictatorships and their fraught peace processes (including truth commissions, transitional justice, artistic representations, human rights activism, international law, foreign involvement, backlash) in order to probe the stakes and politics of historical interpretation.
Note: Expected to be given in 2015–16.

[History 1513. History of Modern Latin America]
Catalog Number: 52478
Kirsten A. Weld
Half course (spring term). Hours to be arranged.
This course surveys Latin America from its 19th-century independence movements through the present day. How did the powerful legacies of European colonialism, and the neocolonial economic order that emerged to replace it, shape the Americas' new nations? Themes include nationalism and identity, revolution and counterrevolution, populism, state formation, race and ethnicity, gender and sexuality, social movements, the role of foreign powers, inequality and social class, dictatorship, democratization, and human rights.
Note: Expected to be given in 2015–16. This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

History 1520. Colonial Latin America - *(New Course)*
Catalog Number: 20401
Tamar Herzog
Half course (fall term). M., W., at 11, and a weekly section to be arranged. EXAM GROUP: 4
This course is an introductory survey of colonial Latin American history, spanning the sixteenth to the early nineteenth century. Organized chronologically and thematically, it will examine developments in Spanish and Portuguese America by reading both secondary and primary sources (available in English translation).

History 1602. China's Long 20th Century - *(New Course)*
Catalog Number: 95731
Elisabeth Koll (Business School)
Half course (fall term). M., W., (F.), at 12. EXAM GROUP: 5
This course examines China's modern history from the last decades of the 19th century to the present. It explores the great political, economic, and social transformations with a particular focus on identifying continuities and discontinuities in China's historical development across the 20th century. Lectures, readings, and discussions will also emphasize China's global interconnections and develop a framework for assessing the role of communism, capitalism, and nationalism in the making of modern China.

[History 1619. Premodern Vietnam]
Catalog Number: 4581
Hue-Tam Ho Tai
Half course (spring term). Hours to be arranged.
Vietnamese history from antiquity to the founding of the Nguyen dynasty in 1802 with emphasis on the period following independence from China in the 10th century. Topics include the Sinicization of Vietnam and the sources of Vietnamese national identity; tensions between aristocratic and bureaucratic rule; territorial expansion and national division; first contacts with the West; the changing status of women.
Note: Expected to be given in 2014–15.

History 1620. Modern Vietnam
Catalog Number: 8192
Hue-Tam Ho Tai
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
Survey of Vietnamese history from 1802 to the present. Covers the period of unified rule under the Nguyen dynasty, French colonial conquest, the struggle for independence, the Vietnam War, and the recent unification under Communism. Major topics include the relationship between the state, the village, and the individual; the transformation of Vietnamese society, culture, and politics under French rule; the rise of nationalism and Communism; the causes and consequences of the Vietnam War.
Note: This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

[History 1700. The History of Sub-Saharan Africa to 1860]
Catalog Number: 5936
Emmanuel K. Akyeampong
Half course (fall term). Hours to be arranged.
Survey of sub-Saharan Africa to 1860, with attention to the range of methodologies used in writing early African history, including oral history, archaeology, and anthropology. Will address themes of the impact of climate change on migration and settlement, trade and commerce, state formation, slavery, and the impact of Islam and Christianity on the continent. Will provide a methodological and historiographical framework in which more specific historical processes and events may be placed and understood.

Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

[History 1701. West Africa from 1800 to the Present]
Catalog Number: 4650
Emmanuel K. Akyeampong
Half course (fall term). Hours to be arranged.
The course explores the internal dynamics of West African states from 1800, and West Africa's relations with the wider world. Innovations in science, technology and finance made the 19th century an era of social and economic opportunity and of political experimentation; a phase curtailed by European imperialism. The course examines African perspectives on colonialism, the two world wars, nationalism, and the transfer of political power. We will review post-colonial political economies and the search for workable political and economic models.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

History 1704 (formerly Societies of the World 39). Slavery and Slave Trade in Africa and the Americas
Catalog Number: 3834
Emmanuel K. Akyeampong
Half course (spring term). Tu., Th., at 12, and a weekly section to be arranged. EXAM GROUP: 14
This course begins with the question of terminological precision and the definition of slavery and other forms of servile labor—especially in Africa. The course then examines the institution of slavery in Africa and the Americas within this wider historical context, analyzing the political economies and ideologies that underpin slavery and the crucial role of slave trade in reproducing slave communities that were barely able to reproduce themselves naturally. The course explores the impact of slavery on political, economic, social, and cultural life in Africa and the Americas and ends with a discussion of the legacy of slavery and the global nature of the African diaspora.
Note: This course, when taken for a letter grade, meets the General Education requirement for Societies of the World or the Core area requirement for Historical Study B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

History 1860. Understanding the Middle East: 1800s to the Present - *(New Course)*
Catalog Number: 96997
Sreemati Mitter
Half course (fall term). M., W., at 12, and a weekly section to be arranged. EXAM GROUP: 5
This course is an introduction to the history of the modern Middle East from the mid 19thC to the present. Readings and topics are structured chronologically, and emphasize the key events and turning points in the political and economic history of the region. The goal of the course is to understand how the Middle East, as it is today, has been shaped by the events of the past.
Note: May not be taken for credit for students who have passed The Modern Middle East 162 (formerly Arabic 162) and The Modern Middle East 170 (formerly Arabic 170).

History 1878a. Ottoman State and Society I (1300–1550)
Catalog Number: 5471
Cemal Kafadar
Half course (fall term). M., W., (F.), at 11. EXAM GROUP: 4
Surveys the emergence of the Ottoman state from a frontier principality into a world empire in its social, political and cultural dimensions. Topics include pre-Ottoman Anatolia; frontier society; methods of conquest; centralization and institutionalization of power; land regime and peasantry; urbanization;

intercommunal relations; religion and learning; architecture and literature. Relations with Byzantium as well as Islamic and European states are examined.
Note: This course, when taken for a letter grade, meets the Core requirement for Historical Study B.

History 1878b. Ottoman State and Society II (1550-1920)
Catalog Number: 6470
Cemal Kafadar
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
Surveys the transformations of the Ottoman order in the Middle East and southeastern Europe in the early modern era and in the long nineteenth century until the demise of the state. Topics include changes in the conduct of state; social and religious movements; the impact of the new world economy and new trade routes; relations with Europe; emergence of nationalism; the 'Eastern Question.' Ethnic and religious diversity, rural society, urban popular culture, guilds, gender and family life are also examined. The importance of this era for understanding today's Middle East is stressed.

Conference Courses

For Undergraduates and Graduates

[*History 1911. Pacific History: Conference Course]
Catalog Number: 72126 Enrollment: Limited to 15.
David R. Armitage
Half course (fall term). Hours to be arranged.
The Pacific Ocean covers a third of the Earth's surface and one-third of humanity lives on its shores and islands, from Russia to New Zealand and from Southeast Asia to South America. This seminar introduces students to oceanic and global history via works in Pacific history by scholars of the Pacific Islands, Asia, Australasia, Europe, and the Americas. Themes covered include cultural encounters, exploration, migration, history of science, geopolitics, and economic history.
Note: Expected to be given in 2015–16. Students can count the course towards the fulfillment of an Ethnic Studies Secondary Field.

History 1912. History Design Studio: Conference Course - *(New Course)
Catalog Number: 48018 Enrollment: Limited to 10.
Vincent Brown
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Weekly seminar and studio for multimedia history. The course encourages students to design new modes of historical storytelling by embedding historians' core values and methods in the innovative products of artisanship and craft. Extensive use of primary sources, attention to processes of change over time, keen historiographical awareness, and an overarching respect for evidence will guide a range of multimedia historical projects.

***History 1915 (formerly History 1415). The Nine Lives of Benjamin Franklin: Conference Course**
Catalog Number: 6296 Enrollment: Limited to 15.
Joyce E. Chaplin
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
Examines the eighteenth century through some of the many lives of Benjamin Franklin. Students analyze in depth one of these lives, or identify and explore yet another, to better comprehend Franklin and the worlds in which he lived: colonial America, British empire, independent US, books, science, popular culture, politics, war, social reform, personal improvement, and many others.

***History 1918 (formerly History 1618). Telling Lives in Asia: Conference Course**
Catalog Number: 9771 Enrollment: Limited to 15.
Hue-Tam Ho Tai
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
Using sources ranging from diaries and memoirs to biographies, autobiographies, records of interrogations, resumes and self-criticisms, we will explore the ways in which individuals, both famous and ordinary, make sense of their lives in Asia. The focus will be on the upheavals of the twentieth century were experienced and how individual biographies and national histories enrich one another.

[History 1921. International Financial History, 1700 to the Present]
Catalog Number: 9661
Niall Ferguson
Half course (spring term). Hours to be arranged.
An introduction to modern financial history from the first stock market bubbles to the most recent. Topics include money and banking, public debt and bond markets, corporations and stock markets, investment banking, cross-border capital flows, private insurance and welfare systems, mortgages, consumer credit, privatization, emerging markets, derivatives and hedge funds. Special attention will be paid to the role of financial institutions and financial crises in economic and political development.
Note: Expected to be given in 2014–15.

History 1922. Habermas: Social Theory in Postwar Germany: Conference Course - *(New Course)
Catalog Number: 32473 Enrollment: Limited to 15. Open only to juniors and seniors and graduate students with prior experience in social and political theory, intellectual history, and/or political philosophy.
Peter E. Gordon
Half course (fall term). Hours to be arranged.
This conference course explores the thought of Jürgen Habermas, the foremost social theorist of Germany in the post-1945 era. The course combines philosophical methods of rational reconstruction with an historical sensitivity to context. While devoting primary attention to his major contributions to philosophy and social theory, we will also consider Habermas' role as a public intellectual, in, e.g., the 'historians' controversy' and the debates surrounding German unification. Major readings include: *Knowledge and Human Interests, The Structural Transformation of the Bourgeois Public Sphere, The Theory of Communicative Action* (Volumes I and II), and *Between Facts and Norms.*

History 1923. Japan's 2011 Disasters and Their Aftermath: A Workshop on Digital Research: Conference Course - *(New Course)
Catalog Number: 84534 Enrollment: Limited to 15.
Andrew Gordon and Theodore C. Bestor
Half course (fall term). W., 2–5. EXAM GROUP: 7, 8, 9
The course explores the historical and ethnographic contexts of Japan's compound disasters of March 2011. As people sought to survive and make sense of the disasters, social media as well as photos, videos and websites played critical roles. We examine the role of these records, using a participatory digital archive developed at Harvard. Student teams will develop research questions, collect digital material, and create multimedia narratives. Students will complement their research with study of responses to similar global events as well as critical reflection on digital scholarship and the emerging practice of "crisis archiving."
Note: This course is also be offered through the Anthropology Department as Anthropology 1923.

History 1925. Europe and its Other(s): Conference Course - *(New Course)
Catalog Number: 73331 Enrollment: Limited to 15.

Tamar Herzog
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
This course examines how Europeans interacted with those they considered different inside and outside Europe during the Medieval and the Early Modern periods. Reading will alternate between primary and secondary sources.

[History 1940. Science and the Global Human Past: Case Studies at the Cutting Edge: Conference Course]
Catalog Number: 77077
Michael McCormick and Noreen Tuross
Half course (spring term). Hours to be arranged.
Examines recent and ongoing discoveries that show how the natural sciences are revolutionizing understanding of the human past across temporal and geographic boundaries. Topics include how archaeology, history and science illuminate and are illuminated by Jomon Pottery, ancient and medieval coins, silk, climate change, and genomics. Mixes classic classroom, seminar-style teaching with classes held as field-trips to New England museums, landscapes and laboratories.
Note: Expected to be given in 2014–15.

***History 1965. International History: States, Markets, and the Global Economy: Conference Course**
Catalog Number: 7148 Enrollment: Limited to 25.
Niall Ferguson and Charles S. Maier
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
International economic history and political economy, including strategies of economic development, international trade, migration, finance and monetary relations, based on both theoretical works and specific case studies, and focusing on the period from around 1700 to the present.
Note: History 1964 and 1965 are designed particularly for advanced undergraduates in the international history track of the concentration and graduate students preparing a general examination field in the history of international relations.

***History 1976 (formerly History 2620). Visible and Invisible Hands in China: State and Economy since 1800: Conference Course**
Catalog Number: 84147 Enrollment: Limited to 15.
Elisabeth Koll (Business School)
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
How can we explain the role of the state in China's economy past and present? Why did China never experience an industrial revolution in the 19th century? What about China's encounter with capitalism? The relationship between visible and invisible hands, i.e. state and market, frames our discussion of entrepreneurs, firms, business associations, laws and practices in the evolution of China's modern economy and society, including Taiwan, Hong Kong, and Chinese overseas communities across Asia. Readings address important debates in the field of Chinese business, economic, and social history from the early 19th to the 21st century but also offer a comparative perspective on China's economic and political modernization in a global setting.
Note: Offered jointly with Business School as 1671.

[*History 1977a (formerly *History 1877a). History of the Near East, 600-1055: Conference Course]
Catalog Number: 1770 Enrollment: Limited to 20.
Roy Mottahedeh
Half course (fall term). Hours to be arranged.
A survey of the history of the Near East and North Africa from the rise of Islam in the 7th century to the

Turkish ascendance in the mid-11th century. Includes Muhammad and his community, Arab conquests, Umayyads and Abbasids, sectarian movements, minority communities, government and religious institutions, and relations with Byzantium and the Latin West.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3594.

***History 1977b (formerly *History 1877b). History of the Near East, 1055-1517: Conference Course**
Catalog Number: 3026 Enrollment: Limited to 20.
Roy Mottahedeh
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Surveys history of the Near East from the coming of the steppe peoples to the Ottoman conquest of Egypt. Includes Seljuks, Crusades, Mongols, and the fall of the Abbasid caliphate, Mamluks, the development of Mediterranean and Indian Ocean trade, and the Timurids and their successors.
Note: Offered jointly with the Divinity School as 3595.
Prerequisite: History 1877a helpful, but not required.

History 1980. Global Capitalism, Political Crisis, and American Radical Possibilities in the Long Twentieth Century: Conference Course - *(New Course)
Catalog Number: 42189 Enrollment: Limited to 15.
Allan Lumba
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
This course explores the novel connections and disconnections made possible by a global capitalist system and the possible radical politics that may emerge from conditions of crisis. Through a selection of academic scholarship, social theory, and primary sources we will consider America in the long twentieth century not only as a geo-political entity, but also as a theoretical place from which to examine contingent histories of empire, colonialism, nationalism, race, gender, sexuality, and labor regimes.

History 1981. A Cultural History of the U.S. Military: World War I to the Present: Conference Course - *(New Course)
Catalog Number: 40644 Enrollment: Limited to 15.
Elizabeth Mesok
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
This course examines the U.S. military as a cultural institution where liberal ideologies of citizenship, equality, and individualism are both challenged and solidified. Foregrounding issues of gender, sexuality, race, dis/ability, and class, we will consider the impact of major social transformations on military culture, including, but not limited to, the creation of the Veteran's Administration, racial desegregation, anti-war movements, the repeal of Don't Ask, Don't Tell, and the recent move to allow women in combat.

History 1982. Migration and Relations Between Canada and the United States: Conference Course - *(New Course)
Catalog Number: 31481 Enrollment: Limited to 15.
Jacob A. C. Remes
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
People have long moved from what is now Canada to what is now the United States, or vice versa. After the American Revolution and during the Vietnam War, political dissidents moved to Canada. People who were born in Canada or who migrated first from Europe to Canada have long come to the United States. We will approach all of these movements of people-and the consequent movements of ideas and culture-within their historical contexts.

History 1983. Judaism Confronts America: Conference Course - *(New Course)
Catalog Number: 53632 Enrollment: Limited to 15.
Jonathan D. Sarna
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
An exploration of tensions between Judaism and America from blue laws to federal regulation of kosher food to recent controversies over banning and regulating circumcision.

History 1987. Gender and Race in Colonial South and Southeast Asia: Conference Course - *(New Course)
Catalog Number: 68643 Enrollment: Limited to 15.
Frances Gouda
Half course (spring term). Tu., 4–6. EXAM GROUP: 18
This course examines the transnational histories of the Netherlands East Indies (colonial Indonesia) and British India in the modern era. Normative ideas about gender roles and racial difference - and their migrations back and forth between the European metropole and colonial societies in South and Southeast Asia - will figure prominently. Its purpose is to analyze the divergent realities and valuations of interracial sexuality in the Netherlands East Indies (colonial Indonesia) and British India by exploring how whiteness and masculinity functioned as attributes of social, political and cultural power, both imagined and real.

Graduate Proseminars

Primarily for Graduates

Undergraduates with the appropriate preparation may enroll with the instructor's permission.

History 2133. Studies in Tudor and Stuart History: Proseminar
Catalog Number: 1428
Mark A. Kishlansky
Half course (spring term). Hours to be arranged.
A graduate colloquium designed for students preparing preliminary examinations in early modern history or interested in English historiography of the early modern period. Historiographical papers and reviews.
Note: Open to undergraduates with permission of instructor.

[*History 2259. Readings in Central European History: Proseminar]
Catalog Number: 73454
Alison Frank Johnson
Half course (spring term). Hours to be arranged.
Introduces students to recent and classic literature on German-speaking Europe as well as the Habsburg Empire, the Polish-Lithuanian Commonwealth, and their successor states. Some discussion of Southeastern Europe. Reading knowledge of German or another approved Central/Eastern European language advisable, but not required. Open to graduate students and qualified undergraduates with permission of the instructor.
Note: Expected to be given in 2015–16.

History 2277. Eastern Europe: Peoples and Empires: Proseminar - *(New Course)
Catalog Number: 76331 Enrollment: Limited to 10.
Serhii Plokhii
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
This course is an introduction to major themes and debates in the early modern and modern history of the

"other Europe." Its main focus is on the histories of European Russia, Ukraine, Belarus, Lithuania, and Poland. Readings discuss international and political developments in the region and their impact on the formation of imperial, national, religious and cultural identities from the rise of Reformation to the collapse of Communism. The course is designed to prepare students for a general exam field in East European history. It is open to graduate and advanced undergraduate students working on a senior thesis.

***History 2300. Methods in Intellectual History: Proseminar**
Catalog Number: 7779 Enrollment: Limited to 15.
David R. Armitage and Peter K. Bol
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
Introduction to advanced research in intellectual history with special reference to philosophy and political thought. Readings will include primary and secondary materials drawn from East-Asian and Euro-American traditions.

[History 2400. Readings in Colonial and Revolutionary America: Proseminar]
Catalog Number: 9176
Instructor to be determined
Half course (fall term). Hours to be arranged.
An introduction to scholarly literature on colonial and revolutionary America. Required for History Department graduate students specializing in US history. Open to those from other fields or programs.
Note: Expected to be given in 2014–15.

History 2442. Readings in the History of the U.S. in the 19th Century: Proseminar
Catalog Number: 2383
Walter Johnson
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
The second in the sequence of three proseminars required of all graduate students in American history and open to graduate students in other history fields and other departments as space permits.

History 2462. Readings in the U.S. in the 20th Century: Proseminar
Catalog Number: 2931
Nancy F. Cott
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Readings in recent monographs as well as older historiography, covering a wide range of 20th-century topics. This proseminar is required of all History graduate students focusing on the United States.

History 2511. Rethinking the Archive: Proseminar - *(New Course)
Catalog Number: 75031 Enrollment: Limited to 15.
Kirsten A. Weld
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
This seminar provides a critical examination of the documentary and archival forms that lie at the heart of historical knowledge production. Readings span disciplinary boundaries, geographic regions, and time periods.

History 2653. Historiography of Modern Japan: Proseminar
Catalog Number: 4442
Andrew Gordon
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
A critical introduction to the historiography of modern Japan, with emphasis on English-language scholarship.

***History 2968. History and Economics: Proseminar**
Catalog Number: 1557
Emma Rothschild
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Examines approaches to the history of economic thought and economic history by the exploration of particular topics, including the political economy of empire, energy, and information.

History 2982. Readings on 19th and 20th Century Canada: Proseminar - *(New Course)
Catalog Number: 83971 Enrollment: Limited to 10.
Jacob Remes
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
An introduction to the history and historiography of Canada. The primary written work will be book reviews. Canadianists as well as Americanists, British/Empire history students, and comparativists encouraged.

Graduate Seminars

Primarily for Graduates

Undergraduates with the appropriate preparation may enroll with the instructor's permission.

[*History 2050. Medieval Societies and Cultures: Proseminar]
Catalog Number: 6693
Michael McCormick
Half course (spring term). Hours to be arranged.
Introduction to the study of medieval history, and to the literature basic to the examination field. Stress on classic and innovative scholarship about medieval society, economy, institutions and culture.
Note: Expected to be given in 2014–15. May not ordinarily be credited as one of the research seminars required in the first-year program.
Prerequisite: Reading knowledge of French and/or German.

History 2055 (formerly History 2055hf). Early Medieval History, Archaeology and Archaeoscience: Seminar
Catalog Number: 5011
Michael McCormick
Half course (spring term). M., 3–5. EXAM GROUP: 8, 9
Joint philological analysis of Latin texts, archaeological and scientific evidence illuminating the fall of Rome and the origins of medieval Europe, culminating in a research paper.
Prerequisite: Latin, with either German or French, is required. Normally History 2050 and or MS 101.

History 2061hf. Law and Violence: Seminar - *(New Course)*
Catalog Number: 79711
Daniel L. Smail
Half course (throughout the year). Fall: Tu., 4:30–6:30, and a weekly section to be arranged. Spring: Tu., 4:30–6:30, and a weekly section to be arranged. EXAM GROUP: 18
Explores law and violence across the global human past. Readings will range from studies of violence and vengeance in historical and anthropological settings to the methodological insights provided by sociology, cognitive neuroscience, and criminal justice.

[History 2080. Medieval Law]
Catalog Number: 3140
Charles Donahue, Jr. (Law School)
Half course (spring term). Hours to be arranged.
Readings focused alternately on the English legal tradition and on the Roman-canonical tradition. The topic for 2014-15 will be the English legal tradition. Short papers analyzing texts will be required but not a research paper.
Note: Expected to be given in 2014–15. Offered jointly with the Law School as Law 2166.
Prerequisite: Some Latin required.

[*History 2132. Early Modern England: Seminar]
Catalog Number: 7105 Enrollment: Limited to 10.
Mark A. Kishlansky
Half course (spring term). Hours to be arranged.
Students will conduct primary research on topics of significance in the history of England, ca. 1563–1714.
Note: Expected to be given in 2014–15. Permission of instructor required.

History 2222. The Cold War and Its Collapse: Seminar - *(New Course)
Catalog Number: 87867 Enrollment: Limited to 10.
Mary Elise Sarotte
Half course (spring term). Tu., 4–6. EXAM GROUP: 18
Examines the international history and historiography of the Cold War; investigates Cold War origins, narratives, sources, collapses, and legacies; assesses their usefulness as a means of understanding the second half of the twentieth century.

[History 2250. Interpreting Europe's Twentieth Century: Seminar]
Catalog Number: 62761
Charles S. Maier
Half course (spring term). Hours to be arranged.
Historical and theoretical analyses of crises and transformation: critiques of liberalism; fascism and communism; legacies of world war and empire; postwar institutional constructions; ideological revival from the 1960s to the collapse of communism; global redimensioning.
Note: Expected to be given in 2014–15.

***History 2260. Central Europe: Seminar**
Catalog Number: 6464 Enrollment: Limited to 12.
Alison Frank Johnson
Half course (fall term). Hours to be arranged.
Major themes include nationalism, communism, the 'Polish question,' the 'Jewish question,' the political and economic viability of the Habsburg Empire, cultural exchange and diplomatic relations between Austria, Germany and the Russian Empire/Soviet Union.
Prerequisite: Reading Knowledge of either German, Polish, Czech, or another Central European language.

[History 2272. The Soviet Union: Seminar]
Catalog Number: 7969
Terry D. Martin
Half course (fall term). Hours to be arranged.
Introduction to archival and primary sources, as well as major historiographical debates. Primary focus on major research paper.

Note: Expected to be given in 2014–15.
Prerequisite: Reading knowledge of Russian.

History 2275hf. Subjectivities and Identities in Russia and Eurasia: Seminar - *(New Course)*
Catalog Number: 69728
Terry D. Martin and Stephanie Sandler
Half course (throughout the year). Fall: Th., 2–4; Spring: W., 2–4. EXAM GROUP: Fall: 16, 17; Spring: 7, 8
Year-long bi-weekly seminar on collective and personal identities in the history, culture, and politics of Russia, Eastern Europe and Central Asia. Key questions: where and how are identities formed (in domestic, public, textual, and virtual spaces)? What factors constrain, promote, and shape identity formation? What theories of self-expression help us understand the region? How are identities and subjectivities similar? How are they different?
Note: Open to qualified undergraduates. Permission of the Instructors.

History 2284. Digital History Seminar: from 101 to 3.0 - *(New Course)
Catalog Number: 10733 Enrollment: Limited to 15.
Kelly A. O'Neill-Uzgiris
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Exploration of the landscape of digital history from the perspectives of both theory and practice. Students will examine major debates in the field, assess groundbreaking projects, and apply digital history methods to their own research.
Note: Open to undergraduates with permission of the instructor.

***History 2315. Censorship: Seminar**
Catalog Number: 71765 Enrollment: Limited to 15.
Robert Darnton
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
A graduate seminar on the nature of censorship and the way it actually operated in Stuart England, Bourbon France, the British Raj, Communist East Germany, and regimes vulnerable to the Internet.

***History 2320hf. Foundations of Modern European Intellectual History: Seminar**
Catalog Number: 16747 Enrollment: Limited to 15.
Peter E. Gordon
Half course (throughout the year). M., 4–6. EXAM GROUP: 9
This graduate seminar provides a survey of major themes and controversies in modern European intellectual history from the Enlightenment to the post-war era. The seminar is intended primarily for graduate students who are preparing for the qualifying examination. The course is offered on a yearly basis, and it meets every other week throughout the academic year. Please consult with the instructor for further details.

[*History 2321. Methods in Book History: Seminar]
Catalog Number: 5169 Enrollment: Limited to 15.
Ann M. Blair and Leah Price
Half course (fall term). Hours to be arranged.
Will introduce students to methods and debates in the history of the book and of reading. Students from all humanities and social science disciplines are welcome. Primarily for graduates; open to advanced undergraduates by consent of the instructors.
Note: Expected to be given in 2015–16.

History 2322. Adorno: Philosophy, Sociology, Aesthetics: Seminar - *(New Course)*
Catalog Number: 74151
Peter E. Gordon
Half course (spring term). Tu., 4–6. EXAM GROUP: 18
This seminar explores the work of the philosopher and social theorist Theodor W. Adorno, a leading member of the Institute for Social Research. Moving chronologically and thematically through his major works, we will discover how Adorno applied his inimitable manner of critical reflection to issues such as the dialectic of enlightenment, the social implications of psychoanalysis, the cultural reification of consciousness, and the redemptive promise of autonomous art in a capitalist age. Readings include selections from: Dialectic of Enlightenment, Minima Moralia, Negative Dialectics, and Aesthetic Theory. Open only to graduate students, advanced undergraduates at instructor's discretion.

[*History 2330. Ideas in Europe in the 18th Century: Seminar]
Catalog Number: 1077 Enrollment: Limited to 15.
Emma Rothschild
Half course (fall term). Hours to be arranged.
A graduate seminar which examines a number of 18th century writings (by Hume, Smith, Wollstonecraft, and Condorcet) and ideas (enlightenment, religion, empire), and explores different ways of writing about the history of ideas.
Note: Expected to be given in 2015–16.

[*History 2331. Adam Smith: Philosophy and Political Economy: Seminar]
Catalog Number: 77253 Enrollment: Limited to 20.
Emma Rothschild and Amartya Sen
Half course (fall term). Hours to be arranged.
The course examines Adam Smith's writings on philosophy, law and political economy, in historical perspective and in relation to the foundations of modern thought.
Note: Expected to be given in 2015–16.
Prerequisite: Permission of the Instructors.

***History 2340hf. Readings in American Intellectual History**
Catalog Number: 8845 Enrollment: Limited to 20.
James T. Kloppenberg
Half course (throughout the year). Fall: W., 4–6; Spring: Th., 3–5. EXAM GROUP: Fall: 9; Spring: 17, 18
This course examines classic texts in American intellectual history from 1630 to the present, both primary and secondary, and surveys recent developments in the field. It is intended for first- and second-year graduate students preparing for general exams in history and for other graduate students in fields such as American Civilization, Government, Law, Literature, Religion, and Education.

***History 2341hf. American Intellectual History: Seminar**
Catalog Number: 57986 Enrollment: Limited to 20.
James T. Kloppenberg
Half course (throughout the year). Fall: W., 4–6; Spring: Th., 3–5. EXAM GROUP: Fall: 9; Spring: 17, 18
This course is intended for graduate students who wish to supplement the reading of primary and secondary sources in American intellectual history with the preparation of a research paper.

[History 2350. Research Seminar in the History of Education: Seminar]
Catalog Number: 77605

Julie A. Reuben (Faculty of Education)
Half course (fall term). Hours to be arranged.
This course offers students the opportunity to conduct original research in the history of education.
Note: Expected to be given in 2014–15. Offered jointly with the Graduate School of Education as S-508.

[History 2401. Early American Social History: Seminar]
Catalog Number: 6049
Laurel Thatcher Ulrich
Half course (spring term). Hours to be arranged.
Research culminating in the production of a scholarly essay. Some prior knowledge of the period assumed.
Note: Expected to be given in 2014–15.

***History 2403. Working with Harvard Collections: Research Seminar**
Catalog Number: 72039 Enrollment: Limited to 15.
Laurel Thatcher Ulrich
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
Participants in the seminar will explore Harvard's vast collections of tangible things, from rocks to medical specimens to works of art, as sources for the writing and teaching of history. Although the emphasis will be on American history, students from other fields are welcome.

[*History 2404. Themes in Mormon History: Seminar]
Catalog Number: 19813 Enrollment: Limited to 12.
Laurel Thatcher Ulrich
Half course (fall term). Hours to be arranged.
This seminar will explore recent scholarship on nineteenth and early twentieth century Mormonism and guide students in developing independent research projects on selected topics of their choice
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2206.

[*History 2414. The American Attic (Graduate Seminar in General Education)] - *(New Course)*
Catalog Number: 44981 Enrollment: Limited to 12.
Jill M. Lepore and Robin E. Kelsey
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
This interdisciplinary graduate seminar is dedicated to developing an undergraduate course on the attic as both a place and a realm of the imagination. Students will explore the historical and aesthetic richness of archives.
Note: Expected to be given in 2014–15. The seminar will design and develop a General Education course on these themes for undergraduates.

History 2450. The History of Education in the United States: Seminar
Catalog Number: 91462
Julie A. Reuben (Faculty of Education)
Half course (fall term). Tu., 1–4. EXAM GROUP: 15, 16, 17
This course examines major issues in the development of schooling from the Colonial period to the present.
Note: Offered jointly with the Graduate School of Education as A-418.

[History 2457. History of Capitalism: Seminar]
Catalog Number: 86286
Sven Beckert

Half course (fall term). Hours to be arranged.
This graduate research seminar will focus on the global history of capitalism since 1750. After an introduction to some of the central debates in the economic, social and political history of capitalism, students will be guided to write a major research paper.
Note: Expected to be given in 2014–15.

[*History 2463. Graduate Readings in 20th-Century African-American History: Seminar]
Catalog Number: 9004 Enrollment: Limited to 10.
Evelyn Brooks Higginbotham
Half course (fall term). Hours to be arranged.
In this graduate seminar we will read books and articles on topics that reflect the diverse experiences and ideologies of African Americans in the twentieth century. We will discuss and analyze differing historical interpretations and methodologies. We will also explore a variety of historical writings, e.g., biography, intellectual history, race and gender studies, labor history, transnational history, etc. Students are required to write a short report on a recommended reading each week, in addition to being prepared to discuss the required reading. A historiographic paper will be due at the end of the term.
Note: Expected to be given in 2014–15.

History 2468hf. The Environment and the American Past: Seminar - *(New Course)*
Catalog Number: 84483
Joyce E. Chaplin, Lawrence Buell, and Robin E. Kelsey
Half course (throughout the year). Th., 4–6. EXAM GROUP: 18
Year-long research seminar in conjunction with the Warren Center Postdoctoral Workshop. Participants will explore how the natural world has been and continues to be a meaningful topic for American studies, broadly defined.

***History 2470hf. Workshop in 20th-Century US History**
Catalog Number: 0565
Lizabeth Cohen
Half course (throughout the year). Hours to be arranged.
For dissertation writers only.
Prerequisite: Permission of the instructor

History 2474. Law and Social Reform in 20th Century U.S. History: Seminar - *(New Course)
Catalog Number: 71302 Enrollment: Limited to 15.
Tomiko Brown-Nagin (Law School)
Half course (fall term). Tu., 1:10–3:10. EXAM GROUP: 15, 16, 17
This seminar considers 20th-century social reform campaigns from the perspective of legal history. Readings cover the black freedom struggle, women's rights, the labor movement, and anti-poverty struggles.
Note: Offered jointly with the Law School as 2586.

History 2475. Legal History Workshop - *(New Course)
Catalog Number: 21693 Enrollment: Limited to 5. The enrollment limit for FAS students is 5.
Tomiko Brown-Nagin (Law School)
Half course (fall term). W., 5–7 p.m. EXAM GROUP: 9
This workshop examines major works in legal history and related fields and investigates important historiographical debates and methodologies. Leading scholars present works-in-progress. Graduate students also present research findings and complete substantial papers.

Note: Offered jointly with the Law School as 2596. Open to undergraduates with the permission of the Instructor. This course will meet at the Harvard Law School.

History 2480hf. The Political Economy of Modern Capitalism: Seminar
Catalog Number: 3719
Sven Beckert and Christine Desan (Law School)
Half course (throughout the year). M., 4–6. EXAM GROUP: 9
A year-long research and reading course on the history of capitalism during the past 300 years.
Note: Offered jointly with the Law School as 2168.

History 2495. Twentieth-Century Politics and Social Movements: Seminar
Catalog Number: 46932
Lisa M. McGirr
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Seminar culminating in the production of an article length essay based on primary research. Students will conduct research into significant topics at the intersection of the state and civil society in the twentieth-century United States.

***History 2651. Japanese History: Seminar**
Catalog Number: 5146 Enrollment: Limited to 15.
Andrew Gordon and Ian J. Miller
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Students write research papers on topics of their own choosing drawing on sources in Japanese, and other languages as appropriate.
Prerequisite: Reading knowledge of Japanese.

History 2692. Colonial and Post-Colonial Histories of South Asia: Seminar
Catalog Number: 8502
Sugata Bose
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Analyzes trends and debates in historical research and writing on colonial and post-colonial South Asia.

[*History 2708. Sources, Methodology, and Themes in African History: Seminar]
Catalog Number: 5861 Enrollment: Limited to 12.
Emmanuel K. Akyeampong
Half course (spring term). Hours to be arranged.
Seminar to equip graduate students with the necessary tools for archival research and fieldwork, as well as to introduce them to recent approaches in the historiography.
Note: Expected to be given in 2014–15.
Prerequisite: A graduate field on Africa.

History 2725. History and Anthropology: Seminar - *(New Course)*
Catalog Number: 26038 Enrollment: Limited to 20.
Vincent Brown and Ajantha Subramanian
Half course (spring term). Tu., 10–12. EXAM GROUP: 12, 13
Explores exchanges between the disciplines of History and Anthropology, emphasizing overlaps and distinctions in the treatment of mutual concerns such as the representation of time and space, the conceptualization of power, and the making of the subject.
Note: This course is also offered through the Anthropology Department as Anthropology 2725. Credit may be earned for either History 2725 or Anthropology 2725, but not both.

[History 2805. Gender and Sexuality: Comparative Historical Studies of Islamic Middle East, North Africa, South, and East Asia: Seminar]
Catalog Number: 8070
Afsaneh Najmabadi
Half course (spring term). Hours to be arranged.
Informed by theories of gender and sexuality, this seminar investigates how historically notions of desire, body, sex, masculinity, femininity, gender and sexual subjectivities have formed and reformed in Islamicate cultures of the Middle East, North Africa, and South and East Asia.
Note: Expected to be given in 2015–16.

History 2884. Topics in Ottoman Social and Cultural History: Seminar
Catalog Number: 3762
Cemal Kafadar
Half course (spring term). Th., 1–4. EXAM GROUP: 16, 17
Topic to be announced.
Prerequisite: Reading knowledge of Turkish.

History 2886. Topics in Islamic History: Seminar
Catalog Number: 3470
Roy Mottahedeh
Half course (fall term). Hours to be arranged.
Topic to be announced.

[*History 2906. International History: Seminar]
Catalog Number: 0453 Enrollment: Limited to 12.
Erez Manela
Half course (fall term). Hours to be arranged.
This course explores new approaches to the international history of the twentieth century. We probe problems of scope, theme, narrative strategy, research method, and sources, among others.
Note: Expected to be given in 2015–16.

[History 2911. Theories of International Relations: Seminar]
Catalog Number: 6430
David R. Armitage
Half course (spring term). Hours to be arranged.
An historical introduction to theories of war and peace, sovereignty, diplomacy, colonialism, international law, and international relations since the fifteenth century. Readings include primary and secondary sources.
Note: Expected to be given in 2015–16. Open to undergraduates with the permission of the Instructor.

***History 2921. Western Ascendancy: Historiography and Pedagogy: Seminar**
Catalog Number: 89802 Enrollment: Limited to 15.
Niall Ferguson
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
The purpose of this graduate seminar is to get Teaching Fellows and other graduates to engage with the historiographical and pedagogical challenges of the General Education course, Societies of the World 19: Western Ascendancy. Courses in Western Civilization are nowadays widely seen as outmoded and excessively Eurocentric. The aim of SW 19 is to address questions of global economic and political divergence in a fresh way, taking advantage of more recent literature on economic history, for example.

History 2950hf. Approaches to Global History: Seminar - *(New Course)*
Catalog Number: 87072
Sven Beckert and Charles S. Maier
Half course (throughout the year). M., 4–6. EXAM GROUP: 9
Approaches to global history, including economic and labor systems, cultural transfer, imperial frameworks, migration, and environmental challenges. Students will prepare and present a research paper as well cover common readings.

[*History 2951. The Environmental Turn in History: Seminar]
Catalog Number: 20985 Enrollment: Limited to 12.
Ian J. Miller
Half course (fall term). Hours to be arranged.
A critical exploration of history's "environmental turn." This course tracks the movement of environmental themes to the center of the discipline and the emergence of environmental history as an important new subfield. Readings will range from classics to cutting-edge new work.
Note: Expected to be given in 2014–15.

***History 2965. The Scope of History: Seminar**
Catalog Number: 4804 Enrollment: Limited to 15.
Mary D. Lewis
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Explores the historical method by considering the wide array of "levels" of analysis or foci that historians adopt, from local and national to transnational, comparative and global; considers the relationship between scope and problematic.
Prerequisite: Graduate standing or permission of instructor.

Methodology

***History 3900. Writing History: Approaches and Practices**
Catalog Number: 1358
Walter Johnson
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
Required of and limited to first-year doctoral students in History, HMES, and those students in EALC who choose the History specialization.
Prerequisite: First year graduate students only.

Teaching Practicum

***History 3920hf. Colloquium on Teaching Practices**
Catalog Number: 5222
Erez Manela 4762
Half course (throughout the year). M., 3–5. EXAM GROUP: 8, 9
Required of and open only to all third-year history department graduate students.

Directed Reading and Research

***History 3000. Direction of Doctoral Dissertations**
Catalog Number: 4630
Emmanuel K. Akyeampong 3421 (on leave fall term), David R. Armitage 5023, Sven Beckert 2415, Thomas N. Bisson 1451, David Blackbourn 3203, Ann M. Blair 2467, Peter K. Bol 8014 (on leave spring

term), Sugata Bose 3960, Vincent Brown 4638, Tomiko Brown-Nagin (Law School) 7255, Joyce E. Chaplin 1058, John H. Coatsworth 3248, Lizabeth Cohen 3627 (on leave 2013-14), Nancy F. Cott 4261, Albert M. Craig 1847, Robert Darnton 5980, Emma Dench 5243, Caroline M. Elkins 3961, Drew Gilpin Faust 3857, Niall Ferguson 4938, Andrew Gordon 1891, Peter E. Gordon 3907, Annette Gordon-Reed 6394, James Hankins 1239 (on leave spring term), Tamar Herzog 7281, Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Patrice Higonnet 2730 (on leave 2013-14), Morton J. Horwitz (Law School) 6272, Akira Iriye 1968, Maya Jasanoff 5877 (on leave 2013-14), Andrew Jewett 5878 (on leave 2013-14), Alison Frank Johnson 5313, Walter Johnson 5616, Christopher P. Jones 3204, Cemal Kafadar 2459, Edward L. Keenan 1825, Alexander Keyssar (Kennedy School) 4323, William C. Kirby 3128, Mark A. Kishlansky 2895, James T. Kloppenberg 3157, Philip A. Kuhn 8051, Jill M. Lepore 4830, Mary D. Lewis 4369, Charles S. Maier 7227, Erez Manela 4762, Terry D. Martin 2966, Michael McCormick 2849, Lisa M. McGirr 2543, Ian J. Miller 5880, Roy Mottahedeh 1454 (on leave spring term), Afsaneh Najmabadi 4052, Kelly A. O'Neill-Uzgiris 5881, E. Roger Owen 1028, Steven Ozment 6197, Serhii Plokhii 4454, Michael J. Puett 1227, Julie A. Reuben (Faculty of Education) 4428, Emma Rothschild 5001, Daniel L. Smail 5343, Michael A. Szonyi 4842 (on leave 2013-14), Roman Szporluk 3033, Hue-Tam Ho Tai 6079, Stephan Thernstrom 4141, Laurel Thatcher Ulrich 1886, Kirsten A. Weld 6494, John Womack, Jr. 1863, and Alejandro de la Fuente 7369 (on leave 2013-14)

***History 3010. Reading and Research**
Catalog Number: 3424
Asad A. Ahmed 5567, Emmanuel K. Akyeampong 3421 (on leave fall term), William P. Alford (Law School) 2731, Dimiter Georgiev Angelov 7002, David R. Armitage 5023, Bernard Bailyn 1841, Sven Beckert 2415, Thomas N. Bisson 1451, David Blackbourn 3203, Ann M. Blair 2467, Peter K. Bol 8014 (on leave spring term), Sugata Bose 3960, Vincent Brown 4638, Tomiko Brown-Nagin (Law School) 7255, Janet Browne 5511, Steven C. Caton 2307 (on leave spring term), Joyce E. Chaplin 1058, John H. Coatsworth 3248, Lizabeth Cohen 3627 (on leave 2013-14), Kathleen M. Coleman 2289 (on leave 2013-14), John Comaroff 6485, Nancy F. Cott 4261, Robert Darnton 5980, Emma Dench 5243, Charles Donahue, Jr. (Law School) 2650, Carter J. Eckert 1178, Caroline M. Elkins 3961, Mark C. Elliott 3329, Drew Gilpin Faust 3857, Noah R. Feldman (Law School) 6206, Niall Ferguson 4938, Francis Fiorenza (Divinity School) 2735, Andrew Gordon 1891, Peter E. Gordon 3907, Annette Gordon-Reed 6394, David D. Hall (Divinity School) 2510, Peter A. Hall 7272, James Hankins 1239 (on leave spring term), Tamar Herzog 7281, Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Patrice Higonnet 2730 (on leave 2013-14), Morton J. Horwitz (Law School) 6272, David Howell 6747, Akira Iriye 1968, Maya Jasanoff 5877 (on leave 2013-14), Andrew Jewett 5878 (on leave 2013-14), Alison Frank Johnson 5313, Walter Johnson 5616, Christopher P. Jones 3204, Cemal Kafadar 2459, Edward L. Keenan 1825, Alexander Keyssar (Kennedy School) 4323, Sun Joo Kim 3821, William C. Kirby 3128, Mark A. Kishlansky 2895, James T. Kloppenberg 3157, Elisabeth Koll (Business School) 6495, Philip A. Kuhn 8051, Jill M. Lepore 4830, Mary D. Lewis 4369, Charles S. Maier 7227, Erez Manela 4762, Bruce H. Mann (Law School) 7190, Terry D. Martin 2966, Michael McCormick 2849, Lisa M. McGirr 2543, Ian J. Miller 5880, Roy Mottahedeh 1454 (on leave spring term), Afsaneh Najmabadi 4052, Kelly A. O'Neill-Uzgiris 5881, E. Roger Owen 1028, Steven Ozment 6197, Richard Pipes 1827, Serhii Plokhii 4454, Michael J. Puett 1227, Julie A. Reuben (Faculty of Education) 4428, Emma Rothschild 5001, Daniel L. Smail 5343, Michael A. Szonyi 4842 (on leave 2013-14), Roman Szporluk 3033, Hue-Tam Ho Tai 6079, Stephan Thernstrom 4141, Laurel Thatcher Ulrich 1886, Kirsten A. Weld 6494, John Womack, Jr. 1863, and Alejandro de la Fuente 7369 (on leave 2013-14)
Instructors listed above under History 3010 supervise individual work in preparation for the General Examination for the PhD degree.
Note: Limited to candidates for the PhD who are in residence, who have been for a year in residence, and who are in good standing in the Graduate School. May ordinarily be taken only in preparation for a field (or fields) to be examined on the General Examination. May not be counted toward the AM degree except by permission of the Department.

Cross-listed Courses Primarily for Undergraduates

[Aesthetic and Interpretive Understanding 49 (formerly Medieval Studies 114). The Medieval Imagination: Visions, Dreams, and Prophecies]
African and African American Studies 11. Introduction to African Studies
[Culture and Belief 20. Reason and Faith in the West]
[Culture and Belief 41 (formerly Historical Study A-67). Gender, Islam, and Nation in the Middle East and North Africa]
Culture and Belief 50. The European Postwar: Literature, Film, Politics
Culture and Belief 51. Making the Middle Ages
[Culture and Belief 52 (formerly History 1213). The American Evangelical Tradition from Jonathan Edwards to Jerry Falwell]
Culture and Belief 59. Athens, Rome, and Us: Questions of Identity - *(New Course)*
Ethical Reasoning 12. Political Justice and Political Trials
[Ethical Reasoning 34. Liberty]
[Ethical Reasoning 35. Nature]
***History and Literature 90aj. America Through European Eyes**
***History and Literature 90an. God Save the Queen! Ruling Women from Rome to the Renaissance**
***History and Literature 90ap. American Prizefighting, 1801 to the Present**
History and Literature 90av. Revolution and Reform in Britain and France, 1820-1880 - *(New Course)
History and Literature 90aw. Life Narratives in Postcolonial Africa - *(New Course)
History and Literature 90ay. 1968: Youth Protest in Europe - *(New Course)
History and Literature 90bb. Whose American Revolution?: Political and Social Change in America, 1760-1790 - *(New Course)
Jewish Studies 80. American Jews and the Television Age
Societies of the World 12 (formerly Historical Study A-13). China
Societies of the World 13 (formerly Historical Study A-14). Japan in Asia and the World
[Societies of the World 14 (formerly Historical Study A-88). The British Empire]
Societies of the World 15 (formerly Historical Study B-64). The Cuban Revolution, 1956-1971: A Self-Debate
Societies of the World 18. Europe on Trial: Retribution, Renewal and Reconciliation Since 1945
Societies of the World 19. Western Ascendancy: The Mainsprings of Global Power from 1400 to the Present
Societies of the World 22. Asia in the Making of the Modern World
[Societies of the World 26 (formerly Historical Study A-21). Africa and Africans: The Making of a Continent in the Modern World]
[Societies of the World 28. Exploration and Empire Building]
Societies of the World 30. Moctezuma's Mexico: Then and Now (2012)!
[Societies of the World 34 (formerly Foreign Cultures 46). The Caribbean: Globalization, Socio-Economic Development & Cultural Adaptation]
Societies of the World 36 (formerly Historical Study A-16). Modern India and South Asia
[Societies of the World 38. Pyramid Schemes: The Archaeological History of Ancient Egypt]
[Societies of the World 41. Medieval Europe]
[Societies of the World 42. The World Wars in Global Context, 1905-1950]
Societies of the World 43 (formerly Historical Study B-67). Japan's Samurai Revolution
Societies of the World 45 (formerly Chinese History 118). Beyond the Great Wall: China and the Nomadic Frontier
Societies of the World 49. The Worlds of Business in Modern China
Societies of the World 52 (formerly Slavic 144). The Phoenix and the Firebird: Russia in Global Perspective - *(New Course)*

Societies of the World 53 (formerly History 1040). The Fall of the Roman Empire
[United States in the World 16 (formerly Historical Study A-86). Men and Women in Public and Private: the US in the 20th Century]
[United States in the World 19. American Food: A Global History]
United States in the World 28 (formerly Historical Study B-43). Slavery/Capitalism/Imperialism: The US in the Nineteenth Century
United States in the World 30. Tangible Things: Harvard Collections in World History
[United States in the World 38. Forced to be Free: Americans as Occupiers and Nation-Builders]
United States in the World 40 (formerly History 1989). New World Orders? From the Cold War to Contemporary International Relations
United States in the World 41 (formerly History 1495). Power and Protest: The United States in the World of the 1960s

Cross-listed Courses for Undergraduates and Graduates

African and African American Studies 118. The History of African Americans From the Slave Trade to the Great Migration
[African and African American Studies 135x. Reading Du Bois]
African and African American Studies 139y. Hollywood and History: Understanding American Slavery Through Film - *(New Course)*
[African and African American Studies 191x. African American Lives in the Law]
[Arabic 160r. Readings in Arabic Historians, Geographers, and Biographers]
[Celtic 118. The Gaelic World: 12th Century to 17th Century]
[Celtic 119. The Gaelic World: 17th Century to the Present]
[Chinese History 113. Society and Culture of Late Imperial China]
Chinese History 116. Culture and Society in Late Imperial China - *(New Course)*
[East Asian Studies 191. Zen: History, Culture, and Critique]
Economics 1776. Religion and the Rise of Capitalism
History of Science 180. Science, Technology, and Society in Modern East Asia
[Islamic Civilizations 145a. Introduction to Islamic Philosophy and Theology: The Formative and Classical Periods (8th to 15th centuries)]
[Japanese History 115. Religion and Society in Edo and Meiji Japan]
Japanese History 120. Religion and Society in Twentieth-Century Japan
[Japanese History 126. Shinto: Conference Course]
[Korean History 111. Traditional Korea]
[Korean History 115. Korean History Through Film]
[Korean History 130. The Recurring Past--Early Korea and Northeast Asia as History and Identity]
[Medieval Studies 107. Authority and Invention: Medieval Art and Architecture]
[Medieval Studies 117. Constitutional and Legal History of Medieval England]
[Medieval Studies 119. Constitutional and Legal History of Medieval Continental Europe]
[Persian 150r. Readings in Persian Historians, Geographers and Biographers]
Religion 1518. American Religious History to 1865 - *(New Course)*
Societies of the World 52 (formerly Slavic 144). The Phoenix and the Firebird: Russia in Global Perspective - *(New Course)*
Studies of Women, Gender, and Sexuality 1258. Friends with Benefits?
*Studies of Women, Gender, and Sexuality 1440. Mommy Wars: Race, Class, and the Politics of Motherhood - *(New Course)*
*Studies of Women, Gender, and Sexuality 1442. Well Behaved Women - *(New Course)*
The Modern Middle East 100 (formerly Near Eastern Civilizations 100). Approaches to Middle Eastern Studies

Cross-listed Courses Primarily for Graduates

African and African American Studies 216. Mau Mau on Trial: History, Law and the High Court of Justice - *(New Course)*
African and African American Studies 217. Graduate Seminar: Themes in Modern African History - *(New Course)*
[African and African American Studies 218. Topics in African American History]
[*American Studies 200 (formerly *American Civilization 200). Major Works in American Studies]
*American Studies 201 (formerly *American Civilization 201). Themes in American Studies
[Anthropology 2092. Early China: Archaeology and Texts]
Anthropology 2725. Anthropology and History - *(New Course)*
[Chinese History 200r. Computational Methods for Historical Analysis]
Chinese History 210. Late Imperial Chinese Elite Reading Practices and Knowledge Acquisition (the 16th - 18th Centuries): Seminar - *(New Course)*
[Chinese History 224. Introduction to T'ang and Sung Historical Sources]
[Chinese History 228. Introduction to Neo-Confucianism]
[Chinese History 232r. Topics in Han History: Seminar]
[Chinese History 253. Topics in Late Imperial History]
[Chinese History 270a. Research Methods in Late Imperial Chinese History I: Seminar]
Chinese History 270b (formerly Chinese History 264b). Research Methods in Late Imperial Chinese History II: Seminar
*Classical Studies 222. Sicily - *(New Course)*
[Economics 2328. The Emergence of Modern Economic Growth: A Comparative and Historical Analysis]
[Economics 2330. History and Human Capital]
*Economics 2339r. Economic History Lunch
Japanese History 260r. Topics in Japanese Cultural History
Japanese History 270. Early Modern Japanese History: Proseminar
Japanese History 271r (formerly Japanese History 271). Research in Early Modern Japanese History: Seminar
*Jewish Studies 235r. Historical Consciousness and the Jewish Historical Imagination - *(New Course)*
***Korean 300. Reading and Research**
Korean History 230r. Readings in Premodern Korean History
[Korean History 231ar. Documents and Research Methods for the Study of Premodern Korea I: Seminar]
[Korean History 231b. Documents and Research Methods for the Study of Premodern Korea II: Seminar]
Korean History 253. Modern Korean History: Proseminar
[*Korean History 255r. Modern Korean History: Seminar]
Korean History 260r. Readings in Modern Korean History I
Korean History 261. Readings in Modern Korean History II
[Korean History 270. Readings in Early Korean and Northeast Asian History: Seminar]
[Medieval Studies 201. The Auxiliary Disciplines of Medieval History: Proseminar]
*Medieval Studies 202. Latin Palaeography and Manuscript Culture: Seminar
[Medieval Studies 223. Preaching and the Sermon in the Middle Ages]
[Medieval Studies 227. Hildegard of Bingen and the Gospels: Seminar]
Religion 2464. Radical Religion in England and America, 1560-1750: Seminar

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

History and Literature

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Members of the Committee on Degrees in History and Literature

John Stauffer, Professor of English and of African and African American Studies *(Chair)*
Jill M. Lepore, David Woods Kemper ’41 Professor of American History, Harvard College Professor *(Chair, spring term)*
David J. Alworth, Assistant Professor of English and of History and Literature
David R. Armitage, Lloyd C. Blankfein Professor of History
Steven Biel, Senior Lecturer on History and Literature
Ann M. Blair, Henry Charles Lea Professor of History, Harvard College Professor
Jonathan H. Bolton, Professor of Slavic Languages and Literatures
Janet Browne, Aramont Professor of the History of Science, Harvard College Professor
Glenda R. Carpio, Professor of English and of African and African American Studies
Amanda Claybaugh, Professor of English *(on leave 2013-14)*
Daniel G. Donoghue, John P. Marquand Professor of English
James Engell, Gurney Professor of English Literature and Professor of Comparative Literature
Lorgia H. García Peña, Assistant Professor of Romance Languages and Literatures and of History and Literature *(spring term)*
Virginie Greene, Professor of Romance Languages and Literatures
Maya Jasanoff, Professor of History *(on leave 2013-14)*
Walter Johnson, Winthrop Professor of History and Professor of African and African American Studies
James T. Kloppenberg, Charles Warren Professor of American History
Louis Menand, Anne T. and Robert M. Bass Professor of English
Mo Moulton, Lecturer on History and Literature *(Director of Studies)*
Leah Price, Francis Lee Higginson Professor of English Literature *(on leave 2013-14)*
Doris Sommer, Ira Jewell Williams, Jr. Professor of Romance Languages and Literatures and of African and African American Studies *(on leave spring term)*
William Mills Todd III, Harry Tuchman Levin Professor of Literature and Professor of Comparative Literature *(on leave spring term)*
Kirsten A. Weld, Assistant Professor of History

Other Faculty Offering Instruction in the History and Literature Program

Erin Royston Battat, Lecturer on History and Literature
Eoin Francis Cannon, Lecturer on History and Literature
Anna C. Deeny, Lecturer on History and Literature
Rachel A. Gillett, Lecturer on History and Literature
Sean J. Gilsdorf, Lecturer on History and Literature
Tamara Griggs, Lecturer on History and Literature

Meghan Elisabeth Healy, Lecturer on History and Literature, Lecturer on Studies of Women, Gender, and Sexuality
Wendy A. Lee, Lecturer on History and Literature
Philip Canning Mead, Lecturer on History and Literature
Allison Crumly Van Deventer, Lecturer on History and Literature
Timothy M. Wientzen, Lecturer on History and Literature

Undergraduate Seminars

These seminars exploring the interdisciplinary study of History and Literature are restricted to undergraduates and have enrollments limited to 15. There are no prerequisites, and non-concentrators are welcome. Preference is given to History and Literature concentrators if space is limited.

***History and Literature 90aj. America Through European Eyes**
Catalog Number: 82946 Enrollment: Limited to 15.
Tamara Griggs
Half course (fall term). Tu., 2–4.
This course will focus on the changing interpretations of and debates about North America by early modern Europeans, including humanist scholars, Jesuit missionaries, Puritan propagandists, political theorists, poets, and artists. The course will include writings about (and images of) New Spain (including Mexico and the Floridas), the British colonies in North America & the Caribbean, and the French territories in Canada and the Caribbean. This course should be of interest to students focusing on colonial America and early modern Europe.

***History and Literature 90an. God Save the Queen! Ruling Women from Rome to the Renaissance**
Catalog Number: 24862 Enrollment: Limited to 15.
Sean J. Gilsdorf
Half course (fall term). M., 1–3.
This seminar will explore female rulership in Europe from the late Roman empire to the age of Elizabeth I. Discussion of varied texts and images (most of them primary sources in translation) will reveal the role of queens within their societies, their relationship to broader social and cultural institutions such as the Christian Church, and the ways in which queens were celebrated, criticized, and imagined by writers and artists of their time.

***History and Literature 90ap. American Prizefighting, 1801 to the Present**
Catalog Number: 52732 Enrollment: Limited to 15.
Eoin Francis Cannon
Half course (fall term). Th., 1–3.
This seminar will explore the history of boxing in the United States, as a significant social and commercial phenomenon in its own right, and as a unique window onto labor practices, race and gender ideologies, and cultural hierarchies in different eras. Readings will be organized around historically resonant fights, and will include media reports, literary texts, films, still images, and scholarship.

***History and Literature 90aq. Nunca Mas: Dictatorships, Torture and Terror in Latin America**
Catalog Number: 67839 Enrollment: Limited to 15.
Anna C. Deeny
Half course (fall term). W., 1–3.
What forces brought about the dictatorships of Chile and Argentina? How did such forces justify themselves? What are the methods and aesthetics of these justifications? Conversely, how did artists, historians, poets, journalists, novelists and other individuals respond to conditions of extreme censorship,

torture and terror? In this History and Literature course, we'll read historical, literary and theoretical texts, as well as view films and documentaries that consider the Chilean and Argentinean dictatorships of the 1970s and 80's. We'll examine historical sources-speeches, proclamations, testimonios, and newspaper articles-in order to understand the language of power and complicity in these military governments. We'll also consider movies, novels and poetry to think about how aesthetic fields engage history, trauma and memory. We'll pay close attention to the techniques used in the construction of narrative, perspective, evidence, tone and argument. For example, how do sound, rhythm and metaphor engage the political? How do different genres question the status of facts or most adequately speak of history? And, are we in any way complicit?

***History and Literature 90at. The Postwar American Road Narrative**
Catalog Number: 26346 Enrollment: Limited to 15.
David J. Alworth
Half course (fall term). W., 3–5.
This course examines a vibrant subgenre of post-World War II American literature. We will read major novels by Kerouac, Nabokov, and Didion as well as less familiar (yet still fascinating) writings by Hunter S. Thompson, Tom Wolfe, Patricia Highsmith, Ralph Ellison, and others. In addition, students can expect to analyze both primary and secondary historical sources, while giving some attention to visual art (e.g. John Chamberlain) and to film (e.g. Bonnie and Clyde).

History and Literature 90au. Zombies, Monsters, and Super Heroes: The Fantastic in 20th-c. America - *(New Course)
Catalog Number: 75638 Enrollment: Limited to 15.
Wendy A. Lee
Half course (fall term). Tu., 2–4.
This course examines how three fantastic figures-monsters, comic book super heroes, and zombies-have played key roles in how Americans negotiate their relationship to past, present, and potential futures. We will consider how the fantastic variously reinforces, unsettles, and re-imagines the terms of what it means to be a "normal" and "real" American over the course of the twentieth century. Texts include popular films, government documents, television shows, graphic narratives, short stories, novels, and journalism.

History and Literature 90av. Revolution and Reform in Britain and France, 1820-1880 - *(New Course)
Catalog Number: 11227 Enrollment: Limited to 15.
Mo Moulton
Half course (fall term). M., 3–5.
The Industrial Revolution transformed social class and caused urban squalor, deep poverty, and unrest. But while France saw three major revolts (1830, 1848, 1871) Britain remained quiet. Why? This course explores that question, using novels by Dickens and Hugo and historical evidence on life in London and Paris. We will also look at contemporary representations of the 19th century, asking what they tell us about modern understandings of class inequality, revolution, and reform.

History and Literature 90aw. Life Narratives in Postcolonial Africa - *(New Course)
Catalog Number: 67546 Enrollment: Limited to 15.
Meghan Elisabeth Healy
Half course (fall term). M., 3–5.
In academic and popular discourse, postcolonial Africa often appears as the site of one spectacular event after another. This course reexamines the meanings of decolonization and independence through readings of *life narratives*: life histories, memoirs, and fictional representations of personal experiences. Through

our exploration of these texts, we address a major theme in postcolonial history and literature: the disjuncture between official histories and subaltern experiences.

History and Literature 90ax. Africans in Europe - *(New Course)
Catalog Number: 97515 Enrollment: Limited to 15.
Allison Crumly Van Deventer
Half course (fall term). Th., 1–3.
This course explores representations of Africans in Europe in the 20th and 21st centuries. What does it mean to be African or Afro-European in France, Great Britain, or Italy? How do these texts complicate popular myths about race, national identity, and immigration? Our examination of novels, films, essays, music, photography, and a court case will illuminate important moments in the cultural history of the African presence in Europe. All texts will be taught in translation.

History and Literature 90ay. 1968: Youth Protest in Europe - *(New Course)
Catalog Number: 99226 Enrollment: Limited to 15.
Rachel A. Gillett
Half course (fall term). Th., 3–5.
This seminar examines the "spirit of 1968" in Prague, Paris, and Berlin. It examines specific protests in these cities in the context of widespread challenges to state control, capitalism and racism. The seminar show how political critiques were expressed through nonconformity in dress, sexuality, and gender. It explores the anger and passion of ’68 through an analysis of films, music, manifestos, and memoirs. The course reflects briefly on the legacy of the protest mentality of 1968.

History and Literature 90az. The African American Great Migration - *(New Course)
Catalog Number: 26514 Enrollment: Limited to 15.
Erin Royston Battat
Half course (fall term). M., 1–3.
The "Great Migration" of millions of African Americans out of the U.S. South in the twentieth century radically transformed both migrants themselves and the broader American culture. Examining letters, novels, film, autobiographies, music, visual culture, and other primary and secondary texts, we will ask: How did migrants negotiate the promises and perils of the urban North? How did migrants shape modern culture? How did they reformulate African American identity amidst this process of urbanization?

History and Literature 90ba. England After Empire - *(New Course)
Catalog Number: 84657 Enrollment: Limited to 15.
Timothy M. Wientzen
Half course (fall term). W., 1–3.
Looking at key social changes that emerged in the wake of empire, this course seeks to introduce students to the network of cultural and political movements that defined post-imperial English culture. We will canvas the effects of postcolonial emigration, the welfare state, and issues of race and gender on post-war British life-from feminism and punk rock, to the literature of England’s new, non-white demographics.

History and Literature 90bb. Whose American Revolution?: Political and Social Change in America, 1760-1790 - *(New Course)
Catalog Number: 71925 Enrollment: Limited to 15.
Philip Canning Mead
Half course (fall term). W., 3–5.
This seminar explores the history, literature, and arts of revolution in America between 1760 and 1790. It examines the social and political transformations that shaped familiar documents, like the Declaration of Independence and Federal Constitution, as well as less familiar acts and texts of revolution and resistance

by slaves and free African Americans, urban and rural lower "sorts," soldiers, women, and Native Americans.

Tutorials, for Undergraduates Only

***History and Literature 91r. Supervised Reading and Research**
Catalog Number: 0334
Mo Moulton and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Note: History and Literature concentrators may arrange individually supervised reading and research courses; the permission of the Director of Studies is required for these courses.

***History and Literature 97. Tutorial — Sophomore Year**
Catalog Number: 1148
Mo Moulton and members of the Committee
Half course (spring term). Hours to be arranged.
Introduction to interdisciplinary methods and to topics in students' chosen fields. Required of all concentrators. Open only to concentrators.

***History and Literature 98r. Tutorial — Junior Year**
Catalog Number: 2766
Mo Moulton and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
An individually supervised study of selected topics in the student's chosen field in History and Literature.
Note: Ordinarily taken as two half courses by juniors. Required of all concentrators.

***History and Literature 99. Tutorial — Senior Year**
Catalog Number: 5362
Mo Moulton and members of the Committee
Full course. Hours to be arranged.
Research and writing of the senior thesis; preparation for the oral exam.
Note: Ordinarily taken by seniors as a full course. Required of all concentrators.

Cross-listed Courses

English 171b. American Literature - *(New Course)*
[*History 72k. The Worlds of Joseph Conrad]
[*History 81j. What Was an Early Modern Author?]
***History 84l. Democracy and Education in Modern America**
History 1230. Troubled Unions: England, Scotland, Ireland, and Wales from the 18th Century to the Present - *(New Course)*

A list of the courses in other departments that count for History and Literature is available in our office at the Barker Center and at www.fas.harvard.edu/~histlit.

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

History of American Civilization

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

The name of the Standing Committee on Higher Degrees in the History of American Civilization has been changed to the Standing Committee on Higher Degrees in American Studies. Please see the Standing Committee on Higher Degrees in American Studies for course listings.

History of Art and Architecture

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of History of Art and Architecture

Robin E. Kelsey, Shirley Carter Burden Professor of Photography *(Chair)*
Ruth Bielfeldt, Associate Professor of History of Art and Architecture *(on leave fall term)*
David Bindman, Visiting Professor of History of Art and Architecture
Suzanne P. Blier, Allen Whitehill Clowes Professor of Fine Arts and Professor of African and African American Studies *(on leave 2013-14)*
Benjamin Buchloh, Andrew W. Mellon Professor of Modern Art *(on leave fall term)*
Joseph Connors, Professor of History of Art and Architecture *(on leave fall term)*
Thomas B. F. Cummins, Dumbarton Oaks Professor of the History of Pre-Columbian and Colonial Art
Evridiki Georganteli, Visiting Lecturer on History of Art and Architecture and Medieval Studies
Maria Elizabeth Gough, Joseph Pulitzer, Jr. Professor of Modern Art *(Director of Graduate Studies)*
Andreas Gruner, Visiting Lecturer on History of Art and Architecture
Jeffrey F. Hamburger, Kuno Francke Professor of German Art and Culture
Zaneta H. Hong, Visiting Lecturer on History of Art and Architecture
Ioli Kalavrezou, Dumbarton Oaks Professor of Byzantine Art *(on leave spring term)*
Jinah Kim, Assistant Professor of History of Art and Architecture
Joseph Koerner, Victor S. Thomas Professor of History of Art and Architecture *(Director of Undergraduate Studies)*
Ewa Lajer-Burcharth, William Dorr Boardman Professor of Fine Arts *(on leave 2013-14)*
Carrie Lambert-Beatty, Professor of History of Art and Architecture and of Visual and Environmental Studies
Neil Levine, Emmet Blakeney Gleason Professor of History of Art and Architecture *(on leave fall term)*
Yukio Lippit, Professor of History of Art and Architecture
Yanni Alexander Loukissas, Visiting Lecturer on History of Art and Architecture

Robert D. Mowry, Senior Lecturer on History of Art and Architecture and Alan J. Dworksy Curator of Chinese Art *(Sackler Museum)*
Gülru Necipoglu-Kafadar, Aga Khan Professor of Islamic Art
Alina A. Payne, Alexander P. Misheff Professor of History of Art and Architecture
Jennifer L. Roberts, Elizabeth Cary Agassiz Professor of the Humanities
David J. Roxburgh, Prince Alwaleed bin Talal Professor of Islamic Art History *(on leave 2013-14)*
Hugo van der Velden, Professor of History of Art and Architecture
Eugene Wang, Abby Aldrich Rockefeller Professor of Asian Art
Henri Zerner, Professor of History of Art and Architecture *(on leave spring term)*

Other Faculty Offering Instruction in the History of Art and Architecture

Tom Conley, Abbott Lawrence Lowell Professor of Romance Languages and Literatures and of Visual and Environmental Studies
Sonja Duempelmann, Associate Professor of Landscape Architecture *(Design School)*
K. Michael Hays, Eliot Noyes Professor in Architectural Theory *(Design School)*
David G. Mitten, James Loeb Professor of Classical Art and Archaeology, Emeritus
Gloria Ferrari Pinney, Professor of Classical Archaeology and Art, Emeritus
Victor Stoichita, Zobel de Ayala Visiting Professor of History of Art and Architecture *(University of Fribourg)*
Irene J. Winter, William Dorr Boardman Professor of Fine Arts, Emerita

Affiliates of the Department of the History of Art and Architecture

Melissa M. McCormick, Professor of Japanese Art and Culture
Adrian Staehli, Professor of Classical Archaeology *(on leave spring term)*

Courses in the History of Art and Architecture undergraduate curriculum are structured as a three-tier system, consisting of a sequence of introductory courses, upper-level courses and departmental tutorials. Passage through the sequence from entry level to more advanced classes is encouraged—particularly for prospective concentrators.

History of Art and Architecture (HAA) 1, HAA 10, HAA 11 are general, conceptual introductions to World Art from pre-history to the present, History of Later Western Art, and History of World Architecture, respectively, each of which would serve as a point of entry into the courses and concentration of History of Art and Architecture.

History of Art and Architecture 12–89 constitute field-specific introductions to the major subfields of art history and their associated methodologies. These introductory courses are intended both for students in the concentration and for non-concentrators with an interest in a particular subject within History of Art and Architecture.

History of Art and Architecture 100–199, upper-level courses, tend to focus upon a particular problem or set of materials within a subfield.

Primarily for Undergraduates

[History of Art and Architecture 1. Landmarks of World Art & Architecture]
Catalog Number: 3951
Suzanne P. Blier and members of the Department

Half course (fall term). M., W., at 12; .
Examines major works of world art and architecture and the unique aesthetic, cultural, and historical issues that frame them. Members of the faculty will each lecture on an outstanding example in their area of expertise, covering various media and drawing from such diverse cultures as modern Europe and United States, early modern Japan, Renaissance Europe, ancient Mesopotamia and China, and Precolumbian America. Sections will focus on significant issues in the analysis and interpretation of art and architecture.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

History of Art and Architecture 11. Landmarks of World Architecture
Catalog Number: 3675
Neil Levine and members of the Department and the GSD faculty
Half course (spring term). Tu., Th., at 12. EXAM GROUP: 14
Examines major works of world architecture and the unique aesthetic, cultural, and historical issues that frame them. Faculty members will each lecture on an outstanding example in their area of expertise, drawing from various periods and such diverse cultures as modern and contemporary Europe and America, early modern Japan, Mughal India, Renaissance and medieval Europe, and ancient Rome. Sections will develop thematically and focus on significant issues in the analysis and interpretation of architecture.
Note: This course, when taken for a letter grade, meet the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirements for Literature and Arts B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[History of Art and Architecture 13x. Introduction to Greek and Roman Sculpture]
Catalog Number: 90417
Ruth Bielfeldt
Half course (spring term). Hours to be arranged.
Greek sculpture has shaped the way we look at art. The course will introduce you to the central works of Greek and Roman sculpture (800 BC - 300 AD), both free-standing and architectural, and discuss different ways of analysis and interpretation. Key themes of the lectures are the 'invention' of the human body, portrait and individualism, presenting the divine, Greek and non-Greek, emotions, art and beholder, lifelikeness, but also questions of color and materiality.
Note: Expected to be given in 2014–15.

History of Art and Architecture 18j. Introduction to Japanese Architecture - *(New Course)*
Catalog Number: 95066
Yukio Lippit
Half course (spring term). M., W., at 12. EXAM GROUP: 5
A survey of the diverse architectural traditions of the Japanese archipelago from the prehistoric era through the twentieth century. Various building types-including the Shinto shrine, Buddhist temple, castle, teahouse, palace and farmhouse-will be studied through representative surviving examples. Issues to be explored include the basic principles of timber-frame engineering, the artisanal culture of master carpenters, and the mixed legacy of the functionalist interpretation of Japanese architecture.

History of Art and Architecture 18k. Introduction to Japanese Art
Catalog Number: 25638

Melissa M. McCormick
Half course (fall term). M., W., at 11. EXAM GROUP: 4
Surveys the arts of Japan from the prehistoric period to the nineteenth century. Includes Japanese painting, sculpture, and architecture, as well as calligraphy, garden design, ceramics, and prints. Essential themes include the relationship between artistic production and Japanese sociopolitical development, Sino-Japanese cultural exchange, and the impact of religion, region, gender, and class on Japanese artistic practice.

[History of Art and Architecture 18p. The Japanese Woodblock Print]
Catalog Number: 78376
Yukio Lippit
Half course (fall term). Hours to be arranged.
This course provides an introduction to Japanese art and cultural history through a survey of the Japanese woodblock print from its emergence in the mid-17th century to the modern era. Technical developments, major genres, and master designers are explored within the context of Japan's pictorial traditions and evolving urban culture. Topics for consideration include aesthetic discourse, censorship, erotica, Japonisme, the construction of social identity, print culture, and the representation of war.
Note: Expected to be given in 2014–15.

History of Art and Architecture 18s. Arts of South and Southeast Asia
Catalog Number: 61538
Jinah Kim
Half course (fall term). Tu., Th., at 11. EXAM GROUP: 13
This is an introduction to the arts of South and Southeast Asia from the second millennium BCE to the present. Each lecture will examine selective artifacts and sites to understand the history of major artistic traditions developed in response to cultural exchanges and political dynamics within and beyond the region. By examining a wide range of material, such as Buddhist sculptures, Hindu temples, Jain manuscript paintings, Islamic tombs, calendar art, and so on, with fundamental art historical questions, we will consider what makes the arts of South and Southeast Asia unique as well as universal in the twenty-first century context.

[History of Art and Architecture 51p. Renaissance Architecture and the Rise of Classicism]
Catalog Number: 6427
Alina A. Payne
Half course (fall term). Tu., Th., at 12; .
Charts the rise and dissemination of classicism in Renaissance Europe. Lectures focus on the development of the style, its origin in the fascination with antiquity, its response to shifts in social and political life, its mechanisms of transmission (travel, book and print culture) as well as phenomena of exchange (with the East), colonial export, and resistance to this pan-European trend.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 54g. Dutch Art of the Golden Age] - *(New Course)*
Catalog Number: 25083
Hugo van der Velden
Half course (spring term). M., W., at 11. EXAM GROUP: 4
Painting flourished like never before in the Dutch Republic, where a largely secular, mostly bourgeois, predominantly modern, new art emerged in the cities of Amsterdam (Rembrandt), Haarlem (Frans Hals) and Delft (Vermeer). The period witnessed the rise of new genres, such as landscape, still life and genre, which would remain popular for centuries to come. In order to understand how that came about, we will cast a wide net and consider the earlier Netherlandish tradition from Jan van Eyck to Pieter Bruegel, and

contemporary Flemish painting, against the background of the momentous religious and political upheaval of the sixteenth century.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 65. Baroque Art]
Catalog Number: 88688
Joseph Connors
Half course (fall term). Hours to be arranged.
Art of the seventeenth century in Europe, including genial works by Caravaggio (and his followers), Annibale Carracci, Bernini, Cortona, Poussin, Claude Lorrain, Ribera, Velazquez, Rubens, Van Dyck, Le Brun, Rembrandt, and Vermeer, as well as the global diffusion of the Baroque Style.
Note: Expected to be given in 2014–15.

***History of Art and Architecture 91r. Directed Study in History of Art and Architecture**
Catalog Number: 1028
Joseph Koerner and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Limited to juniors and seniors. Students wishing to enroll must petition the Head Tutor for approval, stating the proposed project, and must have the permission of the proposed instructor.

***History of Art and Architecture 96a. Architecture Studio 1: Transformations**
Catalog Number: 60638 Enrollment: Limited to 12. Limited to concentrators enrolled in Architecture Studies Track
Zaneta H. Hong
Half course (spring term). W., F., 1–4.
This course introduces basic architectural concepts and techniques used to address issues of form, function, ornament, and material. The course provides instruction in project analysis, visualization, communication, and fabrication, using both physical and digital models. Students proceed through a series of progressively complex investigations of transformational processes, context, program, and material assemblage.

History of Art and Architecture 96b. Connections - Studio II - *(New Course)*
Catalog Number: 35764 Enrollment: Limited to 12. Enrollment limited to Concentrators in the HAA Architecture Studies Track
Yanni Alexander Loukissas
Half course (spring term). Tu., Th., 1–4.
In this course, students will explore the urban context through experiences developing critical media projects in Boston. Student projects will integrate a combination of graphical, analytical and narrative methods to illuminate the city's often overlooked non-human actors, such as spontaneous vegetation, feral animals, local building materials, transportation infrastructure and communication technologies. Seeing these "things" as part of the social life of the city helps to understand the urban context as a space of active relationships, a place that is always in the making. Selected readings in urban theory, viewings/listenings in critical media practice, field trips through Boston, and visits from guests across the Graduate School of Design will supplement project-based work.

***History of Art and Architecture 97r. Sophomore Tutorial**
Catalog Number: 0935
Joseph Koerner and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Group tutorial, offers concentrators the choice of several study groups investigating a particular field of

art or architectural history.
Note: Required of concentrators.

***History of Art and Architecture 98ar. Faculty Tutorial**
Catalog Number: 1328
Joseph Koerner and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Tutorial consisting of weekly meetings with designated faculty, where regular reading and writing assignments are focused on a topic of mutual interest.
Note: Required of concentrators, generally in the Junior year.

***History of Art and Architecture 98br. Methods Tutorial**
Catalog Number: 3507
Joseph Koerner and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
An introduction to the methods and research skills of art and architectural history.
Note: Required of concentrators, generally in the Junior year.

***History of Art and Architecture 99. Tutorial - Senior Year**
Catalog Number: 3118
Thomas B. F. Cummins and members of the Department
Full course. Hours to be arranged. .
In the fall term, HAA 99 includes several group tutorial meetings with the senior honors adviser, where assignments are aimed at facilitating the writing of a senior honors thesis; spring term consists of independent writing, under the direction of the individual thesis adviser.
Note: Required of honors candidates in History of Art and Architecture. Permission of the Head Tutor required.

For Undergraduates and Graduates

***History of Art and Architecture 100r. Sophomore Excursion Course**
Catalog Number: 9414 Enrollment: Limited to 20. Open only to sophomore concentrators in HAA.
Hugo van der Velden, Benjamin Buchloh, and Maria Elizabeth Gough
Half course (spring term). Hours to be arranged.
This course introduces sophomore concentrators to on-site study of art and architecture through the case study of a particular geographic and cultural area. This year: Amsterdam.
Note: Excursion is optional; not a requirement.

[History of Art and Architecture 120n. Art of the Timurids in Greater Iran and Central Asia]
Catalog Number: 9252 Enrollment: Limited to 15.
David J. Roxburgh
Half course (spring term). Hours to be arranged.
Critical examination of the arts of the book, portable arts, and architecture sponsored by the Timurids (1370-1507), a dynasty founded by Timur (Tamerlane). Emphasis will also be given to primary written sources in translation.
Note: Expected to be given in 2014–15.

History of Art and Architecture 122n. Architecture of Empire: The Ottomans, Safavids and Mughals in a Comparative Perspective - *(New Course)*
Catalog Number: 63514 Enrollment: Limited to 15.

Gülru Necipoglu-Kafadar
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Between the 16th and 18th centuries, three empires – the Mediterranean-based Ottomans, Safavids in Iran, and Mughals in India – developed interconnected yet distinctive architectural cultures with individualized ornamental idioms by fusing their common Timurid heritage with cosmopolitan regional traditions. Explores connections between empire building and architecture, with respect to aesthetics, religion, imperial ideology, and theories of dynastic legitimacy.

[History of Art and Architecture 128. Topics in Arabic Art and Culture: The Medieval Mediterranean]
Catalog Number: 6008 Enrollment: Limited to 12.
David J. Roxburgh
Half course (fall term). Hours to be arranged.
A problem oriented inquiry into the art and architecture (ca. 750 to 1300) of the Arab lands, focusing on regions circling the Mediterranean, from the Iberian Peninsula to Iraq. Materials (art of book, portable arts, epigraphy, architecture) and geographic focus vary. Themes also change, but include relations between art and literature, aesthetics, vision and perception, courtly culture, mercantile patronage, cultural continuities and resurgences. Al-Andalus and the Maghrib are the focus in 2012.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 132e. The Ideal of the Everyday in Greek Art]
Catalog Number: 13661 Enrollment: Limited to 15.
Ruth Bielfeldt and Susanne Ebbinghaus
Half course (spring term). Hours to be arranged.
Greek painted pottery provides a direct window onto ancient Greek society and how this society visually constructed its ideal self. Working with objects from the Harvard Art Museums, this course will look at Greek vases as material and aesthetic agents in social rituals, giving special attention to object use and strategies of design in the figure decoration. Images of banqueting, athletic and poetic performances, cult practice, domestic activities, war and death will be discussed.
Note: Expected to be given in 2014–15.

History of Art and Architecture 135v. Designing the Metropolis: Architectural Concepts in Imperial Rome - *(New Course)*
Catalog Number: 58622 Enrollment: Limited to 12.
Andreas Gruner
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
This course will examine the shifting concepts of architecture in the city of Rome from Augustus to Constantine the Great. We will look at great imperial building projects as well as different strategies of designing urban infrastructure; problematic issues in the interpretation of political and aesthetical values of imperial architecture will be addressed. Giving special attention to the relation between the messages of architectural form and the iconography of architectural decoration, this course will try to approach the complexity of urban surfaces in imperial Rome.

[History of Art and Architecture 139j. Greek Myths on Roman Sarcophagi]
Catalog Number: 1094 Enrollment: Limited to 12.
Ruth Bielfeldt
Half course (spring term). Hours to be arranged.
In second-century Rome, Greek Myths enter a new sphere: tombs. But the mythological narratives adorning the imperial relief sarcophagi are more than traditional tales being retold. Their original visual language, combining Greek and Roman motifs, turns the caskets into powerful mediators that help

express central experiences of life and death. In this seminar we will examine the complex imagery of Roman sarcophagi and interpret the mythological narratives from different perspectives – contextual, cultural, social, and philosophical.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 141k. Rome, Constantinople, Ravenna in the Light of Imperial Rule : Proseminar]
Catalog Number: 0268 Enrollment: Limited to 15.
Ioli Kalavrezou
Half course (fall term). Hours to be arranged.
The seminar will focus on the imperial art and architecture in these cities and their impact, covering the period from Constantine I to Justinian I (4th - 6th c.).
Note: Expected to be given in 2014–15.

[History of Art and Architecture 143r. The Art of the Court of Constantinople : Proseminar]
Catalog Number: 4412 Enrollment: Limited to 15.
Ioli Kalavrezou
Half course (spring term). Tu., 1–3.
Concentrates on art and architecture created for the court of Constantinople from the 9th to the 12th century. Focuses on objects and monuments, exploring their role in political, religious, and personal events.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 144m. Flatlands: Art, Cartography and Landscape in Holland, 1500 - 1750] - *(New Course)*
Catalog Number: 88325 Enrollment: Limited to 12.
Hugo van der Velden
Half course (spring term). Hours to be arranged.
Few landscapes have been recorded so extensively in art and cartography as the man-made landscape of Holland. To some extent, the wish to document the land was driven by utilitarian considerations, because a precise knowledge of the terrain was indispensible for its management, defense and governance, but that is only part of the story, even for map-making. The works of painters and cartographers betray a far more complicated take on Holland's landscape. We will study the conjunction of landscape, survey and representation, with a special focus on the cultivation and transformation of the land, technology and technological innovation.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 145p. Court and Cloister in the Late Middle Ages]
Catalog Number: 82487
Jeffrey F. Hamburger
Half course (spring term). Hours to be arranged.
Courtly culture and patronage in Paris, Prague, and Burgundy, with an emphasis on issues of artistic exchange, dynastic commemoration, princely piety, the development of secular genres, and the emergence of the court artist.
Note: Expected to be given in 2014–15.

History of Art and Architecture 146s. Bible Stories : Narrative Strategies in High Medieval Art - *(New Course)*
Catalog Number: 81522
Jeffrey F. Hamburger

Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
The bible provided the underpinning of most medieval art. Images, however, involved more than translating texts into visual form. Focusing on England, France and Germany in the High Middle Ages, the course will compare narrative cycles in wall painting, manuscript illumination, sculpture and stained glass against the foil of oral storytelling and bible commentary.

History of Art and Architecture 147m. The Book of Hours : Pictures and Prayer in the Middle Ages - *(New Course)*
Catalog Number: 54362 Enrollment: Limited to 15.
Jeffrey F. Hamburger
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
Taught from the collection of Books of Hours in the Houghton Library, the course will teach students how to describe and study medieval manuscripts and introduce various aspects of these richly illuminated prayer books. Special attention to the texts and images in the context of later medieval painting and piety within longer traditions of picturing prayer extending back deep into the Middle Ages.

History of Art and Architecture 147p. Popular Cults and the Formation of Pilgrimage Sites - *(New Course)*
Catalog Number: 31365 Enrollment: Limited to 15.
Ioli Kalavrezou
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
Focuses on the phenomenon of relic worship and the popular veneration of holy sites and holy men in the early Christian period. A number of sites that for differing reasons became important cult centers around the Mediterranean world are studied.

***History of Art and Architecture 149g. Casts, Construction and Commemoration: German Gothic in America and Abroad**
Catalog Number: 9633 Enrollment: Limited to 12.
Jeffrey F. Hamburger
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
German monumental sculpture from the 11th through 13th centuries in its broader European context using the cast collection in Adolphus Busch Hall.

History of Art and Architecture 156m. Renaissance and Modernity - *(New Course)*
Catalog Number: 82417 Enrollment: Limited to 15.
Alina A. Payne
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
This course examines the engagement with the Renaissance in architecture and history/criticism between circa 1850-1950 and its consequences for modern visual culture. Starting as a pan-European phenomenon in the 19th century, it manifested itself not only as a revival but also as a critique, commentary and re-shaping of a present perceived as deeply problematic. Sweeping the humanistic disciplines-history, literature, music, art, architecture, museum collecting-it left a deep mark not only on the oeuvre of architects from HH Richardson, Gottfried Semper and Henri Labrouste but also on icons of 20th century modernism such as Le Corbusier and Peter Behrens and the ideals that they transmitted to subsequent generations.

History of Art and Architecture 157p. Prints and Printmaking - *(New Course)*
Catalog Number: 67979 Enrollment: Limited to 15.
Henri Zerner
Half course (fall term). M., 3–5. EXAM GROUP: 8, 9

This course will examine the history of print making from the point of view of the role printed images had in the history of Western art. This implies examining the appearance and development of print making techniques in relation to stylistic and cultural change. More specifically we will be concerned with the difference between prints made by painters or sculptors as an alternative mode of expression (Durer, Rembrandt, Goya, Rodin), artists who were printmakers like Callot or Piranesi, and printmakers who published the artistic inventions of others. This last aspect has had the greatest impact in so far as it profoundly changed the conditions of art making and artistic culture. From the 16th century on, art works were to a large extent known through prints. One of the important preoccupations of the course will be what is transmitted through a printed image. Finally, attention will be given to the way the modern movement affected attitudes to prints (the triumph of "original prints") and the reaction against it beginning in the 1960s).

History of Art and Architecture 159. Art and Literature in Renaissance France
Catalog Number: 5699 Enrollment: Limited to 15.
Henri Zerner and Tom Conley
Half course (fall term). Th., 3–6. EXAM GROUP: 17, 18
This course is an introduction to the culture of France in the Renaissance. It will deal with both verbal and visual expression. Major authors will include Francois Villon, Ronsard, Rabelais, and Montaigne; as well as the artists, Primaticcio, Philibert De Lorme, Pierre Lescot, the architect of the Louvre, and Jean Goujon.

History of Art and Architecture 161v. Rome: A Monumental History
Catalog Number: 86032
Joseph Connors
Half course (spring term). Tu., Th., at 1. EXAM GROUP: 15
An architectural history of Rome from the empire through the early Christian and medieval city, the Renaissance revival of antiquity, Baroque planning, and early archeology to Fascism and modernism, including the imperial fora, aqueducts, fountains, medieval basilicas, the piazza, villas, gardens, St. Peter's and the Vatican complex.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[History of Art and Architecture 163p. Piranesi]
Catalog Number: 64724 Enrollment: Limited to 15.
Joseph Connors
Half course (fall term). Hours to be arranged.
Piranesi as architect, archeologist, and above all, printmaker of genius, from his Venetian origins through the vedute and the 'Prisons' to the reconstruction of ancient Rome, with forays into early Egyptology, the Graeco-Roman controversy, Piranesi's built and projected architecture, and his influence on Robert Adam and John Soane. First-hand examination of original prints and maps in Harvard Collections and an introduction to the technique of etching.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 165x. Baroque Architecture]
Catalog Number: 37166
Joseph Connors
Half course (spring term). Hours to be arranged.
Genial architecture, gardens, and urban planning from 1600 to 1750 in Rome (Maderno, Borromini, Bernini, Cortona, Piranesi), Naples (Fanzago), Sicily, Turin (Guarini), Venice (Longhena), Paris and

Versailles (Le Vau, Le Nôtre, François & Jules Hardouin-Mansart, Perrault), London (Jones, Wren, Hawksmoor, Vanbrugh), Vienna (Fischer von Erlach), Prague (Santini Aichel), Madrid, Salamanca, Lisbon, Mafra, Goa, Vilnius, Warsaw, and St. Petersburg. Issues to be treated include urban planning, landscape, water and fountains, earthquake reconstruction, the influence of mathematics and the sciences, architectural drawing and the illustrated architectural book.
Note: Expected to be given in 2014–15. Offered jointly with the Design School as GSD HIS 004361.

[History of Art and Architecture 166n. Bernini and Borromini: Proseminar]
Catalog Number: 85163 Enrollment: Limited to 25.
Joseph Connors
Half course (fall term). Hours to be arranged.
The great creators and creations of 17th century Rome in sculpture, architecture, fountains, theater, gardens, urban planning, and ephemeral art.
Note: Expected to be given in 2014–15.

History of Art and Architecture 170m. Manet to Man Ray - *(New Course)*
Catalog Number: 50033 Enrollment: Limited to 30.
Maria Elizabeth Gough
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
What was modern art? To find out, we examine the aesthetic and social underpinnings of twelve defining episodes in the history of modernism, beginning with the radical reinvention of painting led by the French artist Edouard Manet in the 1860s, and concluding with the photographic practices and object-sculpture of the Paris-based American surrealist Man Ray in the 1930s. Though Paris is the art world's cosmopolitan center through the nineteenth and early-twentieth centuries, we analyze also key modernist developments in Italy, Russia, Germany, and the Netherlands. Particular attention to pictorial invention, embrace of new media, and the refashioning of artistic identity.

[History of Art and Architecture 170v. Vienna, City of Dreams]
Catalog Number: 79831 Enrollment: Limited to 15.
Joseph Koerner
Half course (spring term). Hours to be arranged.
At around 1900, the city of Vienna experienced a cultural flowering. Studying achievements in art, design, architecture, and urban planning, as well as in literature, psychoanalysis, music, and philosophy, this course explores Vienna, an uncanny space where many of the dreams - and nightmares - of modernity first were dreamt. Individuals studied include Klimt, Schiele, Kokoschka, Kubin, Loos, Wagner, Sitte, Schnitzler, Musil, Kafka, Freud, Hertzl, Schoenberg, and Wittgenstein.
Note: Expected to be given in 2014–15.

History of Art and Architecture 171p. From Mother Earth to Planet Mars: Designed Landscapes, 1850-2013
Catalog Number: 36155
Sonja Duempelmann (Design School)
Half course (fall term). M., W., at 12. EXAM GROUP: 5
This course is an introduction to designed landscapes, and landscape architecture since 1850. Thematic lectures will focus on the history and theory of designed landscapes in the Western world. They will also address landscape creations of the Eastern civilizations and of other time periods as they become relevant for the topics and objects discussed in this class. Students will be able to develop critical and formal analytical skills that facilitate the reading and interpretation of designed landscapes as both physical spaces and as cultural media that sit at the nexus between art and science.

[*History of Art and Architecture 171x. Exoticism & Orientalism]
Catalog Number: 7006 Enrollment: Limited to 15.
Ewa Lajer-Burcharth
Half course (fall term). Hours to be arranged.
Explores cultural and artistic engagement with the trope of the "other" in 18th and 19th century France. Different interpretive paradigms will be considered. Distinction between pre- and post-Napoleonic modes of curiosity emphasized. Artists will include: Watteau, Boucher, Liotard, Van Loo, Delacroix, Chasseriau, Gérôme, Renoir.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 172w. American Art and Modernity, 1865–1965]
Catalog Number: 2227
Jennifer L. Roberts
Half course (fall term). Tu., Th., at 11; .
An introduction to developments in American art between the Civil War and the Cold War. Thematically focused lectures concentrate on such issues as the shifting status of the art object within an environment of proliferating consumer products, the incorporation of scientific and industrial processes into artistic practice, the continually renegotiated relationship between nationalism and abstraction, and new methods of understanding history and subjectivity in the face of urbanization, mechanized reproduction, and the mass media.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

History of Art and Architecture 172x. Vienna Interior
Catalog Number: 89477 Enrollment: Limited to 12.
Joseph Koerner
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
This course explores Vienna in its golden age (1890-1938) through attempts by its leading lights-including Klimt, Schiele, Freud, Wittgenstein and Schönberg-to imagine a new architecture of home. At once a built environment and a subjective inwardness, the Viennese interior was a blueprint of dwelling and of exile for our modern world.

[*History of Art and Architecture 173m. The Early Modern Artist]
Catalog Number: 7574 Enrollment: Limited to 12.
Ewa Lajer-Burcharth
Half course (fall term). Hours to be arranged.
Explores the emergence of artistic individuality in French 18th-century art and culture. What was modern about the 18th-century artist? What were the criteria of artistic self-definition? Among the issues addressed: the cultural myth of the artist; artist vs. critic; artistic identity and the philosophical notions of the self; subjectivity, sexuality, and gender; the artist's touch; authorship; melancholia; eccentricity; the artist's body; fashion. Artists include: Watteau, Chardin, Fragonard, Vigée-Lebrun, David, Girodet. Museum trip(s).
Note: Expected to be given in 2014–15.

[History of Art and Architecture 174s. Body Image in French Visual Culture: 18th and 19th Century]
Catalog Number: 9158
Ewa Lajer-Burcharth

Half course (fall term). Hours to be arranged.
Functions and meanings of the body as privileged visual signifier in French visual arts (painting, sculpture, printed imagery, photography). Body image seen as both instrument of different discourses of modernity and a site of resistance to them. Among the issues addressed: the king's body, republican corporeality; the problem of the nude, bodily spectacles; race; otherness; androgyny; monstrosity; pornography; representations of hysteria; images of desire; fetishism; body and/in space; body and the self.
Note: Expected to be given in 2014–15.

History of Art and Architecture 175k. American and European Art, 1945–1975
Catalog Number: 6910
Benjamin Buchloh
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
This course will examine artistic production in the US and Europe between 1945 and 1975 to clarify some of the most crucial questions of this thirty year period: How did post war visual culture repress or acknowledge the recent 'caesura of civilization' brought about by World War II?; how did the neo-avantgarde position itself with regard to the legacies of the avantgardes of the 1920s?; how did artistic production situate itself in relation to the newly emerging apparatus of Mass Media culture?

History of Art and Architecture 176n. Modern Baghdad - From Oil Boom to Dictatorship, War, and Beyond: Proseminar - *(New Course)*
Catalog Number: 78129 Enrollment: Limited to 15.
Neil Levine
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
Examines the complex and conflicted history of modern Baghdad's architectural and urban development against the backdrop of the political economy of oil, issues of sovereignty and national identity, and shifting global alliances. Special attention will be paid to the extraordinary program of commissions to internationally famous architects and planners such as Frank Lloyd Wright, Le Corbusier, Mohamed Makiya, Robert Venturi, and, most recently, Zaha Hadid intended to remake the city as a modernist capital. Comparative evidence from Latin America and elsewhere will be studied to assess the role of imported models on city-building processes in post-colonial settings.

[History of Art and Architecture 178m. Cold War Photography]
Catalog Number: 8383 Enrollment: Limited to 15.
Robin E. Kelsey
Half course (spring term). Hours to be arranged.
This course will consider the intersection of photography and social history in the United States from 1945-1989 through an examination of key photographic practices, publications, exhibitions, and critical texts.
Note: Expected to be given in 2014–15.

History of Art and Architecture 179x. Construction Lab I + II: Conference Course - *(New Course)*
Catalog Number: 30908 Enrollment: Limited to 15. Permission of the DUS required.
K. Michael Hays (Design School)
Half course (fall term). Hours to be arranged.
An introduction to fundamental properties and behaviors of buildings and structures through a combination of lectures, workshops, and design-build assignments.
Note: Limited to concentrators in the Architecture Studies Track; permission of the Director of Undergraduate Studies required.

History of Art and Architecture 183k. Himalayan Art - *(New Course)*
Catalog Number: 65219 Enrollment: Limited to 12.
Jinah Kim
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Understood as a divine abode in Indic mythology and envisioned as the immortal realm of "Shangri-la" by later western interpreters, the Himalayas abound with Hindu and Buddhist holy sites. This course explores the vibrant visual culture of the Himalayan region. Two learning goals are: 1) Understanding the historical development of distinctive artistic forms in paintings and sculptures of Nepal and Tibet during major moments of artistic innovations in the region, including the artistic responses to the current political situation; 2) Locating this knowledge in the context of the history of reception and collecting of Himalayan art in the west.

History of Art and Architecture 187w. Art and Mind: Buddhist Visualization - *(New Course)*
Catalog Number: 12256
Eugene Wang
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
The course explores a central paradox. Meditative visualization, a key aspect of Buddhist practice, involves introspection. It does not require looking at pictures. Why, then, were pictures nevertheless made to externalize interiority in medieval China? The course looks at murals in Buddhist caves, relief sculptures on stupa-towers, woodblock prints uncovered from hidden crypts, and other artifacts related to meditative visualization. Readings include some key Buddhist sutras. Among the core issues driving the course is the current debate about the modeling of mind and intelligence and narratives of "consciousness."
Note: No Chinese language requirement.

History of Art and Architecture 191w. Image of the Black in Western Art - *(New Course)*
Catalog Number: 54304 Enrollment: Limited to 15.
David Bindman
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
This seminar will critically examine the depiction and contextualization of individuals of African descent in European and American art. Among the various issues raised are historic changes in the idea of and construction of race, the impact of early internationalism, notions of difference in the age of exploration, slavery and notions of selfhood, and representation as part of the larger colonial project.

[History of Art and Architecture 193g. Global Africa: Introduction to Art and Visual Culture]
Catalog Number: 58982 Enrollment: Limited to 12.
Suzanne P. Blier
Half course (fall term). Hours to be arranged.
An introduction to key traditions of African art and design as seen both on the continent and in global perspective. In this survey of African sculpture, painting, ceramics, architecture, furniture, fashion, decorative arts, popular and performance arts, we also explore issues of identity, religion, politics and history as well as questions of colonial history, art collecting practices, and museum display.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 194w. Worlds Fairs]
Catalog Number: 24735
Suzanne P. Blier
Half course (fall term). Hours to be arranged.
This seminar addresses questions of cultural display through the art and architecture of world fairs, mid-nineteenth century to present. Students are introduced to the seminal fair events beginning with the

Crystal Palace in London, and extending to fairs in the U.S., France, Belgium, Spain, Japan and China. the history of fairs as artistic and social phenomenon is explored along with how these events shaped national identity, ethnicity, social class, race, imperialism, colonialism, and gender.
Note: Expected to be given in 2014–15.

History of Art and Architecture 197. The Imperial Arts of the Inca and the Aztec
Catalog Number: 9976
Thomas B. F. Cummins
Half course (fall term). Tu., Th., at 12. EXAM GROUP: 14
This course concentrates on the art and architecture of the two ancient American civilizations, surveying the forms of representation used to establish imperial presence within the accepted vernacular of Mesoamerican and Andean artistic traditions. Special attention is given to the role of art as a means of expressing imperial claims to mythic and historic precedents, upon which political and economic expansion could be realized.

[History of Art and Architecture 197gr. Colonial Art]
Catalog Number: 2623
Thomas B. F. Cummins
Half course (fall term). Hours to be arranged.
Art and Architecture of the 16th/17th c. in the Spanish New World. The making, the mapping, and imaging of the colonial city.
Note: Expected to be given in 2014–15.

Primarily for Graduates

History of Art and Architecture 222m. Architecture in the Early Modern Mediterranean World: A Cross-Cultural Perspective
Catalog Number: 20595 Enrollment: Limited to 12.
Alina A. Payne and Gülru Necipoglu-Kafadar
Half course (spring term). W., 3–6. EXAM GROUP: 8, 9
Architecture of the eastern Mediterranean basin (at Italian, Ottoman, and Mamluk courts) with emphasis on cross-cultural encounters and transmission of the Romano-Byzantine heritage, science and technology, architectural practice, ornament, urban design, military, religious and domestic architecture.

[History of Art and Architecture 226s. Ottoman Architectural Culture and Urbanism in the Age of Sinan : Seminar]
Catalog Number: 93122 Enrollment: Limited to 12.
Gülru Necipoglu-Kafadar
Half course (spring term). Hours to be arranged.
Architectural production during the tenure of Ottoman chief court architect Sinan (1539-88) studied from critical and new methodological perspectives. Topics include aesthetics and identity, institutionalization of court architects, building practice, patronage, codes of decorum, textual sources.
Note: Expected to be given in 2014–15.

[*History of Art and Architecture 229p. Word and Image in Persian Painting : Seminar]
Catalog Number: 2342 Enrollment: Limited to 12.
David J. Roxburgh
Half course (spring term). Hours to be arranged.
Texts of the Persian literary tradition that were illustrated constitute our focus, including Firdawsi's Shahnama and Nizami's Khamsa. Study of word and image is staged through key examples to open new

lines of inquiry.
Note: Expected to be given in 2014–15.

[*History of Art and Architecture 240r. Topics in Byzantine Art : Illustrating the Word: manuscripts and their images from the Byzantine religious and secular world]
Catalog Number: 4109 Enrollment: Limited to 12.
Ioli Kalavrezou
Half course (spring term). Hours to be arranged.
The course will concentrate on manuscripts produced after the period of Iconoclasm beginning in the second half of the 9th century. A variety of texts will be examined from courtly as well as monastic environments.
Note: Expected to be given in 2014–15. Open to interested undergraduates.

[*History of Art and Architecture 242. Openings: Issues of Interpretation in Medieval Art : Seminar]
Catalog Number: 7561 Enrollment: Limited to 12.
Jeffrey F. Hamburger
Half course (fall term). Hours to be arranged.
A wide-ranging introduction to critical approaches to the study of medieval art, with emphasis on systems of signification, mixing historiography and methodology in a workshop format in which students help set the agenda.
Note: Expected to be given in 2014–15.

History of Art and Architecture 245x. Jan van Eyck's Renaissance : Seminar
Catalog Number: 47801 Enrollment: Limited to 12.
Hugo van der Velden
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
Themes include: historical styles, archaism, innovation, epigraphy, the Ghent altarpiece, the rise of painting, function, ritual, context, endowments, saints, land, landscape, court, competition, art theory, painter's practice, paragone, polyphony, reflection, gold, embroidery, splendor, and Art.

[History of Art and Architecture 251v. Prints and the Pursuit of Knowledge in Early Modern Europe]
Catalog Number: 13202 Enrollment: Limited to 12.
Joseph Koerner
Half course (fall term). Hours to be arranged.
Drawing its focus from the eponymous exhibition at the Sackler Museum, this course investigates how print-makers contributed to, and expanded, knowledge in the culture. Special attention will be paid to the contributions of Albrecht Durer.
Note: Expected to be given in 2014–15.

History of Art and Architecture 255. Giorgio Vasari: Seminar
Catalog Number: 57654 Enrollment: Limited to 15.
Alina A. Payne
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
Examines Giorgio Vasari's oeuvre as critic, historian, artist and architect as it illuminates conceptions of style, progress, aesthetic quality, artistic personality and exchanges between the arts in Renaissance Italy.

[History of Art and Architecture 256v. Rembrandt]
Catalog Number: 89196 Enrollment: Limited to 12.

Hugo van der Velden
Half course (spring term). Hours to be arranged.
Where to begin? Rembrandt's paintings, prints and drawings, primarily, but anything else that can help to find an angle on this tremendously and overwhelmingly complex artist will be given a fair chance.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 271p. Reading, Drawing, Printing Architecture : Seminar]
Catalog Number: 71355 Enrollment: Limited to 12.
Alina A. Payne
Half course (fall term). Hours to be arranged.
The architectural book and its readers, authors, circulation and manufacture in the early modern period.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 271v. Marcel Duchamp: Seminar]
Catalog Number: 18534 Enrollment: Limited to 12.
Benjamin Buchloh
Half course (spring term). Hours to be arranged.
The seminar explores Marcel Duchamp's oeuvre and the recent literature by art historians and philosophers on the subject, as well as the various phases of the Duchamp reception in the practices of major artists in Europe and the United States since the 1950's.
Note: Expected to be given in 2014–15.

[*History of Art and Architecture 271x. The Origins of Modernity: The "New" 18th Century]
Catalog Number: 1598 Enrollment: Limited to 12.
Ewa Lajer-Burcharth
Half course (spring term). Hours to be arranged.
Issues include: art and the public sphere; the birth of the critic; high & low; interiors and interiority; intimacy; artistic identity; sexuality, sexual difference, and gender; the discourse of race. Emphasis on new research and methodologies.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 272e. Painting and Its Discontents: Seminar]
Catalog Number: 78962 Enrollment: Limited to 12.
Ewa Lajer-Burcharth
Half course (spring term). Hours to be arranged.
Explores painting as the privileged medium and institution of artistic modernity (from the late 17th c to the present). Issues: Color; Liveliness; Truth; Autonomy; Subjectivity; Touch; Blindness; the Ready-Made; the Post-Medium Condition.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 272k. Visual Culture of Weimar Germany]
Catalog Number: 41199 Enrollment: Limited to 12.
Benjamin Buchloh
Half course (fall term). Hours to be arranged.
Tracing visual culture from Germany's imperial provincialism to the avantgarde practices from 1919 - 1937, from the Expressionism debates, to the critiques of DADA artists and Marxist theoreticians, from photomontage to the photography of New Objectivity, from the BAUHAUS' projects of collectivized production to painting's return to order, signaling Fascism's destruction of avantgarde culture in 1937.
Note: Expected to be given in 2014–15.

History of Art and Architecture 272v. Cubism and its Others: Art in Paris, 1907-1937 - *(New Course)
Catalog Number: 94163 Enrollment: Limited to 12.
Maria Elizabeth Gough
Half course (fall term). Th., 3–5. EXAM GROUP: 17, 18
Emergence, development, reception, and legacy of Cubism in Paris between 1907 and 1937, focusing on Picasso, Braque, Léger, and Gris, the four major artists of the pioneering Galerie Kahnweiler. Having analyzed the fundamental role of primitivism, tradition, mass culture, and the commodity form in Cubism's genesis, our major endeavor is to unpack its ever-shifting relation to its aesthetic Others, namely, abstraction, decoration, the ready-made, realism, and monumentalism. Crucial to this endeavor is a thorough examination of the problem of medium in Cubism, considering not only drawing, easel painting, collage, and constructed sculpture, but also mural painting, architecture, photography, and film.

***History of Art and Architecture 272w. Post WW II European Art: France, Italy, Germany**
Catalog Number: 6119 Enrollment: Limited to 15.
Benjamin Buchloh
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Addresses the work of key figures of post-war European art, under the perspective of different, yet complementary conflicts: avantgarde and neo-avantgarde, artistic practices and spectacle culture, aesthetics of repression, trauma and commemoration.

[History of Art and Architecture 274k. Russian and Soviet Avant-Garde]
Catalog Number: 98835 Enrollment: Limited to 12.
Maria Elizabeth Gough
Half course (fall term). Hours to be arranged.
A central preoccupation of later aesthetic theory and the history of art has been the precise nature of the relationship between the work of art and everyday life. This seminar focuses on the initial embrace of, and later assault on, orthodox modernism's faith of art as an autonomous institution by the constellation of movements known collectively as the Russian and Soviet Avant-Gardes
Note: Expected to be given in 2014–15.

[*History of Art and Architecture 275w. The Thing]
Catalog Number: 8955 Enrollment: Limited to 14.
Jennifer L. Roberts
Half course (spring term). Hours to be arranged.
Investigates the conundrum of "thingness" in art history, introducing theoretical frameworks for interpreting everything from teapots to minimal sculpture. Interrogates forms of exchange - economic, libidinal, aesthetic, historical- that objects invite (or refuse).
Note: Expected to be given in 2014–15.

[History of Art and Architecture 275x. Aesthetic Theories from Weimar to Adorno]
Catalog Number: 71413 Enrollment: Limited to 12.
Benjamin Buchloh
Half course (spring term). Hours to be arranged.
The seminar addresses the changing aesthetic theories that emerged during the Weimar Republic and its aftermath in exile, in the work of some of the key philosophers and art historians, from Georg Lukacs, to Siegfried Kracauer, from Carl Einstein to T.W. Adorno and Aby Warburg.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 275z. Meyer Schapiro: Seminar]
Catalog Number: 87868 Enrollment: Limited to 12.
Henri Zerner
Half course (spring term). Hours to be arranged.
Meyer Schapiro's contributions go from early Christian art to the 20th century. This towering figure of art history explored a wide range of methodological issues. We will explore his intellectual journey and his relevance today.
Note: Expected to be given in 2014–15.

History of Art and Architecture 276g. Deception - *(New Course)*
Catalog Number: 65946 Enrollment: Limited to 12.
Carrie Lambert-Beatty
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
This course will treat questions of trickery, deceit, and duplicity as characteristics of art, and attempt to theorize the aesthetics of deception. The approach will be through contemporary art, where artists have reinvented the old association between art and illusion, but students of any period or culture will be able to pursue their interests as the class treats the long history, and complicated theory, of art's association with trickery.
Note: Primarily for graduate students.

[*History of Art and Architecture 277k. The Contemporary]
Catalog Number: 29579 Enrollment: Limited to 14.
Carrie Lambert-Beatty
Half course (spring term). Hours to be arranged.
Graduate seminar exploring the intersection of the field of art history with the globalized art world. What is "contemporary art" - in theory, in practice, and in history?
Note: Expected to be given in 2014–15.

[*History of Art and Architecture 277s. Circa 1970]
Catalog Number: 2286 Enrollment: Limited to 12.
Carrie Lambert-Beatty
Half course (spring term). Hours to be arranged.
Investigation of US artistic production and discourse from the early 1970s, with emphasis on the rubric of the "politicization of the avant-garde" and the periodization of the 60s and 70s. Comparative looks at Europe and Latin America.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 280p. Voices in Chinese Painting]
Catalog Number: 33617 Enrollment: Limited to 12.
Eugene Wang
Half course (spring term). Hours to be arranged.
Seminar explores the "voice" in Chinese paintings from the eleventh- through eighteenth centuries. The goal is to 1) test the validity of transposing "lyrical voice" to the study of painting and 2) formulate a methodology of historicizing pictorial rhetoric by considering both textual cues and material medium while favoring neither.
Note: Expected to be given in 2014–15.

History of Art and Architecture 281p. Visual Programs in Early Chinese Art - *(New Course)*
Catalog Number: 41097 Enrollment: Limited to 12.
Eugene Wang

Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
The course explores the mechanism of early Chinese design and visual programming. Early visual and textual blueprints and the First Emperor's tomb serve as starting point. A variety of designs-bronze decorations and tomb furnishings-from Shang through Han will be examined in this framework. Bio-technology is the central concern.

History of Art and Architecture 284. Visual Programs in Medieval Chinese Art - *(New Course)*
Catalog Number: 45504 Enrollment: Limited to 12.
Eugene Wang
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
Explores relic-inspired medieval Chinese visual programs from the seventh to tenth century. The scope encompasses Japan and Korea wherever applicable. Key issues include the making of algorithm behind the artistic programming derived from relic lore and the elaborate regimens that enable the "body" to evolve into new states of being.

History of Art and Architecture 285m. South Asian Temple : Theory and Practice
Catalog Number: 12376 Enrollment: Limited to 12.
Jinah Kim
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
The main mode of production in Indian temple architecture is often explained through a strict diagram or vastupurusamandala, an idea extracted from Sanskrit artistic treaties (silpasastra or vastusastra) of varying dates. Going beyond this essentialist tendency, the seminar will explore design strategies adopted to create the most powerful sacred space for each religious and political community and examine the historical relationship between the circulation of such architectural (and artistic) knowledge and the production and use of an actual temple (and other sacred objects). Focus will be on the development of regionalism in temple architecture during the millennium before 1500CE. Note: Most Sanskrit texts are available in English translation.

[History of Art and Architecture 286s. Japanese Sculptural Icon: Seminar]
Catalog Number: 94069 Enrollment: Limited to 12.
Yukio Lippit
Half course (fall term). Hours to be arranged.
This seminar examines major works of Japanese sculpture in light of recent research on materiality, sculptural process, interred objects, ritual, architectural meaning, conservation, interregionalism, kami worship, the Buddhist sculptor, and comparative theories of the icon.
Note: Expected to be given in 2014–15.

[History of Art and Architecture 288s. Ito Jakuchu and Japanese Nature Painting : Seminar]
Catalog Number: 32694 Enrollment: Limited to 12.
Yukio Lippit
Half course (fall term). Hours to be arranged.
This seminar explores the conditions of artistic production in early modern Japan through the life and remarkable bird-and-flower paintings of the Kyoto artist, Ito Jakuchu (1716-1800).
Note: Expected to be given in 2014–15.

History of Art and Architecture 288y. Tohaku on Painting - *(New Course)*
Catalog Number: 35197 Enrollment: Limited to 12.
Yukio Lippit
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
This graduate seminar explores the world of Japanese painting circa 1600 through Tohaku on Painting,

the earliest text to record the words of a Japanese painter. Wherever possible surviving works will be discussed in relation to the text's 93 entries. Themes to be explored include the life and work of Hasegawa Tohaku, the culture of tea display, the reception of Chinese painting in Japan, the Ashikaga shogunal collection, East Asian artistic legend, mounting and viewing practice, the legacy of medieval Zen monk-painters, and the competition among professional painting houses in the early modern era.

***History of Art and Architecture 291r. Topics in Pre-Columbian and Colonial Art**
Catalog Number: 2306 Enrollment: Limited to 12.
Thomas B. F. Cummins
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
Topics to be determined in consideration of interests of students.

Cross-listed Courses

[Aesthetic and Interpretive Understanding 40. Monuments of Islamic Architecture]
Aesthetic and Interpretive Understanding 43. Visual Culture of the Ottoman Empire Between East and West (15th - 17th Centuries)
[Aesthetic and Interpretive Understanding 44. Arts of Asia]
[African and African American Studies 174. The African City]
Culture and Belief 21. Pathways through the Andes–Culture, History, and Beliefs in Andean South America
[Culture and Belief 30. Seeing is Believing: A History of Photography]
Ethical Reasoning 37 (formerly History of Art and Architecture 50g and English 120a). Adam & Eve - *(New Course)*
[*History 84c. Confronting Objects/Interpreting Culture: Interdisciplinary Perspectives on North America]
[History of Science 215r. Science and Culture in Medieval and Early Modern Europe: Seminar]
Humanities 11a. Frameworks: The Art of Looking - *(New Course)*
Japanese History 256. The Ise Shrines: Seminar - *(New Course)*
Japanese Literature 124. *The Tale of Genji* in Word and Image
Japanese Literature 133. Gender and Japanese Art
United States in the World 12. American Encounters: Art, Contact, and Conflict, 1560-1860
[*Visual and Environmental Studies 104. Culture Jam: Art and Activism since 1989: Seminar]
[Visual and Environmental Studies 172b. Contemporary Film Theory]
Visual and Environmental Studies 181. Film Theory, Visual Thinking
[*Visual and Environmental Studies 182. Film Architectures: Seminar]
Visual and Environmental Studies 184. Imagining the City: Literature, Film, and the Arts
[*Visual and Environmental Studies 185x. Visual Fabrics: Art, Media, Materiality Seminar]
***Visual and Environmental Studies 271. Proseminar in Film and Visual Studies: Theory**
***Visual and Environmental Studies 283. Screens: Media Archaeology and Visual Arts Seminar**

Graduate Courses of Reading and Research

***History of Art and Architecture 300. Reading and Research**
Catalog Number: 5716
Ruth Bielfeldt 5682 (on leave fall term), Suzanne P. Blier 3472 (on leave 2013-14), Benjamin Buchloh 5325 (on leave fall term), Joseph Connors 1080 (on leave fall term), Thomas B. F. Cummins 3568, Maria Elizabeth Gough 6716, Jeffrey F. Hamburger 3800, Ioli Kalavrezou 2242 (on leave spring term), Robin E. Kelsey 4132, Joseph Koerner 1954, Ewa Lajer-Burcharth 3373 (on leave 2013-14), Carrie Lambert-Beatty 5283, Neil Levine 4178 (on leave fall term), Yukio Lippit 4713, David G. Mitten 1290, Robert D.

Mowry (Sackler Museum) 1958, Gülru Necipoglu-Kafadar 1688, Alina A. Payne 4605, Gloria Ferrari Pinney 1384, Jennifer L. Roberts 4407, David J. Roxburgh 2138 (on leave 2013-14), Victor Stoichita (University of Fribourg) 5014, Eugene Wang 3600, Irene J. Winter 1955, Henri Zerner 3792 (on leave spring term), and Hugo van der Velden 4767
Individual work in preparation for the General Examination for the PhD degree or, by arrangement, on special topics not included in the announced course offerings.

***History of Art and Architecture 310a (formerly *History of Art and Architecture 310). Methods and Theory of Art History**
Catalog Number: 7879 Enrollment: Limited to 14.
Maria Elizabeth Gough 6716
Half course (spring term). Hours to be arranged.
Note: Limited to incoming graduate students.

***History of Art and Architecture 310b (formerly *History of Art and Architecture 320). Works of Art: Materials, Forms, Histories**
Catalog Number: 47391 Enrollment: Limited to 14. Limited to first-year graduate students.
Maria Elizabeth Gough 6716
Half course (fall term). Hours to be arranged.
A series of team-taught workshops designed to sharpen skills in the observation, analysis, and historical interpretation of works of art and architecture.

***History of Art and Architecture 399. Direction of Doctoral Dissertations**
Catalog Number: 6575
Ruth Bielfeldt 5682 (on leave fall term), Suzanne P. Blier 3472 (on leave 2013-14), Benjamin Buchloh 5325 (on leave fall term), Thomas B. F. Cummins 3568, Maria Elizabeth Gough 6716, Jeffrey F. Hamburger 3800, Ioli Kalavrezou 2242 (on leave spring term), Robin E. Kelsey 4132, Joseph Koerner 1954, Ewa Lajer-Burcharth 3373 (on leave 2013-14), Carrie Lambert-Beatty 5283, Neil Levine 4178 (on leave fall term), Yukio Lippit 4713, David G. Mitten 1290, Gülru Necipoglu-Kafadar 1688, Alina A. Payne 4605, Gloria Ferrari Pinney 1384, Jennifer L. Roberts 4407, David J. Roxburgh 2138 (on leave 2013-14), Eugene Wang 3600, Irene J. Winter 1955, Henri Zerner 3792 (on leave spring term), and Hugo van der Velden 4767
Note: May not be counted toward course requirements for the PhD degree.

History of Science

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of the History of Science

Janet Browne, Aramont Professor of the History of Science, Harvard College Professor *(Chair)*
Soha Hassan Bayoumi, Lecturer on the History of Science

Allan M. Brandt, Amalie Moses Kass Professor of the History of Medicine in the Faculty of Medicine, and Professor of the History of Science in the Faculty of Arts and Sciences *(on leave spring term)*
Alex Csiszar, Assistant Professor of the History of Science *(on leave 2013-14)*
Melinda Clare Baldwin Fulford, Lecturer on the History of Science
Peter L. Galison, Joseph Pellegrino University Professor *(on leave spring term)*
Jean-Francois Gauvin, Lecturer on the History of Science
Nathan Greenslit, Lecturer on the History of Science
Evelynn M. Hammonds, Barbara Gutmann Rosenkrantz Professor of the History of Science and of African and African American Studies *(on leave 2013-14)*
Anne Harrington, Professor of the History of Science *(Director of Undergraduate Studies) (on leave spring term)*
David Shumway Jones, A. Bernard Ackerman Professor of the Culture of Medicine
Chin Jou, Lecturer on the History of Science
Dong Won Kim, Visiting Professor of the History of Science
Shigehisa Kuriyama, Reischauer Institute Professor of Cultural History
Susan Marie Lanzoni, Lecturer on the History of Science
Rebecca M. Lemov, Associate Professor of the History of Science *(on leave 2013-14)*
Elizabeth Lunbeck, Visiting Professor of the History of Science
Aaron Pascal Mauck, Lecturer on the History of Science
Naomi Oreskes, Professor of the History of Science
Katharine Park, Samuel Zemurray, Jr. and Doris Zemurray Stone Radcliffe Professor of the History of Science *(Director of Graduate Studies)*
Sarah S. Richardson, Assistant Professor of the History of Science and of Studies of Women, Gender, and Sexuality
Hannah Roosth, Assistant Professor of the History of Science *(on leave 2013-14)*
Mark Schiefsky, Professor of the Classics
Steven Shapin, Franklin L. Ford Professor of the History of Science *(on leave fall term)*
Nadine Michele Weidman, Lecturer on the History of Science

Other Faculty Offering Instruction in the Department of the History of Science

Joyce E. Chaplin, James Duncan Phillips Professor of Early American History
Jeanne Marie Haffner, Lecturer on the History of Science
Sheila Jasanoff, Pforzheimer Professor of Science and Technology Studies at the John F. Kennedy School of Government *(Kennedy School)*
Everett I. Mendelsohn, Professor of the History of Science, Emeritus
Robb Moss, Professor of Visual and Environmental Studies
Scott Harris Podolsky, Assistant Professor of Global Health and Social Medicine *(Medical School)*
Charles E. Rosenberg, Ernest E. Monrad Professor of the Social Sciences, Emeritus

Affiliates of the Department of the History of Science

Steven E. Hyman, Professor of Stem Cell and Regenerative Biology, Harvard University Distinguished Service Professor, Professor of Neurobiology
Ahmed Ragab, Richard T. Watson Assistant Professor of Science and Religion *(Divinity School)*

The Department of the History of Science oversees the undergraduate concentration in History and Science and provides the degree of AM and PhD to properly qualified graduate students. The Department also offers instruction in the history of science to students in other fields.

Primarily for Undergraduates

***History of Science 91r. Supervised Reading and Research**
Catalog Number: 1238
Anne Harrington and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Programs of directed reading and research to be conducted by a person approved by the Department.

***History of Science 97. Tutorial — Sophomore Year**
Catalog Number: 5235
Anne Harrington
Half course (spring term). Hours to be arranged.
Sophomore tutorial is a hands-on course that introduces students to some of the most exciting and productive questions in the history of science, technology and medicine, while developing critical reading, presentation and discussion skills. Small groups of students will tackle different aspects of a larger theme each week and share discoveries in sessions led by the faculty instructor. The course will be further enhanced by a series of supervised individual projects. During the 2014 spring term, the course instructor will be Megan Shields Formato.
Note: Required for undergraduate concentration in History and Science. Students must register for one plenary class session that meets on Mondays from 12:00-2:00 12:00-1:30 or 3:00-5:00 3:00-4:30, as well as a weekly section to be arranged.

***History of Science 98. Tutorial — Junior Year**
Catalog Number: 1120
Aaron Pascal Mauck
Half course (fall term; repeated spring term). Fall: M., at 12.
This one-semester junior tutorial is a research-oriented tutorial taken in small groups. Focuses on enhancing research and writing skills through the completion of a directed research paper on subject matter of the student's interest. Must be taken during the fall semester (except for students not in residence).

***History of Science 99a. Tutorial — Senior Year**
Catalog Number: 6619
Nadine Michele Weidman
Half course (fall term). Hours to be arranged.
Faculty-led seminar and intensive work with an individual advisor, directed towards production of the senior honors thesis.
Note: Students are expected to complete a thesis or submit a research paper or other approved project in order to receive course credit. This course must be taken Sat/Unsat.

***History of Science 99b. Tutorial — Senior Year**
Catalog Number: 22497
Nadine Michele Weidman
Half course (spring term). Hours to be arranged.
Faculty-led seminar and intensive work with an individual advisor, directed towards production of the senior honors thesis.
Note: Students are expected to complete a thesis or submit a research paper or other approved project in order to receive course credit. This course must be taken Sat/Unsat.

Cross-listed Courses

[Culture and Belief 11. Medicine and the Body in East Asia and in Europe]
[Culture and Belief 20. Reason and Faith in the West]
[Culture and Belief 34 (formerly Historical Study A-87). Madness and Medicine: Themes in the History of Psychiatry]
Culture and Belief 47 (formerly Historical Study B-45). The Darwinian Revolution
Culture and Belief 58. Case Studies in the Medical Humanities: Interdisciplinary Perspectives on the Experience of Illness and Healing - *(New Course)*
Environmental Science and Public Policy 77. Technology, Environment, and Society - *(New Course)*
[Environmental Science and Public Policy 78. Environmental Politics]
[Ethical Reasoning 33. Medical Ethics and History]
***Freshman Seminar 44t. The Atomic Bomb in History and Culture**
Freshman Seminar 44w. The Masquerade of Common Scents: An Exploration of Ephemeral Knowledge - *(New Course)
History 60c. The Nature of Modern China: Space, Science, and Environment - *(New Course)
[Science of Living Systems 12. Understanding Darwinism]
[Science of the Physical Universe 17 (formerly Science A-41). The Einstein Revolution]
United States in the World 13 (formerly Historical Study A-34). Medicine and Society in America
United States in the World 30. Tangible Things: Harvard Collections in World History

For Undergraduates and Graduates

[History of Science 100. Knowing the World: An Introduction to the History of Science]
Catalog Number: 0905
Alex Csiszar
Half course (fall term). Tu., Th., at 11. EXAM GROUP: 13
What are the origins of modern science and of the scientific method? Have the ways of knowing the world of different cultures and societies changed over time? How has scientific knowledge been related to other enterprises such as art, religion, literature, and commerce? We will ask these questions and more through a broad survey of many of the crucial moments in the development of science from the Scientific Revolution of the 17th century to the present day. Topics and figures will include Galileo, evolution, eugenics, the atomic bomb, and the human genome project.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[History of Science 101. Knowledge on the Move: Cultures of Science in the Medieval World]
Catalog Number: 54617
Katharine Park and Ahmed Ragab (Divinity School)
Half course (spring term). M., W., F., at 12. EXAM GROUP: 5
Explores the development of scientific ideas and practices in the medieval Middle East and Western Europe, focusing on the circulation of texts, people, and objects. Special attention to religious, intellectual, social, and institutional contexts.
Note: Offered jointly with the Divinity School as 3340.

[History of Science 106. History of Ancient Science]
Catalog Number: 3958
Mark Schiefsky
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
An examination of key aspects and issues in the development of ancient science, focusing on natural

philosophy from the Presocratics to Aristotle as well as its relation to early Greek medicine and mathematics. Some consideration will also be given to the historiography of natural philosophy within this period.
Note: Expected to be given in 2014–15.

[History of Science 108. Bodies, Sexualities, and Medicine in the Medieval Middle East]
Catalog Number: 81052
Ahmed Ragab (Divinity School)
Half course (fall term). M., W., (F.), at 11. EXAM GROUP: 4
This course will examine the ways in which medical, religious, cultural, and political discourses and practices interacted in the medieval and early modern Middle East to create and reflect multiple understandings of human bodies and sexualities. Special attention to debates on health, sexuality, and gender and racial identities.
Note: Offered jointly with the Divinity School as 3587. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Historical Study B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[History of Science 111. Two Scientific Revolutions: From the Classical Age of Islamic Sciences to the Scientific World of Early Modern Europe]
Catalog Number: 96159
Ahmed Ragab (Divinity School)
Half course (fall term). M., W., (F.), at 11. EXAM GROUP: 4
Explores the emergence and consolidation in the Islamic Middle East of a new science and philosophy constructed in part out of Persian and Greek materials; the consolidation and development of this science in an Islamic context; and its connections with novel developments in sixteenth- and early seventeenth-century European science. Attention to cultural context, including imperial projects, societal transformation, and religious worldviews.
Note: This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

History of Science 112. Magic, Medicine and Miracles: Health and Healing in the Middle Ages and Renaissance
Catalog Number: 8576
Katharine Park
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
An introduction to theories and practices of healing in the medical, religious, and magical realms. Topics include the construction of medical authority and expertise, potions and incantations, saints' cults, the play of sex and gender among healers and patients, the multiple social and cultural roles played by early hospitals, and responses to "new" diseases such as syphilis and plague.
Note: This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

[History of Science 113. Crusades, Plagues and Hospitals: Medicine and Society in the Islamic Middle Ages]
Catalog Number: 59744
Ahmed Ragab (Divinity School)
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
Surveys the recasting of Islamic medical practices, traditions, and institutions in response to the many health challenges of the turbulent Middle Ages, from the eleventh through the thirteenth centuries, including wars, invasions, and epidemics.
Note: This course, when taken for a letter grade, meets the Core area requirement for Historical Study B.

***History of Science 118. Instruments and the Material Culture of Science in Early Modern Europe, 1500-1800**
Catalog Number: 79069 Enrollment: Limited to 15.
Jean-Francois Gauvin
Half course (fall term). W., 4–6. EXAM GROUP: 9
What is an instrument? Can there be more than one definition? What, if any, is the epistemological difference between Galileo's telescope and rolling balls? Between Newton's prisms, Hooke's microscope, and Réaumur's thermometer? This course looks at three centuries of science and particularly at its material culture. What makes an "instrument" a "scientific" instrument? Are all instruments "scientific"? How does an object become a scientific instrument? What are the relationships between theory and instruments? Readings and discussion, though at the core of the course, will be supplemented with visits in other Harvard museums and hands-on classes using the Collection of Historical Scientific Instruments.

History of Science 121. The Einstein Revolution - *(New Course)*
Catalog Number: 54674 Enrollment: Limited to 20.
Peter L. Galison
Half course (fall term). M., 1–3.
Albert Einstein has become the icon of modern science. Following his scientific, cultural, philosophical, and political trajectory, this course aims to track the changing role of physics in the 20th and 21st centuries. Addresses Einstein's engagement with relativity, quantum mechanics, Nazism, nuclear weapons, philosophy, and technology, and raises basic questions about what it means to understand physics in its broader history. This is an exploratory version of a newly designed hybrid class, a combination of online background work and in-class discussion, demonstrations, film, performance and more.
Note: Students who have taken Science of the Physical Universe 17 may not take this course for credit. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Culture and Belief, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

History of Science 122v. Science in the Cold War - *(New Course)*
Catalog Number: 80044
Melinda Baldwin
Half course (fall term). Tu., Th., at 10. EXAM GROUP: 12
The Cold War was an era of unprecedented growth in the sciences -- and unprecedented political stakes for scientific research. This course will cover the history of the physical, biological, and human sciences during the Cold War. We will look at science on both sides of the Berlin Wall, paying particular attention to intersections between science, politics, and governments. Topics will include the Manhattan Project, the development of "big science," genetics and Lysenkoism, the nuclear arms race and the space race, scientific espionage, and communication between scientists in the West and in the Soviet world.

History of Science 124v. Radioactive Culture - *(New Course)*
Catalog Number: 53165 Enrollment: Limited to 15.
Melinda Baldwin
Half course (spring term). Th., 12–2.
Do your parents tell you stories about nuclear bomb drills in their elementary schools? Would you want to live in the same neighborhood as a nuclear power plant? Why did Stan Lee choose a radioactive spider to turn Peter Parker into Spider-Man? Our culture has strong ideas about radioactivity. How have those ideas changed over time? And how do they relate to the science of radioactivity? This seminar will explore the cultural history of radioactivity. Sample topics include newspaper coverage of nuclear science, ways people have prepared for possible nuclear catastrophes, and literature and films with nuclear themes.

[*History of Science 134. Nature on Display: Conference Course]
Catalog Number: 4987 Enrollment: Limited to 15.
Janet Browne
Half course (spring term). Tu., 2–4.
This conference course is run as an advanced seminar for undergraduates. We explore the way that living beings were collected, displayed, and discussed, from the 18th century to today. This means we look carefully at the different places in which natural history could be encountered in the past, such as museums, zoos, botanical gardens, marine stations, parks, and reserves, circuses and shows. It offers an opportunity to engage with some current issues in historical research, notably popular science and the material culture and 'spaces' of science. The course hopes to enlarge your understanding of the complex relations between display, entertainment, and knowledge. A visit to the Museum of Comparative Zoology is an integral part of our studies.

[History of Science 135. From Darwin to Dolly: A History of the Modern Life Sciences]
Catalog Number: 58347
Sophia Roosth
Half course (fall term). Tu., Th., at 11. EXAM GROUP: 13
This course surveys the history of modern biology, from the nineteenth century to now. Drawing on primary sources in biology, as well as readings from historians and anthropologists of science, students will be introduced to major themes and questions in the history of the modern life sciences. Topics include theories of natural selection, genetics, eugenics, genomics, ecology, molecular biology, artificial life, and biotechnology. Students will explore questions such as: what has "life" meant at different historical moments? What approaches have life scientists taken to investigating life — from cataloging to experimenting to making new living things? How have notions of "diversity" shaped biology, from Enlightenment taxonomies of nature to modern-day efforts at conserving biodiversity?

[History of Science 136. History of Biotechnology]
Catalog Number: 58601
Sophia Roosth
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
What becomes of life when researchers can materially manipulate and technically transform living things? This course historically investigates biotechnology in the twentieth and twenty-first centuries, paying attention to how efforts to engineer life are grounded in social, cultural, and political contexts. Topics include reproductive technologies, genetic engineering and cloning, synthetic biology and bioinformatics, stem cells, intellectual property, and biosafety and biosecurity. Students will explore themes of ownership, personhood, biocitizenship, and biocapital by reading and discussing historical and anthropological accounts of biotechnology, as well as primary scientific publications, science fiction, and legal cases.

History of Science 138. Sex, Gender, and Evolution
Catalog Number: 30321
Sarah S. Richardson
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
Evolutionary theories of sex and gender and central controversies in human evolutionary biology from Darwin to the present. Topics include debates over the theory of sexual selection and the evolutionary basis of monogamy, sexual preference, physical attraction, rape, maternal instinct, and sex differences in cognition. Readings: primary texts and historical, philosophical, and feminist analyses.

[History of Science 139. The Postgenomic Moment]
Catalog Number: 81843

Sarah S. Richardson
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Joining "postgenomic" assessments of the genome projects, this seminar examines the history and contemporary practice of genomics from a multidisciplinary perspective. Topics include the role of technology, government funding, private industry, and race, gender, and nationality in the historical development of genomics, the ways in which genomic research challenges traditional conceptions of biology and science, and the implications of emerging trends such as direct-to-consumer genomics and whole-genome sequencing.

History of Science 140v. The Historical and Cultural Lives of Drugs in the U.S. - *(New Course)*
Catalog Number: 79013
Nathan Greenslit
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
We will use readings in history, anthropology, and social theory to explore changing relationships between drugs and society in the 20th & 21st-century U.S. We will cover a broad range of topics, including the roles of race and gender; shifting philosophical, psychological and legal notions of the mind/body relationship, addiction and free will; roles of drugs in social movements and the 'politics of pleasure'; cross-cultural and transnational conflicts surrounding marijuana and cocaine; proliferation of psychiatric drugs; shifting attitudes towards tobacco and alcohol; the rise of the pharmaceutical industry and clinical trials; patient activism; U.S. drug enforcement laws and FDA legislation; strategic uses of neuroscience and epidemiology in social and political debates over drug regulation; and representations of drug-taking in popular culture.

History of Science 142. History and Politics of the American Obesity Epidemic
Catalog Number: 27547
Chin Jou
Half course (fall term). M., W., at 1, and a weekly section to be arranged. EXAM GROUP: 6
Obesity has become a leading public health concern in the industrialized West (and increasingly in other parts of the world). Rates of obesity in the United States have doubled in adults and tripled in children since 1980. How did this happen? And why is the obesity epidemic controversial? What does looking at the history and politics of the obesity epidemic reveal about broader issues of health and society throughout the twentieth-century United States? This course will illuminate these questions as we survey the trajectory of obesity from many dimensions since the beginning of the twentieth century.

History of Science 143v. Biomedicine and Health Policy in America - *(New Course)*
Catalog Number: 75269
Aaron Pascal Mauck
Half course (fall term). Th., 2–4.
Health policies are often described as products of stakeholders, institutions, and political circumstances. Yet it is impossible to understand how health policies come about without taking into account biomedical research and practices. From the establishment of the NIH to the crafting of the Affordable Care Act, biomedicine has played a profound role in shaping the aim, scope, and structure of health policy- and vice-versa. This course explores this interrelationship from the late nineteenth century to the present, with the aim of better understanding the dynamic arrangement of science and politics that has shaped healthcare in America.

History of Science 145v. Advocacy, Activism, and Social Movements in Medicine - *(New Course)*
Catalog Number: 38834
Aaron Pascal Mauck
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17

Modern medicine is often viewed as a system in which the few dominate the many in socially acceptable ways. By virtue of their expertise, doctors are given the right make life-changing decisions about people with relatively little say from those affected. Yet power relations between doctors and patients have historically been far more complicated, as non-experts have long strove to find a place in decision-making about medical research and treatment. With topics ranging from medical consumerism to targeted disease advocacy, this course examines the historical processes through which non-experts have sought to shape the course of medicine around their own beliefs, values, and goals.

[History of Science 146. Introduction to Women's Bodies in Medicine]
Catalog Number: 57761
Chin Jou
Half course (spring term). M., W., (F.), at 10. EXAM GROUP: 3
This course examines: 1) the evolution of medical and scientific discourse on women's bodies, and the social and political developments that have informed those discussions; 2) the ways in which classifications and diagnoses of various pathologies have been gendered; and 3) the surveillance of women's bodies via various screening measures. Specific course topics include: the history of hysteria, eating disorders, women's representation in clinical trials, the HPV vaccine, contraception, and cosmetic surgery.

[History of Science 148. History of Global Health]
Catalog Number: 21054
Aaron Pascal Mauck
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
A survey course exploring the interrelated histories of public health, international health, and global health from the 19th to the 21st centuries, with attention to the relationship between Western and non-Western forms of scientific practice and health systems. This course will trace the role of health and medicine in mediating the relationships between metropolis and colony, state and citizen, North and South, public welfare and private interest, research practices and human subjects, the commodification of health and the body, and human rights discourse. The course will be divided chronologically into four parts, tracing imperial health formations in the long 19th century, the nascent internationalism of the interwar period, the construction of bureaucracies of development in the postwar and postcolonial era, and configurations of public- and private-sector actors in late 20th and early 21st century global health practices.
Note: This course, when taken for a letter grade, meets the Core area requirement for Historical Study A.

History of Science 149v. Explaining Epidemics - *(New Course)*
Catalog Number: 68182
Aaron Pascal Mauck
Half course (spring term). M., W., at 11. EXAM GROUP: 4
Outbreaks of epidemic disease have played a role in shaping human societies from the beginning of recorded history, transforming demographic patterns, social practices, and cultural expectations. Although they take fewer lives than the diseases we encounter every day, epidemics possess an extraordinary hold over our collective imagination. This course seeks to understand why. Through an analysis of outbreaks ranging from the Black Death to Avian Flu, we will explore the place of epidemic disease in human history, taking into account how those living in different times and places have responded when epidemics have appeared.

[History of Science 150. History of the Human Sciences]
Catalog Number: 0135
Rebecca M. Lemov

Half course (fall term). M., W., (F.), at 11. EXAM GROUP: 4
Examination of the growth and development of social sciences such as sociology, anthropology, psychoanalysis, psychology, political science, and economics from the Enlightenment to the present. Innovators devised these fields to provide new, scientific ways to gain insight into age-old philosophical and religious questions, such as, What is the nature of the "self" or the "soul"? What binds human beings to one another? What is free will? What are the limits of social control, behavioral engineering, and the possible reach of techniques for adjustment and manipulation?

[*History of Science 152. Filming Science]
Catalog Number: 8254 Enrollment: Limited to 12.
Peter L. Galison and Robb Moss
Half course (fall term). M., 1–3, W., 1–4. EXAM GROUP: 6, 7, 8
Examination of the theory and practice of capturing scientific practice on film. Topics will include fictional, documentary, informational, and instructional films and raise problems emerging from film theory, visual anthropology and science studies. Each student will make and edit short film(s) about laboratory, field, or theoretical scientific work.

History of Science 153. History of Dietetics
Catalog Number: 1409 Enrollment: Limited to 35.
Steven Shapin
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
A survey of the relationships between medical expertise and human eating habits from Antiquity to the present, giving special attention to the links between practical and moral concerns and between expert and lay knowledge.
Note: Expected to be omitted in 2014–15.

[History of Science 157. Sociology of Science]
Catalog Number: 2434
Steven Shapin
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
An introduction to a series of sociological topics concerning the scientific role, the scientific community, and scientific knowledge that are of special interest to historians. What are the social conditions for the institutionalization of science and for the support of the scientific role? What are the possibilities for a historical sociology of scientific knowledge? What social pressures have historically been exerted on our overall understanding of science and its relations with society?
Note: Expected to be omitted in 2014-15

[History of Science 164. Sense and Scientific Sensibility: Beyond Vision, From the Scientific Revolution to Now]
Catalog Number: 35633
Sophia Roosth
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
Scientific inquiry is often considered an endeavor pursued using one’s sense of vision: scientists peer into microscopes and telescopes, and stare at graphs, diagrams, and computer screens. But on what other senses do scientists rely? Do they also gather data using senses of hearing, smell, taste, and touch? How are the senses technologically mediated, and how do researchers evaluate sensory evidence? To address such questions, this course combines readings in the history and anthropology of science with classic primary sources.

[History of Science 165. The Scientific Revolution]
Catalog Number: 71921 Enrollment: Limited to 15.
Alex Csiszar
Half course (spring term). W., 2–4.
When, where, and how did modern science come into being? Many historians and philosophers have looked to Europe in the 16th and 17th centuries to answer these questions. What it meant to learn about the natural world, even what nature was understood to be, underwent so many radical changes during this period that it became known as the Scientific Revolution. This seminar will examine the diverse meanings that have been given to this revolution. Topics will include the experimental method, the nature of belief, the role of communications media, instruments, gender, and natural history. There will be several opportunities for hands-on work with instruments, books, and prints housed in the Collection of Historical Scientific Instruments, Houghton Library, and the Sackler Museum.

History of Science 166. "What is Enlightenment?": Science, Religion, and the Making of Modernity
Catalog Number: 83424
Soha Hassan Bayoumi
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
From Immanuel Kant's answer to this question in 1784 to Michel Foucault's engagement with the same question and answer in 1984, two centuries had passed and a lot of water had flown under the bridge. From the inception of its ideals in the Anglo-Saxon world in the seventeenth century at the hands of Spinoza, John Locke and Isaac Newton, to its development in France in the eighteenth century by Voltaire, Montesquieu and Rousseau and culmination with the writings of Immanuel Kant, the Enlightenment developed into an important intellectual movement which helped shape modernity and its repercussions in the contemporary world. This course will trace the history of Enlightenment in primary sources, enriched by a collection of secondary readings, and will explore contemporary reflections on Enlightenment from various schools of thought ranging from Marxism to feminism and from postmodernism to conservatism. The course will address the themes of reason and rationality, science and knowledge, religion and religious institutions, tolerance and intolerance, ethics and morality.
Note: Offered jointly with the Divinity School as 3302.

***History of Science 171. Narrative and Neurology**
Catalog Number: 3222
Nathan Greenslit
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
An exploration of the complex relationship between the making of brain science and the human stories/experiences of brain damaged people. We will look at iconic cases of brain damage including Phineas Gage and H.M. (and who speaks for them), the emergence and historical function of neurological case histories, the study of brain-damaged soldiers in WWI, the "neurological novels" of Alexander Luria, the popularization of neuroscience via authors like Oliver Sacks and V.S. Ramachandran, the brain-injured patient as author, including how nowadays patients may use social media to narrate their own experiences with neurological impairment, and the notion of "neurodiversity."

History of Science 172v. Self and Society: A Cultural History of Psychology - *(New Course)*
Catalog Number: 20343
Susan Marie Lanzoni
Half course (fall term). Tu., Th., at 11.
How has the study of psychology shaped our conception of ourselves over the past 200 years? This course examines the various "selves" of scientific psychology and their refractions in popular, literary, and visual culture in the modern period. Topics include: reflective methods in early modern psychologies, the mind's "faculties" and phrenology in nineteenth century popular science; the rise of experimental psychology and

the fascination with psychical research; photography and the study of emotion in evolutionary psychology; intelligence testing, race and eugenics, psychology in the clinic, personality testing, the psychology of art; behaviorism; social psychology and studies of prejudice, cognitive and computational models of mind, and recent work in positive psychology.

History of Science 173v. Emotions: Science and History - *(New Course)*
Catalog Number: 91017
Susan Marie Lanzoni
Half course (spring term). W., 12–2. EXAM GROUP: 5, 6
Fear, anger, love, empathy - are these emotions of the body or of the mind? Physiological or cognitive? Culturally determined or universal? An evolutionary inheritance or uniquely human? This course explores the answers to these questions given by psychologists, physiologists, social scientists, and neuroscientists of the modern period, in concert with changing technologies for documenting and recording emotion, including etchings, photographs, graphic traces, questionnaires, film and neuroimaging. We examine Lavatar's physiognomy, Duchenne's electrophysiology, Darwin's and William James' theories of emotion, twentieth century experiments on empathy and fear in psychology and neuroscience, and also give attention to current debates on the study of affect in history, and the historiography of emotion in the history of science.

[History of Science 174. Critical Experiments in the Human Sciences]
Catalog Number: 1750
Rebecca M. Lemov
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
This course focuses on high-impact experiments - among them, the Milgram "Obedience" experiments and the Stanford Prison Experiment - carried out in the twentieth-century human sciences by anthropologists, sociologists, social psychologists, and/or experimental psychologists. Many dreamed of a "technology of human behavior" and conducted experiments toward this end. What were the results, and how do they continue to affect our thinking and daily lives today?

[History of Science 176. Brainwashing and Modern Techniques of Mind Control]
Catalog Number: 76277
Rebecca M. Lemov
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
This course examines the phenomenon of "brainwashing" as a modern set of techniques that can apparently force a subject radically to alter her beliefs against her will. The Cold War roots of 'brainwashing' - both the myth and the reality -- lie in the politics of twentieth-century anti-Communism and the deeper fear that people's most strongly held thoughts, ideas, and ideological commitments could be vulnerable to powerful infiltration. In order to understand the dynamics of this process we will examine case studies beginning with the Korean War-era emergence of the term 'brainwashing', the American interdisciplinary science of "coercive persuasion" that arose in response, and successive waves of technological, political, and sociocultural developments. We will also look at how brainwashing and analogous persuasive techniques may operate among larger groups, crowds, organizations, and mass societies.

History of Science 179v. The Freudian Century - *(New Course)*
Catalog Number: 84218
Elizabeth Lunbeck
Half course (spring term). W., 4–6.
Explores the consolidation and rise to prominence of a distinctively modern psychological perspective on human nature, motivation, and desire from 1900 to the present. Opens with the debut of therapeutic

culture and the Freudian recasting of the self, with attention to dreams, sexuality, interiority, gender, and cultures of trauma. Moves to the mid-century period and beyond, the heyday of the psychological perspective in the United States, looking at the psychology of affluence, the invention of "identity," the new narcissism, and personalities and power in the workplace. Ends with an assessment of the virtues and liabilities of the 21st century expressive self.

History of Science 180. Science, Technology, and Society in Modern East Asia
Catalog Number: 5317
Dong Won Kim
Half course (fall term). Tu., Th., at 11.
This course aims to survey the history of science and technology in East Asian countries—China, Japan and Korea—since the late 19th century. It will emphasize the mutual influence between science & technology and society to answer how they become major industrial powers in the 21st century.

[History of Science 185 (formerly History of Science 282). Communicating Science: From Print Culture to Cybersocieties]
Catalog Number: 20399 Enrollment: Limited to 15.
Alex Csiszar
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Science doesn't just happen in the lab. Scientific results have to be communicated among scientists, and to the public. This course investigates the ways in which scientific knowledge circulates, and pays special attention to how new communications media have shaped knowledge-in-the-making. Topics will include the history of scientific genres (letters, encyclopedias, periodicals), popular science, peer review, intellectual property, and new information technologies. Selected classes will take place in Houghton Library.

[History of Science 190. Science Facts and Science Fictions]
Catalog Number: 28387
Hannah Roosth
Half course (spring term). Tu., Th., at 11.
This course uses science fiction as a lens through which to view the history of science and technology. By reading sci-fi literature (including novels and short stories by Shelley, Wells, Verne, and Butler, as well as more recent works by Heinlein, Asimov, Le Guin, Gibson, and Atwood) and viewing sci-fi films, this course asks how science is fictionalized, and what such representations tell us about science as an enterprise that melds present contexts with futurism and fantasy. Topics include: time travel, utopias and dystopias, other worlds, artificial intelligence, robotics, alien life.

[*History of Science 193. History and Technology of Food Production in Modern America]
Catalog Number: 42654 Enrollment: Limited to 15.
Chin Jou
Half course (fall term). Th., 4–6. EXAM GROUP: 18
For much of the twentieth century, America has enjoyed a secure, reliable food supply. To be sure, Americans' access to food and the quality of the food they consume vary widely. But food is generally available. Whether found in supermarkets, farmer's markets, convenience stores, or restaurants of every variety, there is an abundance of food and a surfeit of choices. How did this come to be? How did high-yield agriculture develop? How did processed foods find their way to store shelves? To illuminate these questions and more, we will examine the history, technology, and politics of agricultural production throughout the twentieth century. We will also consider contemporary food production practices and ethical dilemmas about how food is produced. Course readings will cover how food has been cultivated, manufactured, and distributed, as well as the human labor behind some of these production stages.

History of Science 196. Justice in Health: Ethics of Public Health in the Contemporary World
Catalog Number: 92662
Soha Hassan Bayoumi
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Public health is distinctly political. It is a field where moral and political philosophy play a significant role. Contemporary political debates on justice have very often brought up questions of public health and what justice in health means. This course addresses central issues in the philosophy of health and health care, investigating how some fundamental questions in this field have been answered and exploring possible alternatives to those answers. Questions we consider include: What is health? What is health care? Does health enjoy a special moral significance? What is it? Is health/health care a fundamental human right? Why do persons and communities differ in their health outcomes and when are these differences considered unjust? What are the limits of personal and social responsibility for health? How can we meet health needs fairly? The course also probes questions of class, race, gender and age in its discussion of justice in health and examines ethical questions in global health.

History of Science 197. Nature, Environment, and the Understanding of Space
Catalog Number: 69934
Jeanne Marie Haffner
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
Investigations of the natural world have focused on different concepts at different historical moments. In America, for instance, the notion of "wilderness" was most prevalent in the late-nineteenth century; that of "environment" became central in the twentieth; and, from the postwar era to the present, analyses of the inextricability of spatial form and social organization have dominated scholarship and social activism alike. The aim of this seminar is to examine these shifts, exploring how they were employed within particular historical contexts, and to assess their implications for the past, present, and future of environmental movements in Europe and America.

History of Science 198. Controversy: Explorations at the Intersection of Science, Policy, and Politics - *(New Course)*
Catalog Number: 62073
Naomi Oreskes
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Science is supposed to give us factual knowledge, yet scientific results often become mired in political controversy. This course examines the sources of controversy around scientific matters that bear on political questions. Topics include the role of experts in a democratic society, the role of values in scientific research and reasoning, the demarcation between controversy in science v. controversy about science, and the matter of whether any question can ever be deemed to be "purely" scientific.

Cross-listed Courses

Classical Studies 165. Medicine in the Greco-Roman World
***History 1915 (formerly History 1415). The Nine Lives of Benjamin Franklin: Conference Course**
[*MCB 142. Major Advances in Classical and Molecular Genetics]
[Sociology 160. Medicine, Health Policy and Bioethics in Comparative and Global Perspective: Conference Course]
Sociology 180. Law, Science, and Society in America
***Studies of Women, Gender, and Sexuality 1421. Medical Management of the Female Body**

Primarily for Graduates

[*History of Science 200. Knowing the World: Studying the History of Science]
Catalog Number: 11825
Alex Csiszar
Half course (fall term). Hours to be arranged.
This is the graduate section to History of Science 100, Knowing the World: An Introduction to the History of Science.
Note: Expected to be given in 2014–15.

[*History of Science 206r. Physical Atomism in Antiquity: Epicurus and Lucretius: Seminar]
Catalog Number: 2410
Mark Schiefsky
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Reading of Epicurus' *Letter to Herodotus* in Book X of Diogemes Laertius, together with Epicurean atomism in Lucretius' *De rerum natura* and its criticism in other ancient sources. All readings in translation.

[History of Science 209. Science, Religion and Culture: Debates, Methods and Controversies]
Catalog Number: 74851
Ahmed Ragab (Divinity School)
Half course (fall term). W., 4–6. EXAM GROUP: 9
Critical examination of different methods and theories in history and philosophy of science and STS (Science, Technology and Society studies) along with discussions of a number of tools in the study and history of culture and religion and how they can be utilized in the study of science and religion; away from the conflict/reconciliation paradigms and towards examining the perceived relations and exchanges of science and religion through analyzing paradigms, discourses, traditions and authorities. The course can serve as a methodological introduction to history and philosophy of science and STS. The course is a research workshop with a focus on training and professionalization and an emphasis on methods tools in academic writing and research. Students work on specific projects throughout the semester from topic selection, question formation, to research and writing to produce a piece of academic writing such as research papers, conference papers, articles, book reviews, prospectus, syllabi, etc.
Note: Offered jointly with the Divinity School as 3341.

[History of Science 212. The Sciences of Life, Medicine and the Body in Medieval and Renaissance Europe]
Catalog Number: 0500
Katharine Park
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
Graduate colloquium for students preparing for general examinations in the fields covered by the course, as well as other students wishing to develop a comprehensive picture of the subject through extensive reading of secondary sources.

[History of Science 215r. Science and Culture in Medieval and Early Modern Europe: Seminar]
Catalog Number: 4568
Katharine Park
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
Explores the relations between new forms of scientific knowledge and the new literary genre of the utopian fiction in sixteenth- and seventeenth-century Europe, including works by More, Palissy, Brahe, Campanella, Bacon, Cavendish, and Fontenelle.
Prerequisite: Some familiarity with the history of early modern European art or science and reading knowledge of at least one European language in addition to English.

History of Science 231. Transforming Technologies: Science, Technology, and Social Change - *(New Course)*
Catalog Number: 64715
Naomi Oreskes
Half course (spring term). W., 10–12. EXAM GROUP: 3, 4
Climate change threatens severe dislocation of our environment, culture and infrastructure, as well as substantial losses to biodiversity and natural beauty. Virtually all experts agree that to avoid extensive disruptive climate change, we must transform our energy system from one based on burning carbon-based fuels to renewables or other energy sources that are net carbon-neutral. This will require a technological transformation. This course examines that challenge in light of past and present transforming technologies. In the first part of the class, we examine past examples of technological transformation, and consider what we might learn from them. In particular, we consider the questions: where do new technologies come from? What has been the role of the free market v. the role of conscious planning? Does technology drive social change or does social change drive technological innovation? Above all, how do we get the technologies we need? Do we get the technologies we need? In the second part we examine the required energy transition to prevent anthropogenic climate change, and the obstacles to it.

History of Science 237. Postgenomics - *(New Course)*
Catalog Number: 20249
Sarah S. Richardson
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Joining "postgenomic" assessments of the genome projects, this seminar examines the history and contemporary practice of genomics from a multidisciplinary perspective. Topics include the role of technology, government funding, private industry, and race, gender, and nationality in the historical development of genomics, the ways in which genomic research challenges traditional conceptions of biology and science, and the implications of emerging trends such as direct-to-consumer genomics and whole-genome sequencing.

History of Science 238. Rethinking the Darwinian Revolution: Seminar
Catalog Number: 9533
Janet Browne
Half course (spring term). Th., 2–4.
Taking Charles Darwin as a well-documented case study, we will explore the historiography of evolutionary ideas from 1900 onwards, covering the political , social, and scientific commitments involved in the concept of a "Darwinian Revolution." We take a special interest in tracking evolutionary ideas in Victorian literature. There will be an opportunity for graduate students to read key Darwin texts and put together their own syllabus on the history of Darwinism.

[History of Science 245. The Changing Concept of Race in Science and Medicine in the United States: From Jefferson to Genomics]
Catalog Number: 57429
Evelynn M. Hammonds
Half course (fall term). Th., 4–6. EXAM GROUP: 18
This course explores the history of the concept of "race" as used by biologists, anthropologists, and physicians from the 17th century to the present and social and political responses to the concept of race in these fields.
Note: Expected to be given in 2014–15. The seminar will design and develop a General Education course on these themes for undergraduates.

[*History of Science 246. History and Anthropology of Medicine and Biology]
Catalog Number: 19559
David Shumway Jones
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Explores recent historical and anthropological approaches to the study of life in both medicine and biology. Topics include: natural history and medicine before the emergence of biology; the history of heredity and molecular biology; race and medicine in the colonies and the metropole; bioeconomic exchange; old and new forms of biopower at molecular, organismic, and global scales. The seminar trains students to engage in scholarly debates in the humanities, social sciences, and natural sciences about the nature of life, the body, and biomedicine. Co-taught with Professor Stefan Helmreich (MIT Anthropology); the class will meet at Harvard.

History of Science 247. Current Issues in the History of Medicine: Seminar
Catalog Number: 28251
Allan M. Brandt
Half course (fall term). M., 4–6. EXAM GROUP: 9
Explores new methods for understanding disease, medicine, and society, ranging from historical demography to cultural studies. Topics include patterns of health and disease, changes in medical science and clinical practice, the doctor-patient relationship, health care systems, alternative healing, and representations of the human body. The course will focus on historical problem-framing, research strategies, and writing.

History of Science 248. Ethics and Judgment in the History of Science and Medicine
Catalog Number: 61433
David Shumway Jones
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Examines the tensions felt by historians and physicians between historicizing past ethical behaviors and norms and wanting to pass judgment on past actors and actions. Topics include contested diseases and accusations of unethical research; the focus in Spring 2014 will be on controversial therapeutics.

***History of Science 250. Readings in Women's Bodies in Medicine**
Catalog Number: 72868
Chin Jou
Half course (spring term). Th., 4–6. EXAM GROUP: 18
For graduate students and advanced undergraduates. Topics will be similar to those covered in History of Science 146, "Introduction to Women's Bodies in Medicine," but with additional readings and a focus on historiography. Students will complete a 20-25 page paper based on original research.

[*History of Science 253. Bioethics, Law, and the Life Sciences]
Catalog Number: 4500
Sheila Jasanoff (Kennedy School)
Half course (spring term). Tu., Th., 10–11:30.
Seeks to identify and explore salient ethical, legal, and policy issues – and possible solutions – associated with developments in biotechnology and the life sciences.
Note: Expected to be given in 2014–15. Offered jointly with the Kennedy School as IGA-515. May not be taken for credit by students who have already taken IGA-515 (KSG).

***History of Science 259. The History of the History of Science**
Catalog Number: 68494
Steven Shapin

Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
A critical survey of conceptions of the history of science over the past hundred years or so and an interpretative engagement with why what's been said about science and its history has mattered so much.
Note: Expected to be omitted in 2014–15.

[*History of Science 261. Ethnography of Science and Technology]
Catalog Number: 21346
Sophia Roosth
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
This course surveys monographs in the ethnography of science, both canonical and current. How have the methods and tools of the interpretive social sciences been applied to cultures of science and technology? What is the relation of description to analysis in ethnographies of science? How do such ethnographies approach theory-building and interpretation? Beginning with early work in the sociology of scientific knowledge and laboratory studies, students will read work in feminist science studies, field and environmental studies, multi-sited ethnography, sensory ethnography, and ethnographic accounts of digital worlds. Throughout, pressure will be placed on issues of method, style, and representation.

[History of Science 265. Science in/as/of Culture]
Catalog Number: 43494
Sophia Roosth
Half course (spring term). M., 4–6. EXAM GROUP: 9
This seminar introduces students to Science and Technology Studies (STS), an interdisciplinary field seeking to understand the natural sciences as cultural and social practices. STS increasingly draws upon a diverse methodological and analytic toolkit: not only sociology, anthropology, and philosophy, but cultural studies, critical theory, gender, race, and postcolonial studies, and laboratory studies. Each unit in this course combines theories and methods in the social study of science with a series of cross-cutting themes including: proof, controversy, practice, actants and agency, post-humanism. Students will investigate the relation of STS to the History of Science and explore recent trends and theories in STS.

[*History of Science 267. Science and Social Thought]
Catalog Number: 10653
Alex Csiszar and Sophia Roosth
Half course (fall term). Hours to be arranged.
How does social theory serve as a toolkit for historians and anthropologists of science? How can we appropriate, reinterpret, extend, or query theory in order to ground and drive our own analyses of scientific practice and culture? This course examines critical history and social theory and its impact on recent studies of science, technology, and medicine. Each unit pairs theoretical and methodological texts with empirical studies in history and ethnography of science that apply those theories. Students will be introduced to classic texts in social and critical theory, including Marx, Weber, Geertz, Foucault, Derrida, and White. Weekly discussion focuses on the relation of empiricism to theory, encouraging students to read theory as a means of generating their own understandings of science and technology.
Note: Expected to be given in 2014–15.

[History of Science 270. Sciences of the Self]
Catalog Number: 58523
Rebecca M. Lemov
Half course (spring term). Th., 12–2. EXAM GROUP: 14, 15
How social, human and behavioral scientists pursued a science of the self from French-revolution-era theories of the "bourgeois self" to Freud's insights about hysterics to mid-twentieth-century American theories of "personality" to biological and computational models of the late-twentieth century (e.g., the

"quantified self" movement). What is the relationship of self to soul and self to society? Some attention to the historiography of the psychological and social sciences will also be given.

[History of Science 271. Self as Data]
Catalog Number: 72536
Rebecca M. Lemov
Half course (fall term). Th., 10–12. EXAM GROUP: 12, 13
Many scholars have considered how the modern self became an object of expert knowledge, scientific experimentation, and institutional discipline. This seminar focuses on cases, past and present, in which individuals treat their own habits, bodies, moods, and thoughts as objects of scrutiny, analysis, and intervention. Ranging from 19th century diary writing and the Buckminster Fuller Chronofiles to contemporary diet techniques, Benjamin Franklin's self-monitoring practices to the Quantified Self movement's digital data collection apps, the seminar explores what shifting modes of self-tracking, self-care, and self-governance reveal about changing understandings of the self, and how they remake subjectivity.
Note: This course will be co-taught with Prof. Natasha Schull (MIT Program in Science, Technology, and Society).

[*History of Science 274v. Topics in the History of Psychoanalysis]
Catalog Number: 87975
Elizabeth Lunbeck
Half course (spring term). Th., 10–12. EXAM GROUP: 12, 13
An introduction to issues and concepts in psychoanalysis, considered clinically in cultural, historical, and contemporary contexts. Major texts, figures, and controversies from Freud to the present. The course will focus on conceptualizations of theory creation and change, and on research and writing strategies.
Note: Open to advanced undergraduates with permission of the instructor.

History of Science 279v. Freud and His Legacies: Readings in the History of Psychoanalysis - *(New Course)*
Catalog Number: 66452
Elizabeth Lunbeck
Half course (fall term). W., 4–6.
Selected topics in psychoanalysis from Freud to the present, with attention to conceptualizing and writing the discipline's history. Among topics to be covered are the conditions of theory change, historicizing the analytic self, and assembling the analytic archive; locating major figures and national schools (Klein, Lacan, Kohut; Britain, France, Argentina); case studies in thinking with psychoanalysis-understandings of people and possessions, conflict and aggression, warfare and welfare; and pathologies of everyday life, from the abused wife to the corporate titan. Throughout, the seminar will focus more generally on writing intellectual and disciplinary histories. Note: Open to advanced undergraduates with permission of the instructor.

***History of Science 285. Science, Power and Politics**
Catalog Number: 5124
Sheila Jasanoff (Kennedy School)
Half course (fall term). W., 2:10–4. EXAM GROUP: 7, 8
This seminar introduces students to the major contributions of the field of science and technology studies (STS) to the understanding of politics and policymaking in democratic societies.
Note: Offered jointly with the Kennedy School as IGA-513.

History of Science 289. Entangled Objects: Or the Stuff of Science, Culture, and Society
Catalog Number: 84196 Enrollment: Limited to 15.
Jean-Francois Gauvin
Half course (spring term). W., 4–6. EXAM GROUP: 9
This course focuses on things: from the Indian sari to the iPod. Its aim is to look at objects from a variety of angles (science, anthropology, art, cultural studies) and to investigate what makes them such powerful anchors--actors--of our daily lives. The readings and discussions will provide a strong theoretical background to the final assignment: designing and mounting a temporary exhibit.

[*History of Science 296. The Digital Self]
Catalog Number: 74548 Enrollment: Limited to 25.
Peter L. Galison and Martha L. Minow (Law School)
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Social theory, philosophical texts, and historical works help situate understandings of the human "self"; how do these and other materials shed light on conceptions and experiences of the "self" enacted in new digital technologies including the internet, surveillance, multi-person virtual games, and virtual realities? With attention to the implications of these new experiences for freedom of expression, theft and other crimes, democratic participation, and consumption, the course will include materials from law, history of science, and political and social theory.

[*History of Science 297. Digital Power, Digital Interpretation, Digital Making]
Catalog Number: 67917
Peter L. Galison, Martha L. Minow (Law School), Jeffrey Schnapp, and Jonathan L. Zittrain
Half course (fall term). M., 1:10–3:10. EXAM GROUP: 6, 7, 8
Harvard is beginning a new initiative to explore the intersection of digital power, digital making and digital interpretation. This is a working seminar designed to explore these questions through a cluster of projects designed to cross theorizing with making. For example: What is the health of the internet and how could we construct ways to measure it? What might the next generation of digital humanities look like as it explores the crossover between digital and physical objects? How can digital filmmaking connect with new forms of interactive design and exhibition?
Note: Interested students must complete an application form, which can be found on the course website.

Cross-listed Courses

[East Asian Film and Media Studies 200 (formerly East Asian Studies 200). The Uses and Meaning of the New Arts of Presentation]
History 2462. Readings in the U.S. in the 20th Century: Proseminar
Japanese History 260r. Topics in Japanese Cultural History
Mathematics 265x. Reasoning via Models - *(New Course)*
[*Studies of Women, Gender, and Sexuality 2010. Science, Nature, and Gender (Graduate Seminar in General Education)]

Graduate Courses of Reading and Research

***History of Science 300. Direction of Doctoral Dissertations**
Catalog Number: 3388
Allan M. Brandt 3031 (on leave spring term), Janet Browne 5511, Joyce E. Chaplin 1058, Alex Csiszar 2475 (on leave 2013-14), Peter L. Galison 3239 (on leave spring term), Jean-Francois Gauvin 3205, Evelynn M. Hammonds 4545 (on leave 2013-14), Anne Harrington 1895 (on leave spring term), Sheila Jasanoff (Kennedy School) 2248, David Shumway Jones 3111, Shigehisa Kuriyama 5269, Rebecca M.

Lemov 5570 (on leave 2013-14), Naomi Oreskes 3983, Katharine Park 2974, Scott Harris Podolsky (Medical School) 6984, Ahmed Ragab (Divinity School) 6263, Sarah S. Richardson 6730, Hannah Roosth 2722 (on leave 2013-14), Charles E. Rosenberg 3784, Mark Schiefsky 2354, and Steven Shapin 3984 (on leave fall term)
Note: Under special circumstances arrangements may be made for other instruction in guidance for doctoral dissertations.

***History of Science 301. Reading and Research**
Catalog Number: 5641
Allan M. Brandt 3031, Janet Browne 5511, Alex Csiszar 2475 (on leave 2013-14), Peter L. Galison 3239 (on leave 2013-14), Jean-Francois Gauvin 3205, Evelynn M. Hammonds 4545 (on leave 2013-14), Anne Harrington 1895 (on leave 2013-14), Sheila Jasanoff (Kennedy School) 2248, David Shumway Jones 3111, Shigehisa Kuriyama 5269, Rebecca M. Lemov 5570 (on leave 2013-14), Everett I. Mendelsohn 2700, Naomi Oreskes 3983, Katharine Park 2974, Scott Harris Podolsky (Medical School) 6984, Ahmed Ragab (Divinity School) 6263, Sarah S. Richardson 6730, Sophia Roosth 2722 (on leave 2013-14), Mark Schiefsky 2354, and Steven Shapin 3984
Individual work in preparation for the General Examination for the PhD degree.

***History of Science 302. Guided Research**
Catalog Number: 5282
Allan M. Brandt 3031, Janet Browne 5511, Alex Csiszar 2475 (on leave 2013-14), Peter L. Galison 3239 (on leave 2013-14), Jean-Francois Gauvin 3205, Evelynn M. Hammonds 4545 (on leave 2013-14), Anne Harrington 1895 (on leave 2013-14), Sheila Jasanoff (Kennedy School) 2248, David Shumway Jones 3111, Shigehisa Kuriyama 5269, Rebecca M. Lemov 5570 (on leave 2013-14), Everett I. Mendelsohn 2700, Robb Moss 1392, Naomi Oreskes 3983, Katharine Park 2974, Scott Harris Podolsky (Medical School) 6984, Ahmed Ragab (Divinity School) 6263, Sarah S. Richardson 6730, Sophia Roosth 2722 (on leave 2013-14), Mark Schiefsky 2354, and Steven Shapin 3984
Through regular meetings with faculty advisor, each student will focus on research and writing with the purpose of developing a publishable research paper.

***History of Science 310hf. History of Science Salon**
Catalog Number: 1047
Naomi Oreskes
Half course (throughout the year). Hours to be arranged.
What is history of science about as a discipline and profession? This half-course meets throughout the academic year to introduce first-year graduate students to the range of debates, questions, and research practices currently shaping the field.
Note: The course is required for and restricted to first year students in the PhD program and students in the AM program in the History of Science.

Human Evolutionary Biology

Faculty of the Department of Human Evolutionary Biology

Daniel E. Lieberman, Edwin M. Lerner II Professor of Biological Sciences, Harvard College Professor *(Chair and Director of Undergraduate Studies)*
John C. Barry, Lecturer on Human Evolutionary Biology
Terence D. Capellini, Assistant Professor of Human Evolutionary Biology
Lara Durgavich, College Fellow in Human Evolutionary Biology
Peter T. Ellison, John Cowles Professor of Anthropology *(Director of Graduate Studies)*
Judith F. Chapman, Lecturer on Human Evolutionary Biology
Amy Hansen, Preceptor in the Life Sciences
Katherine J. Hinde, Assistant Professor of Human Evolutionary Biology
Carole K. Hooven, Lecturer on Human Evolutionary Biology
Kristi L. Lewton, Preceptor in Human Evolutionary Biology
Susan F. Lipson, Lecturer on Human Evolutionary Biology
Zarin Pearl Machanda, Lecturer on Human Evolutionary Biology
Stephanie L. Meredith, College Fellow in Human Evolutionary Biology
David Pilbeam, Henry Ford II Professor of Human Evolution *(on leave fall term)*
Linda M. Reynard, Lecturer on Human Evolutionary Biology
Maryellen Ruvolo, Professor of Human Evolutionary Biology *(on leave fall term)*
Tanya M. Smith, Associate Professor of Human Evolutionary Biology *(on leave 2013-14)*
Noreen Tuross, Landon T. Clay Professor of Scientific Archaeology
Anna G. Warrener, Lecturer on Human Evolutionary Biology
Richard W. Wrangham, Ruth Moore Professor of Biological Anthropology
Katherine Diane Zink, College Fellow in Human Evolutionary Biology

Other Faculty Offering Instruction in the Department of Human Evolutionary Biology

Andrew A. Biewener, Charles P. Lyman Professor of Biology
Stacey A. Combes, Associate Professor of Organismic and Evolutionary Biology
George V. Lauder, Henry Bryant Bigelow Professor of Ichthyology and Curator of Ichthyology in the Museum of Comparative Zoology

Affiliates of the Department of Human Evolutionary Biology

David E. Reich, Associate Professor of Genetics *(Medical School)*

Human Evolutionary Biology provides a general foundation in human and organismic biology as part of the Life Sciences cluster of concentrations. It addresses why humans and primates are the way they are from an evolutionary perspective. Understanding the biological bases for the behavioral and physical traits that distinguish humans from other primates is one of the great challenges of modern biology, and is the focus of Human Evolutionary Biology. Students interested in addressing questions about human and non-human primate cognition from the perspective of human evolutionary biology also may pursue a special program of study affiliated with the University-wide Mind, Brain, and Behavior Initiative. For concentration requirements, see the Department of Human Evolutionary Biology website.

Primarily for Undergraduates

***Human Evolutionary Biology 91r. Supervised Reading and Research**
Catalog Number: 3631
Daniel E. Lieberman

Half course (fall term; repeated spring term). Hours to be arranged.
Special study of selected topics in human evolutionary biology, given on an individual basis and directly supervised by a member of the Human Evolutionary Biology Faculty.
Note: May be taken for a letter grade or Pass/Fail. Signature of faculty supervisor required.

***Human Evolutionary Biology 97. Sophomore Tutorial in Human Evolutionary Biology**
Catalog Number: 2205
Daniel E. Lieberman
Half course (spring term). Hours to be arranged.
An introduction to the issues and methods of human evolutionary biology, focusing on evolutionary theory, the concept of adaptation, and their application to human evolution. Weekly readings and discussions, with biweekly writing assignments that integrate major course themes.
Note: Required of and limited to Human Evolutionary Biology concentrators.

***Human Evolutionary Biology 99a. Tutorial—Senior Year**
Catalog Number: 2840
Katherine D. Zink
Half course (fall term). Hours to be arranged.
Research and writing of the Senior Thesis.
Note: Limited to honors candidates. Signature of the faculty adviser required.

***Human Evolutionary Biology 99b. Tutorial - Senior Year**
Catalog Number: 61326
Daniel E. Lieberman
Half course (spring term). Hours to be arranged.
Research and writing of the Senior Thesis.
Note: Limited to honors candidates. Signature of the faculty adviser required.

Cross-listed Courses

***Freshman Seminar 43g. Human Nature and Evolution of Peace and Violence**
Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
Life Sciences 2. Evolutionary Human Physiology and Anatomy
Science of Living Systems 16. Human Evolution and Human Health

For Undergraduates and Graduates

***Human Evolutionary Biology 1210. Research in Comparative Biomechanics: Seminar**
Catalog Number: 11259
Daniel E. Lieberman, Andrew A. Biewener, Stacey A. Combes, George V. Lauder, and Anna G. Warrener
Half course (spring term). Hours to be arranged.
Introduces students to experimental techniques used to investigate the structure and physiology of humans and other animals. Each instructor offers research projects that are undertaken in their laboratory (limit 5 students per instructor). Students meet to introduce their project, discuss their work and progress, and to present their final results. An extensive commitment of time in the laboratory is required. Grades are based on the work completed, the oral presentation, and a short research paper.
Note: Laboratory safety session required.
Prerequisite: Life Sciences 2 or Organismic and Evolutionary Biology 102 or equivalent preferred.

Human Evolutionary Biology 1275. Walk This Way: Sex Differences in Locomotion - *(New Course)*
Catalog Number: 85913 Enrollment: Limited to 8.
Anna G. Warrener
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course takes a broad look at how differences in male and female structure and physiology affect locomotion and movement. The first half of the course will include lectures and discussions introducing students to the biological determinants of sex, anatomical variation, and biomechanics. Students then participate in lab-based data collection and biomechanics analysis focusing on how men and women are different and similar in movement profiles. Grades are based on exams, discussion and lab participation, and a short paper and presentation.
Note: Lab safety overview and human subjects training course required.
Prerequisite: Science of Living Systems 16 or Life Sciences 2 or approval of instructor.

Human Evolutionary Biology 1310. Hormones and Behavior
Catalog Number: 2265
Carole K. Hooven
Half course (spring term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
An introduction to the interaction between hormones and behavior, emphasizing research in humans. General principles of endocrine physiology are presented. The course then focuses on how hormones affect the brain and body in early development and later in adulthood, and the relationship of hormones to sex and gender. We will explore human reproduction, energy metabolism, mating and sexuality, parental behavior, stress, and dominance interactions.
Note: This course is a prerequisite for Human Evolutionary Biology 1418. This course, when taken for a letter grade, meets the Core area requirement for Science B.

[*Human Evolutionary Biology 1312. Human Sexuality: Research and Presentation Seminar]
Catalog Number: 5008 Enrollment: Limited to 15.
Judith F. Chapman
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
An examination of human sexuality from a scientific perspective. Students will read and present primary scientific literature that highlights current research on a variety of topics including: sexual development, gender identity, sexual orientation, cross cultural variations in mating systems, promiscuity, the evolution of monogamy, sexual attraction, sexual communication, including an exploration of the existence of human pheromones, libido and sexual dysfunction.
Note: Expected to be given in 2014–15.

***Human Evolutionary Biology 1313. Stress: Research and Presentation Seminar**
Catalog Number: 27108 Enrollment: Limited to 15.
Judith F. Chapman
Half course (fall term). Th., 3–5. EXAM GROUP: 17, 18
An examination of stress from a scientific perspective with a focus on stress research in mammals, especially primate and humans. A writing and speaking intensive seminar that will explore the basics of the stress response, physiological effects of the stress and factors that affect stress responsiveness, such as perinatal and early life effects, social support, outlets for frustration and coping skills. The relationship between stress and disease will also be explored. Scientific studies of the effectiveness of modalities of stress reduction will also be discussed. Students will present primary scientific literature that highlights current research on a variety of topics in the field.

Human Evolutionary Biology 1329. Sex, Love and War: The Evolution of Human Behavior
Catalog Number: 89352
Richard W. Wrangham and Katherine J. Hinde
Half course (spring term). M., W., 11:30–1. EXAM GROUP: 4, 5
This introductory course is designed to familiarize students with the behavioral ecology of human from an evolutionary perspective. Here we will survey behavioral diversity and consistency across human societies. Moreover, we will gain insights into the evolution of human behavior by exploring the social dynamics of non-human primates. Topics to be covered include cooperation and reciprocal altruism, aggression and warfare, dominance and hierarchy, mating and pair-bonds, parenting, social learning, language and religion.

Human Evolutionary Biology 1330. Primate Social Behavior
Catalog Number: 4332
Zarin P. Machanda and Stephanie L. Meredith
Half course (fall term). M., W., F., at 10, and a weekly section to be arranged. EXAM GROUP: 3
A review of the behavioral interactions in natural primate populations, drawing on experimental, observational, and theoretical studies. Discussion of ecological, physiological, and developmental bases of primate social behavior, with special attention to the evolution of patterns of behavioral interactions among individuals of different age, sex, relatedness, and status. Topics include sexual conflict, sexual selection, and mating systems; care of offspring and other aid-giving; manipulative and cooperative aspects of communication; competition, dominance, and territoriality; and the evolution of social relationships.

Human Evolutionary Biology 1335. Behavioral Ecology of Chimpanzees
Catalog Number: 32284
Zarin P. Machanda
Half course (spring term). W., 1–4. EXAM GROUP: 6, 7, 8
An advanced seminar on current topics in behavioral ecology research of chimpanzees and bonobos. Topics will include: foraging, dominance, cooperation, adolescence, reproductive strategies, culture, ranging, cognition, molecular ecology, and relationships. We will discuss behavioral flexibility of chimpanzees between different communities across Africa and learn how to collect and analyze behavioral data. We will compare the behavior of chimpanzees and bonobos with that of humans and examine how these species might serve as models for human evolution.
Prerequisite: Human Evolutionary Biology 1330 or Science B-29 or permission of instructor.

Human Evolutionary Biology 1366. Mating Strategies
Catalog Number: 62507 Enrollment: Limited to 15.
Stephanie L. Meredith
Half course (spring term). M., 1–4. EXAM GROUP: 6, 7, 8
In this advanced seminar, we will examine the selection pressures that drive animals (including the human animal) to make particular mating decisions. We will engage in a broad, comparative exploration of the diversity of mating strategies across the animal kingdom, paying particular attention to primates, in order to ground our understanding of human mating strategies in an evolutionary perspective. Topics to be covered include the evolution of: sex, paternal care, sex-role reversal, social monogamy versus sexual monogamy, sexual coercion, homosexual behavior, and frequency dependent mating strategies.
Note: Human Evolutionary Biology concentrators will have priority, if space is limited.
Prerequisite: Human Evolutionary Biology 97 or Human Evolutionary Biology 1330 or Organismic and Evolutionary Biology 57 or permission of instructor.

Human Evolutionary Biology 1380. Behavioral Biology of Women
Catalog Number: 8721 Enrollment: Limited to 30.
Lara Durgavich
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course is an exploration of female behavioral biology from an evolutionary and biosocial perspective. We will focus on physiological, ecological, and social aspects of women's development from puberty, through reproductive processes such as pregnancy, birth and lactation, to menopause and aging. We will also explore female life-history strategies in a variety of cultural settings. Topics include cognitive and behavioral 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 nonhuman primates are also considered.
Note: Priority given to Human Evolutionary Biology concentrators.

Human Evolutionary Biology 1411. Evolution and Adaptation of the Human Diet
Catalog Number: 89118
Noreen Tuross and Richard W. Wrangham
Half course (fall term). M., W., F., at 11; Tu., at 2. EXAM GROUP: 4
Within and across cultures people adopt widely varying diets, yet as a species, our foods are characteristically human. In this course we ask what is the fundamental nature of the human diet, what constrains it, how people adapt to different diets, and how the human diet evolved from those of our primate ancestors.

Human Evolutionary Biology 1416. The Neurobiology of Sociality: Seminar
Catalog Number: 42215 Enrollment: Limited to 15.
Katherine J. Hinde
Half course (spring term). W., 2:30–5:30. EXAM GROUP: 7, 8, 9
Recent research has illuminated the neural mechanisms underpinning sociality and social behavior in humans and other animals. In this seminar we will discuss publications that address modifications to neural structure and function as a result of behavioral specializations among taxa in relation to their social complexity or among individuals within species as a function of their social condition. This course will emphasize the value of approaching neurobiology from an evolutionary perspective and understanding the selective pressures that have shaped our mind, brain, and behavior.
Note: Can be taken by Human Evolutionary Biology concentrators as a Junior Research Seminar. Open to graduate students.
Prerequisite: Previous or concurrent registration in Molecular and Cellular Biology 80 strongly recommended.

***Human Evolutionary Biology 1418. Endocrinology and Behavior: Research Seminar**
Catalog Number: 1437 Enrollment: Limited to 8.
Susan F. Lipson
Half course (fall term). M., W., (F.), at 11, and a weekly laboratory either M. or W., 2-5. EXAM GROUP: 4
An introduction to laboratory techniques and research design in behavioral endocrinology. Students conduct pilot research projects.
Note: Preference given to Human Evolutionary Biology concentrators. Lab safety training required (after enrollment).
Prerequisite: Human Evolutionary Biology 1310 or Life Sciences 2 or with permission of instructor.

Human Evolutionary Biology 1419. Laboratory Methods in Human Evolutionary Biology
Catalog Number: 98922 Enrollment: Limited to 10.

Linda M. Reynard
Half course (spring term). W., 1–4. EXAM GROUP: 6, 7, 8
An introduction to laboratory methods in Human Evolutionary Biology. We will use state-of-the-art equipment and techniques to explore how humans metabolize caffeine, starch, and alcohol. Topics include quantitative pcr and genetic analysis, immunological methods, enzyme kinetics, chromatography, and measurement of isotope ratios in tissues.
Prerequisite: Life Sciences 1 and Life Sciences 1b.

Human Evolutionary Biology 1420. Human Evolutionary Anatomy
Catalog Number: 6233
Katherine D. Zink
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
How did the human body evolve, and how does it develop, grow and function? An integrative overview of human anatomy and evolution, with a focus on the musculo-skeletal system, and a comparative approach to the evolution of modern anatomy. Additional topics include: bone and tooth development, gross anatomy of the nervous and circulatory systems; comparative limb anatomy; craniofacial growth and development; and the human fossil record.
Prerequisite: Life Sciences 2 or Science of Living Systems 16 or with permission of instructor.

[Human Evolutionary Biology 1421. Teeth]
Catalog Number: 8758 Enrollment: Limited to 6.
Tanya M. Smith
Half course (fall term). W., 3–5:30. EXAM GROUP: 8, 9
Teeth are one of the best preserved and most commonly-recovered elements in fossil assemblages. This seminar will focus on ways in which dental remains may inform studies of primate growth and development, ecology, and health. Students will read and discuss current scientific literature, engage in histological studies in the Dental Hard Tissue Laboratory, and conduct pilot research projects.
Note: Expected to be given in 2014–15. Preference given to Human Evolutionary Biology junior and senior concentrators.

[Human Evolutionary Biology 1423. Human Origins and Evolution]
Catalog Number: 68044
Tanya M. Smith
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course traces evidence for hominin evolution to understand how and why we became human. Readings will cover issues in evolutionary and developmental biology, with an emphasis on the fossil record and comparative data on living primates. Hands-on laboratory sessions will feature fossils and comparative primate skeletal material to complement the lectures. Students will be challenged to critically evaluate on-going debates in paleoanthropology, and will develop skills in reading primary literature and interpreting formal scientific writing in preparation for student-led debates.
Note: Expected to be given in 2015–16. Students who have taken Science of Living Systems 16 should not enroll in this course.

Human Evolutionary Biology 1424. Human Health in Evolutionary and Anthropological Perspective - *(New Course)*
Catalog Number: 85528 Enrollment: Limited to 12.
Lara Durgavich
Half course (fall term). W., 1–4. EXAM GROUP: 6, 7, 8
This course applies a Darwinian perspective to explore the ultimate causes of human disease, and uses the tenets of evolutionary theory to explain variability in the health of individuals and populations. In

addition, we will examine the role that environmental conditions, economic factors, and sociocultural practices plan in shaping modern patterns of human health and disease. Topics will include human-pathogen coevolution, diet and nutrition, reproductive health, mental illness, and senescence.
Prerequisite: Introductory course that covers the basics of evolutionary theory.

Human Evolutionary Biology 1434. Primate Behavior Lab - *(New Course)
Catalog Number: 19021 Enrollment: Limited to 5.
Stephanie L. Meredith
Half course (spring term). Th., 2:30–5:30. EXAM GROUP: 16, 17, 18
In this class, we will collaboratively design a data collection protocol to answer questions of interest to both students and zookeepers regarding the Franklin Park Zoo gorillas, collect behavioral data at the Franklin Park Zoo (students will need to be able to commit to 5-6 hours of data collection during those weeks), analyze our behavioral data, write up study results in the format of a publishable scientific paper, and create a scientific meetings-style poster presentation of study results to be shared with the staff of the Franklin Park Zoo.
Note: Signature of instructor is required to enroll. Enrollment will be limited to 5 students.
Prerequisite: Suggested prerequisites are HEB 1330, HEB 1329 or equivalent.

Human Evolutionary Biology 1435r. Primate Ecology and Evolution
Catalog Number: 83093
John C. Barry
Half course (fall term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
The lecture-seminar course will explore how primates have evolved and adapted. We will examine both living and fossil primates and discuss the degree to which "environmental" change is implicated in evolution. Goals include providing direct, hands-on experience with fossils and fostering an understanding of the strengths and limitations of the fossil record. Topics will include adaptations for food harvesting and processing, life history strategies, sexual dimorphism, and locomotion.
Prerequisite: None, but Life Sciences 2, Science of Living Systems 16, Human Evolutionary Biology 1420, or Human Evolutionary Biology 1330 would be helpful.

Human Evolutionary Biology 1451. Primate Functional Genetics and Genomics - *(New Course)
Catalog Number: 99399 Enrollment: Limited to 12.
Terence D. Capellini
Half course (spring term). Th., 2:30–5:30. EXAM GROUP: 16, 17, 18
Recent advances in genetics, genomics, and developmental biology are improving our understanding of human and non-human primate biological traits. These disciplines, when incorporated into a multi-faceted context, can reveal the mechanistic basis of evolutionary adaptations. This seminar is designed to investigate and critically evaluate foundational and novel research in primates (and other organisms) that employs the tools of these trades. In doing so, students are exposed to an integrative perspective upon which to explore classic and modern questions in functional biology.
Prerequisite: Life Sciences 1b or equivalent genetics/genomics course.

[*Human Evolutionary Biology 1463. Molecular Evolution of the Primates]
Catalog Number: 3359
Maryellen Ruvolo
Half course (fall term). M., 2–5. EXAM GROUP: 7, 8, 9
Introduction to the primates, emphasizing their molecular evolutionary history and the forces that mold their genomes. Topics include the neutral theory of molecular evolution, molecular clock concept and its applications, evolution of multigene families, relationships between primate morphological and molecular evolution, molecular convergences, evidence for horizontal gene transfer in primate genomes, and

evolution of simian and human immunodeficiency viruses, color vision genes.
Note: Expected to be given in 2014–15.
Prerequisite: Life Sciences 1b.

[Human Evolutionary Biology 1490r. Primate Evolution]
Catalog Number: 7376
David Pilbeam and John C. Barry
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
A lecture/discussion course on primate evolution from a paleontological perspective. Following a survey of major primate groups as adaptive radiations, the hominoid fossil record will be reviewed within the context of the mammalian record, a particular focus being the relationship between adaptive, faunal, and climate change. Systems that can be inferred from the fossil record (for example, positional and foraging behaviors) will be discussed comparatively. Section meetings will focus primarily on the fossil record.
Note: Expected to be given in 2014–15. No final exam; research paper required. Can be taken by Human Evolutionary Biology concentrators as a Junior Research Seminar. Introductory courses in paleoanthropology, evolution, genetics, or anatomy helpful.

[Human Evolutionary Biology 1500. Building Babies: Developmental Trajectories from Conception to Weaning]
Catalog Number: 93737 Enrollment: Limited to 8.
Katherine J. Hinde
Half course (spring term). W., 2:30–5:30. EXAM GROUP: 7, 8, 9
Research on human and non-human primate developmental trajectories has grown exponentially among numerous disciplines including evolutionary anthropology, psychobiology, nutrition, behavioral biology, and neuroscience. The seminar will cover the mechanisms, function, and evolution of human and non-human primate development from conception through pregnancy and lactation. Areas of development to be included will be somatic growth, immunology, behavioral/social interactions, neurobiology/cognition/learning, and metabolic processes.
Note: Expected to be given in 2014–15.

***Human Evolutionary Biology 1530. Hominid Paleontology and Evolution**
Catalog Number: 52879 Enrollment: Limited to 12.
David Pilbeam
Half course (spring term). Tu., Th., 10–11:30 and a weekly section. EXAM GROUP: 12, 13
A lecture, discussion, and research course using cast and comparative collections, focusing on important issues in hominid paleobiology: ape ancestors, human ancestors, and early hominin radiations; earliest *Homo*; neandertals and modern humans; the role of environmental change. Can be taken as a research seminar.
Prerequisite: Life Sciences 2 or Science of Living Systems 16 or Human Evolutionary Biology 1420 or with permission of instructor.

Human Evolutionary Biology 1540. Human Migration
Catalog Number: 68708 Enrollment: Limited to 10.
Noreen Tuross
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
The course will explore human migration at several scales, time depths and data sources, including the movement of humans out of Africa and the complex movements of the first farmers across Europe. We will explore the impacts that climates and disease burden have had on human migrations, and discuss recent movements of people and the reasons for migratory behavior in humans. in addition, a personal migration story will be developed by the class.

[Human Evolutionary Biology 1565. Theories of Sexual Coercion]
Catalog Number: 1953 Enrollment: Limited to 25.
Richard W. Wrangham and Diane L. Rosenfeld (Harvard Law School)
Half course (spring term). W., 5–7 p.m. EXAM GROUP: 9
Where does interpersonal violence come from? Is it learned? Is it innate? Is it malleable? What are we to make of the gendered difference in the use of violence? What does the study of sexual violence in primates offer to our understanding of its prevalence among humans? In this course, we examine evolutionary perspectives on male sexual coercion in primates and in humans to search for insights into sexual violence among humans. The review of this body of literature offers different analytical methods for questioning the use of sexual violence in our society, helping us identify new ways of preventing its occurrence.
Note: Expected to be given in 2014–15. Offered jointly with Harvard Law School as LAW-47271A.

[Human Evolutionary Biology 1940. Science and the Human Past: Case Studies at the Cutting Edge: Conference Course]
Catalog Number: 51687
Michael McCormick and Noreen Tuross
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
Examines recent and ongoing discoveries that show how the natural sciences are revolutionizing understanding of the human past across temporal and geographic boundaries. Topics include how archaeology, history and science illuminate and are illuminated by Jomon Pottery, ancient and medieval coins, silk, climate change, and genomics. Mixes classic classroom, seminar-style teaching with classes held as field-trips to New England museums, landscapes and laboratories.
Note: Expected to be given in 2014–15.

Cross-listed Courses

[History 1940. Science and the Global Human Past: Case Studies at the Cutting Edge: Conference Course]
***OEB 121a. Research in Comparative Biomechanics: Seminar**

Primarily for Graduates

***Human Evolutionary Biology 2312. Current Topics in Human Evolutionary Genetics**
Catalog Number: 1175
Maryellen Ruvolo
Half course (spring term). Hours to be arranged.
Critical reading of current literature on the genetics of living humans and discussion of evolutionary implications.
Note: Open to first and second year graduate students in Human Evolutionary Biology.

[*Human Evolutionary Biology 2313r. Topics in Reproductive Ecology and Life History]
Catalog Number: 88581 Enrollment: Limited to graduate students in Human Evolutionary Biology.
Peter T. Ellison
Half course (spring term). Hours to be arranged.
A graduate seminar focusing on different contemporary issues in human reproductive ecology and life history evolution. The topic for 2010 will be evolutionary approaches to adolescence.
Note: Expected to be given in 2014–15.

Human Evolutionary Biology 2335. Introduction to Mathematical Modeling in Human Evolutionary Biology - *(New Course)*
Catalog Number: 73853 Enrollment: Open to undergraduates with instructor's permission.
Peter T. Ellison
Half course (spring term). Th., 2–5. EXAM GROUP: 16, 17, 18
This course will introduce students to the use and interpretation of the major forms of mathematical models used in contemporary evolutionary biology, including dynamical population models, game theoretic models, and agent-based models. Sophisticated mathematical training and ability are not required, but some familiarity with first year calculus is assumed. The course will include an introduction to relevant software packages for mathematical analysis and simulation. Application of mathematical models to contemporary topics and debates such as the evolution of cooperation and life history evolution will be explored. Students will develop a model of their own as a class project.
Prerequisite: Mathematics 1a,1b or equivalent strongly recommended.

[Human Evolutionary Biology 2430. Behavioral Biology Seminar]
Catalog Number: 3777
Richard W. Wrangham and Katherine J. Hinde
Half course (fall term). Hours to be arranged.
Reading and discussion of current research in the behavioral ecology of humans and nonhuman primates. Emphasis placed on comparative and interdisciplinary approaches.
Note: Expected to be given in 2014–15. Required of entering graduate students in Human Evolutionary Biology. Open to other graduate students. Limited to graduate students.

Human Evolutionary Biology 2460. Issues in Human Evolution
Catalog Number: 1073
David Pilbeam
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
A discussion course for graduate students in Human Evolutionary Biology. Topics will include origins of hominids, radiation of hominins, origins of the genus Homo, and origins of Homo sapiens.
Note: May be taken while auditing Science of Living Systems 16.

Cross-listed Course

Graduate Courses of Reading and Research

***Human Evolutionary Biology 3000. Reading and Research**
Catalog Number: 99167
John C. Barry 1892, Peter T. Ellison 7413 (on leave 2012-13), Katherine J. Hinde 6956, Daniel E. Lieberman 3980 (on leave 2012-13), Susan F. Lipson 1969, Charles L. Nunn 6146, David Pilbeam 7224, Maryellen Ruvolo 2512, Tanya M. Smith 6147, Noreen Tuross 4845, and Richard W. Wrangham 2349
Special reading in selected topics under the direction of members of the department.
Note: Consult the appropriate member of the department.

***Human Evolutionary Biology 3001. Reading for General Examination**
Catalog Number: 47645
Members of the Department
Individual reading in preparation for the general examination for the doctoral degree.
Note: Restricted to candidates for the doctoral degree and ordinarily to those who have completed at least one year in residence.

[*Human Evolutionary Biology 3200. Graduate Seminar in Human Evolutionary Biology]
Catalog Number: 31571
David Pilbeam 7224 (on leave fall term)
Half course (fall term). W., 11–1. EXAM GROUP: 4, 5
Proseminar for Human Evolutionary Biology graduate students. Discussion of adaptations and the process of adaptation using examples from various areas of human evolutionary biology.
Note: Expected to be given in 2014–15. Open to graduate students in Human Evolutionary Biology.

***Human Evolutionary Biology 3310. Experimental Methods**
Catalog Number: 9602
Members of the Department

***Human Evolutionary Biology 3320. Advanced Laboratory and Dissertations**
Catalog Number: 62752
Members of the Department

***Human Evolutionary Biology 3337. Advanced Laboratory Methods in Human Endocrinology**
Catalog Number: 5345
Susan F. Lipson 1969
Note: Intended for graduate students engaged in laboratory research on human endocrinology.

***Human Evolutionary Biology 3350. Laboratory Methods in Primate and Human Nutrition**
Catalog Number: 62293
Richard W. Wrangham 2349
Independent laboratory study in the biochemical analysis of plant and animal foods, and of human and animal digestive physiology and feeding behavior.

***Human Evolutionary Biology 3400. Advanced Reading and Research**
Catalog Number: 77859
Members of the Department
Note: Consult the appropriate member of the department.

***Human Evolutionary Biology 3500. Direction of the Doctoral Dissertations**
Catalog Number: 26337
Members of the Department
Note: Consult the appropriate member of the department.

***Human Evolutionary Biology 3595. Laboratory Methods in Evolutionary Genetics**
Catalog Number: 7934
Maryellen Ruvolo 2512 (on leave fall term)
Note: Limited to graduate students conducting doctoral dissertation research.

***Human Evolutionary Biology 3600. Current Issues in Human Evolutionary Biology**
Catalog Number: 9373
Members of the Department
Half course (fall term; repeated spring term). Tu., at 12.
Weekly seminars in human evolutionary biology.

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Inner Asian and Altaic Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Inner Asian and Altaic Studies

The Committee supervises the work of graduate students whose interest in Inner Asia is not confined to languages alone, or history alone, but encompasses linguistics, history, religion, art history, and general cultural study. Courses relating to Inner Asian Studies are given by members of the Committee and other faculty in the departments of Anthropology, East Asian Languages and Civilizations, History, History of Art and Architecture, Linguistics, Near Eastern Languages and Civilizations, and Sanskrit and Indian Studies, and by the Committee on the Study of Religion. Interested students should consult these sections of the catalog. The Committee has offices at 1730 Cambridge Street, Cambridge, MA, 02138; 617-495-3777.

Latin American and Iberian Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Latin American and Iberian Studies

Davíd L. Carrasco, Neil L. Rudenstine Professor for the Study of Latin America in the Faculty of Divinity and the Faculty of Arts and Sciences *(Chair)*
Thomas B. F. Cummins, Dumbarton Oaks Professor of the History of Pre-Columbian and Colonial Art
Brian D. Farrell, Professor of Biology
William L. Fash, Bowditch Professor of Central American and Mexican Archaeology and Ethnology *(on leave spring term)*
Merilee Grindle, Director of the David Rockefeller Center for Latin American Studies, Edward S. Mason Professor of International Development at the Kennedy School of Government *(Kennedy School) (ex officio)*
Frances Hagopian, Jorge Paulo Lemann Visiting Associate Professor
N. Michele Holbrook, Charles Bullard Professor of Forestry *(on leave 2013-14)*
Steven R. Levitsky, Professor of Government
Doris Sommer, Ira Jewell Williams, Jr. Professor of Romance Languages and Literatures and of African and African American Studies *(on leave spring term)*
Diana Sorensen, James F. Rothenberg Professor of Romance Languages and Literatures and of

Comparative Literature, and Dean of Arts and Humanities

The Committee on Latin American and Iberian Studies (CLAIS) is composed of a multidisciplinary group of FAS faculty associated with the activities of the David Rockefeller Center for Latin American Studies, which promotes and coordinates research, teaching, and public programs on Latin American and related fields such as the Caribbean, the Iberian peninsula, and the Latin American Diaspora in the United States.

Founded in 1994, Harvard's David Rockefeller Center for Latin American Studies (DRCLAS) works to increase knowledge of the cultures, economies, histories, environment, and contemporary affairs of past and present Latin America. For complete information on DRCLAS visit the David Rockefeller Center for Latin American Studies website.

Although the CLAIS does not offer an undergraduate concentration or an advanced degree, it awards a Certificate in Latin American Studies to undergraduate and graduate students who have completed an approved course of study as part of their work toward a degree in many concentrations. For complete information on Latin American Studies certificate requirements, visit the David Rockefeller Center for Latin American Studies website ("Undergraduate Certificate in Latin American Studies" or "Certificate in Latin American Studies - Graduate Students").

The following departments and professional schools offer courses related to Latin America. A more detailed description of these courses may be found in this catalog under the appropriate department, or on the course websites of the different professional schools.

Departments with Courses of Interest:

• General Education

• Freshman Seminars

• Core Curriculum

• Anthropology

• Economics

• English

• Government

• History

• History of Literature

• History of Art and Architecture

• History of Science

• Organismic and Evolutionary Biology

• The Study of Religion

• Romance Languages and Literatures

• Social Studies

• Sociology

Professional Schools with Courses of Interest:

• Harvard Business School

• Harvard Graduate School of Design

• Harvard Divinity School

• Harvard Graduate School of Education

• Harvard Kennedy School

• Harvard Law School

• Harvard Medical School

• Harvard School of Public Health

• Harvard Extension School

Related website pages, on the David Rockefeller Center for Latin American Studies website:

• Guide to Courses

• Student Resources

• College Student Resources (Undergraduate Grants and Prizes)

• Graduate and Professional School Students Resources

Life Sciences

The Life Sciences encompass a broad array of disciplines that share a focus on understanding living systems. Life Sciences courses are jointly organized by faculty members of the Chemistry and Chemical Biology, Human Evolutionary Biology, Molecular and Cellular Biology, Organismic and Evolutionary Biology, Psychology, and Stem Cell and Regenerative Biology Departments. Life Sciences courses fulfill requirements in multiple Life Sciences Concentrations and General Education and are taught by teams of faculty from multiple departments. Incoming students interested in the life sciences should take Harvard's online Chemistry and Biology Placement Tests. Students who take these tests will receive a recommendation for the appropriate beginning Life Science course, either Life Science 1a, or Life and Physical Sciences A. For more information about Life Sciences Education, please visit the Life Sciences Homepage.

Life and Physical Sciences

Primarily for Undergraduates

Life and Physical Sciences A. Foundational Chemistry and Biology
Catalog Number: 3956
Gregory C. Tucci and Tamara J. Brenner
Half course (fall term). M., W., F., at 9, and a weekly one-hour of discussion section, three-hour lab, and one-hour of review session. EXAM GROUP: 2
This course introduces fundamental concepts in chemistry and biology. Topics in chemistry include stoichiometry, acids and bases, aqueous solutions, gases, thermochemistry, electrons in atoms, and chemical bonding. Topics in biology include the transfer of information from DNA to RNA to protein, genetic inheritance, mitosis and meiosis, and cell structure.
Note: Students should use their scores on the Chemistry and Biology Placement Tests to determine whether to enroll in Life and Physical Sciences A or Life Sciences 1a. This course assumes fluency with high school algebra. Students who have completed Life Sciences 1a, Physical Sciences 1, Chemistry 17 or Chemistry 20 may not take Life and Physical Sciences A for credit. This course, when taken for a letter grade, meets the General Education Requirement for Science of Living Systems. This course, when taken for a letter grade, meets the Core area requirement for either Science A or Science B, but not both.

Life Sciences

Primarily for Undergraduates

Life Sciences 1a. An Integrated Introduction to the Life Sciences: Chemistry, Molecular Biology, and Cell Biology
Catalog Number: 2137
Robert A. Lue, Daniel E. Kahne, and Richard M. Losick
Half course (fall term). Tu., Th., 1–2:30;. EXAM GROUP: 15, 16
What are the fundamental features of living systems? What are the molecules imparting them and how do their chemical properties explain their biological roles? The answers form a basis for understanding the molecules of life, the cell, diseases, and medicines. In contrast with traditional presentations of relevant scientific disciplines in separate courses, we take an integrated approach, presenting chemistry, molecular biology, biochemistry, and cell biology framed within central problems such as the biology of HIV and cancer.
Note: For more information about the assignment process, please see the course website in the fall. This course, in combination with Life Sciences 1b, constitutes an integrated introduction to the Life Sciences. This course, when taken for a letter grade, meets the General Education requirement in Science of Living Systems or the Core area requirement for Science A.

Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
Catalog Number: 2159
Maryellen Ruvolo, Hopi E. Hoekstra, Kevin C. Eggan, and Pardis Sabeti
Half course (spring term). Tu., Th., 1-2:30, and three hours of laboratory/discussion weekly. EXAM GROUP: 15, 16
How are observable characteristics of organisms influenced by genetics? How do genomes change over time to produce the differences we see among species? This course takes an integrated approach, showing how genetics and evolution are intimately related, together explaining the patterns of genetic variation we see in nature, and how genomics can be used to analyze variation. In covering Mendelian genetics, quantitative genetics, and population genetics, this course will emphasize developments involving our own species.
Note: This course, in combination with Life Sciences 1a, constitutes an integrated introduction to the Life Sciences. This course, when taken for a letter grade, meets the General Education requirement in Science of Living Systems or the Core area requirement for Science B.

Life Sciences 2. Evolutionary Human Physiology and Anatomy
Catalog Number: 9007 Enrollment: Limited to 300.
Andrew A. Biewener, Peter T. Ellison, George V. Lauder, and Daniel E. Lieberman
Half course (fall term). M., W., F., at 1, and three hours of laboratory/discussion weekly. EXAM GROUP: 6
Why is the human body the way that it is? This course explores human anatomy and physiology from an integrated framework, combining functional, comparative, and evolutionary perspectives on how organisms work. Major topics, which follow a life-course framework, include embryogenesis, metabolism and energetics, growth and development, movement and locomotion, food and digestion, stress and disease, and reproduction. Also considered is the relevance of human biology to contemporary issues in human health and biology.
Note: This course replaces OEB 102. This course, when taken for a letter grade, meets the General Education requirement in Science of Living Systems or the Core area requirement for Science B. This course may not be taken Pass/Fail.

Life Sciences 60. Ethics, Biotechnology, and the Future of Human Nature
Catalog Number: 2164 Enrollment: May be limited.
Douglas A. Melton and Michael J. Sandel
Half course (fall term). M., 2–4, and a weekly section to be arranged.
Explores the moral, political, and scientific implications of new developments in biotechnology. Does science give us the power to alter human nature? If so, how should we exercise this power? The course examines the science and ethics of stem cell research, human cloning, sex selection, genetic engineering, eugenics, genetic discrimination, and human-animal hybrids. Readings will be drawn from literature in the areas of biology, philosophy, and public policy.
Note: May not be taken concurrently with Government 1093. May not be taken for credit if Government 1093 has already been taken. The course is open to both science and non-science concentrators. Ethical Reasoning 22 (Justice) is recommended as a background. This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning or the Core area requirement for Moral Reasoning.

Cross-listed Courses

[MCB 192. Principles of Drug Discovery and Development]
Science of Living Systems 11. Molecules of Life
[*Visual and Environmental Studies 54s. Animating Science]

For Undergraduates and Graduates

***Life Sciences 100r. Experimental Research in the Life Sciences**
Catalog Number: 2122 Enrollment: Limited to 30.
Alain Viel
Half course (fall term; repeated spring term). Fall: Th., 3–5; Spring: M., 1–2:30. EXAM GROUP: Fall: 17, 18; Spring: 6, 7
A laboratory course that immerses students in a dynamic project-based research environment. Participate in experimental projects directly linked with ongoing faculty research. Students select a project from the following research tracks: neurobiology, microbial sciences, cell biology, and synthetic biology. New projects, including some in other research fields, are offered every term. In a highly collaborative atmosphere, students form a fully-functional and diverse research group based on the sharing of ideas and progress reports between projects. New projects every term. Students collaborate to form a fully-functional and diverse research group based on the sharing of ideas and progress reports between projects. The spring microbiology project is part of the "genomes to Biomes" series.
Note: Location of the first meeting will be announced on the course website. Open to freshmen, sophomores, juniors, and seniors, regardless of concentration, and suitable for students either with or without extensive laboratory experience. The course may only be repeated once and the second enrollment must be approved by the instructor.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a or permission of the instructor. Students interested in a neurobiology project will need MCB 80 or permission of the instructor.

Life Sciences 120. Global Health Threats
Catalog Number: 98532 Enrollment: Limited to 50.
Richard M. Losick and Barry R. Bloom (Public Health)
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
The multidisciplinary application of epidemiology, molecular biology and genetics, pathogenesis, drug discovery, immunology and vaccine development, and economic analysis to understanding and combating major threats to human health in developing countries. Emphasis will be on critical readings and scientific writing. Grades will be based on papers in which students will propose the application of multidisciplinary approaches to global health threats not covered in lecture.
Prerequisite: Life Sciences 1a and 1b or LPSA and one additional course from the following: Chemistry 27, Engineering 53, Life Sciences 2, MCB 52, MCB 54, OEB 10, OEB 53, or SCRB 10, or permission of the instructors.

For additional courses in the Life Sciences, see offerings in the following chapters:

Chemical and Physical Biology

Chemistry and Chemical Biology

Human Evolutionary Biology

Molecular and Cellular Biology

Neurobiology

Organismic and Evolutionary Biology

Psychology

Stem Cell and Regenerative Biology

Linguistics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Linguistics

Isabelle Carole Charnavel, Assistant Professor of Linguistics
Gennaro Chierchia, Haas Foundations Professor of Linguistics *(Chair, and Acting Director of Graduate Studies, spring term)*
Michael S. Flier, Oleksandr Potebnja Professor of Ukrainian Philology *(on leave 2013-14)*
C.-T. James Huang, Professor of Linguistics *(Director of Graduate Studies) (on leave 2013-14)*
Jay Jasanoff, Diebold Professor of Indo-European Linguistics and Philology *(Acting Director of Graduate Studies, fall term) (on leave spring term)*
Bradley Theodore Larson, Lecturer on Linguistics
Andreea Cristina Nicolae, College Fellow in the Department of Linguistics
Maria Polinsky, Professor of Linguistics *(Head Tutor)*
Jeremy Rau, Professor of Linguistics and of the Classics
Kevin M. Ryan, Assistant Professor of Linguistics

Other Faculty Offering Instruction in the Department of Linguistics

Alfonso Caramazza, Daniel and Amy Starch Professor of Psychology
Wesley M. Jacobsen, Professor of the Practice of the Japanese Language and Director of the Japanese Language Program
Stacey Katz Bourns, Senior Lecturer on Romance Languages and Literatures
Steven Pinker, Johnstone Family Professor of Psychology *(on leave 2013-14)*
P. Oktor Skjaervo, Aga Khan Professor of Iranian *(on leave spring term)*

See also other course listings under the following departments of languages and literatures: Celtic, the Classics, East Asian, English, Germanic, Near Eastern, Romance, Sanskrit and Indian Studies, and Slavic; Social Analysis 34 (Core); and the linguistic offerings at MIT.

Primarily for Undergraduates

Linguistics 83. Language, Structure, and Cognition
Catalog Number: 8319
Maria Polinsky
Half course (fall term). Tu., Th., at 11, and a weekly section to be arranged. EXAM GROUP: 13
What do the world's almost 7,000 languages have in common? Why do they show recurrent commonalities and principled differences? What do they reveal about the human ability for speaking and thinking? How do languages develop? How do they die? This course addresses these and related questions while introducing the languages of the world; their distribution, recurrent structural properties, and genetic classification; processes of language contact; and the relationship between language and the brain.

***Linguistics 91r. Supervised Reading and Research**
Catalog Number: 1100
Maria Polinsky and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Independent study with a faculty member. For students who wish to pursue a particular linguistic topic not covered in other course offerings.
Note: Students should consult the Head Tutor about having this course count towards the concentration.

***Linguistics 97r. Group Tutorial — Sophomore Year**
Catalog Number: 1791
Maria Polinsky and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Intensive study in a selected linguistic area such as phonology, syntax, historical linguistics, phonetics, morphology, semantics, psycholinguistics, acquisition, sociolinguistics, creole studies, or computational linguistics. Meets as two six-week small-group tutorials, in the spring term.
Note: Required of concentrators.

***Linguistics 98a. Group Tutorial — Junior Year**
Catalog Number: 4222
Maria Polinsky and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Meets as two six-week small-group tutorials, both held in the fall term, each covering one of the areas of linguistics listed under Linguistics 97r.
Note: Required of concentrators.

***Linguistics 98b. Tutorial — Junior Year**
Catalog Number: 7273
Maria Polinsky and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Individual tutorial with a faculty member.
Note: Required of concentrators.

***Linguistics 99a. Tutorial — Senior Year**
Catalog Number: 3082
Maria Polinsky
Half course (fall term). Hours to be arranged.
Group tutorial led by the Head Tutor with the participation of students' thesis advisors for research and writing of the Linguistics honors thesis. Graded Satisfactory or Unsatisfactory. An honors student who expects not to complete the thesis should consult with the Head Tutor about completing other substantial

work to receive credit for the course.
Note: Both Linguistics 99a and 99b are required of all senior honors concentrators. Students who wish to enroll must obtain the signature of the Head Tutor.

***Linguistics 99b. Tutorial - Senior Year**
Catalog Number: 2561
Maria Polinsky
Half course (spring term). Hours to be arranged.
Individual tutorial with a faculty member for research and writing of the Linguistics honors thesis. Graded Satisfactory or Unsatisfactory. An honors student who expects not to complete the thesis should consult with the Head Tutor about completing other substantial work to receive credit for the course.
Note: Both Linguistics 99a and 99b are required of all senior honors concentrators. Students who wish to enroll must obtain the signature of the Head Tutor.

Cross-listed Courses

[Empirical and Mathematical Reasoning 11. Making Sense: Language, Logic, and Communication]

For Undergraduates and Graduates

[Linguistics 100. Second Language Acquisition]
Catalog Number: 96999
Wesley M. Jacobsen
Half course (fall term). Hours to be arranged.
An overview of second-language teaching and learning focused on theoretical models, learning objectives, developmental stages, materials design, and the use of new technology in teaching. The course explores the nature of second language acquisition, focused specifically on the needs of graduate students teaching a second language.
Note: Expected to be given in 2014–15.

Linguistics 101. The Science of Language: An Introduction
Catalog Number: 1498
Isabelle Carole Charnavel
Half course (spring term). M., W., at 11. EXAM GROUP: 4
This course introduces components of study of language: phonology, morphology, syntax, and semantics. It presents the view that knowledge of language is best characterized as an unconsciously internalized set of abstract rules and principles. Evidence is drawn from a variety of signed and spoken languages, language universals, child language acquisition, language change, language games, and language disorders.

Linguistics 102. Sentence Structure
Catalog Number: 7318
Bradley Larson
Half course (fall term). M., W., at 10. EXAM GROUP: 3
What determines how the words in a sentence are put together in a given language? This course introduces the field of syntax, and the study of order and structure among words. Students will learn to construct and evaluate syntactic analyses and argumentation and will be exposed to variation and universals in the syntactic patterns found in natural languages. The course will also provide an introductory survey of syntactic phenomena, including question formation, the passive, anaphora, and agreement.

[Linguistics 104. Word Structure]
Catalog Number: 1289
Instructor to be determined
Half course (fall term). Hours to be arranged.
This course investigates the nature and structure of words through the lens of contemporary morphological theory. What's in a word? Topics include the place of word formation in relation to phonological and syntactic phenomena, morphological processes, and the nature of the lexicon. Emphasis on the analysis of morphological phenomena in a range of typologically diverse languages.
Note: Expected to be given in 2014–15.

Linguistics 105. Sounds of Language
Catalog Number: 2791
Kevin M. Ryan
Half course (fall term). Tu., Th., at 10. EXAM GROUP: 12
What are the sounds of the world languages, and how are they organized to make words and sentences? Why are some sounds hard to hear or make? Is there a 'universal inventory' of sounds? This class introduces students to the sounds of the world's languages, and provides tools for studying them systematically. We will study the setup to transfer thoughts from one brain to another.

Linguistics 106. Knowledge of Meaning
Catalog Number: 6115
Andreea Cristina Nicolae
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
An introductory course on semantic interpretation in natural language. What does it mean to "know the meaning" of an utterance? This course provides the tools to characterize and study the meanings of sentences. Topics covered include the relation between form and meaning, ambiguity, reference, context dependency, and the role of logic vs. pragmatics in communication.

[Linguistics 107. Introduction to Indo-European]
Catalog Number: 1336
Jay Jasanoff
Half course (spring term). Hours to be arranged.
An introduction to the historical study of the Indo-European languages, using the comparative method to arrive at a picture of the parent language of the family, Proto-Indo-European.
Note: Expected to be given in 2014–15.

Linguistics 108. Introduction to Historical Linguistics
Catalog Number: 8486
Jeremy Rau
Half course (fall term). M., W., at 11; F., at 11. EXAM GROUP: 4
Methods and goals of linguistic reconstruction. Topics include the regularity of sound change, types of linguistic change, the relationship between linguistic reconstruction and synchronic analysis, language contact and borrowing, and mechanisms of linguistic change, including recent theories.

Linguistics 112. Syntactic Theory I
Catalog Number: 4730
Bradley Larson
Half course (fall term). M., 3–5. EXAM GROUP: 8, 9
This course provides an intensive introduction to generative syntactic theory. Emphasis on syntactic argumentation. Topics center on foundational problems in the theory of syntax, including phrase structure

of nominals and clauses, varieties of movement, locality, argument structure, ellipsis case agreement, and the syntax-semantics interface.
Prerequisite: Linguistics 102, equivalent, or permission of the instructor.

[Linguistics 114. Morphological Theory]
Catalog Number: 7639
Members of the Department
Half course (fall term). Hours to be arranged.
This course provides an intensive introduction to morphological theory. Students will be introduced to current research and areas of debate in morphology proper, in morpho-syntax, and in morpho-phonology.
Note: Expected to be given in 2014–15.
Prerequisite: Ling 104, equivalent, or permission of the instructor.

Linguistics 115. Phonological Theory I
Catalog Number: 1549
Kevin M. Ryan
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
This graduate level class is an intensive introduction to phonological theory and experimental work in phonology. This includes rule-based and constraint-based approaches, the typology of phonological processes (vowel and consonant harmony, assimilation and dissimilation, lenition and fortition, etc.), and phonological acquisition. Experimental approaches will deal with gradience, exceptionality, and productivity with an introduction to the quantitative methodologies that these phenomena require.
Prerequisite: Linguistics 105, equivalent, or permission of instructor.

Linguistics 116 (formerly Linguistics 116r). Semantic Theory I
Catalog Number: 2118
Andreea Cristina Nicolae
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
An introductory course on semantics in generative grammar. This course provides the formal tools to investigate the truth-conditional meanings of sentences. Topics covered include: compositionality, type theory and the fundamentals of clause structure, quantifier scope, and variable-binding.
Prerequisite: Linguistics 106, equivalent, or permission of the instructor.

[Linguistics 117r. Linguistic Field Methods]
Catalog Number: 8401
Instructor to be determined
Half course (fall term). Hours to be arranged.
Instruction in the elicitation of phonological, morphological, and syntactic information from a native speaker of an unfamiliar language, with the object of developing a grammatical sketch of the language. Emphasis on methodology and problems of elicitation and grammatical description in the field. Participants work directly with the native speaker, both individually and as a group, with the assistance of the instructor.
Note: Expected to be given in 2014–15.

Linguistics 118. Historical and Comparative Linguistics
Catalog Number: 2967
Isabelle Carole Charnavel
Half course (spring term). M., 3–5. EXAM GROUP: 8, 9
An introduction to diachronic linguistics at the graduate level. Theory of language change: sound change

and analogy, syntactic and semantic change, change in progress. The comparative method: proving genetic relationship, reconstruction, and subgrouping.

[Linguistics 123. Intermediate Indo-European]
Catalog Number: 6959
Jay Jasanoff
Half course (spring term). Hours to be arranged.
Designed as a sequel to Linguistics 107. A detailed overview of Indo-European comparative grammar, with emphasis on recent developments and discoveries.
Note: Expected to be given in 2014–15.

[Linguistics 130. Psycholinguistics: Seminar]
Catalog Number: 76462
Maria Polinsky
Half course (fall term). Hours to be arranged.
A survey of current psycholinguistics research for students in linguistics and related fields. Provides an overview of models of language comprehension and production from word to sentence level. Aims to expose students to models and methods used in the study of language acquisition, processing, disorders, and brain imaging.
Note: Expected to be given in 2014–15.

[Linguistics 132. Psychosemantics]
Catalog Number: 6578
Gennaro Chierchia and Jesse Snedeker
Half course (fall term). Hours to be arranged.
Explores issues at the interface of linguistic semantics, pragmatics and psychology. Introduces how the analysis of meaning has been pursued by linguists and psychologists. Focuses on topics that are both of central interest to theoretical linguistics and the target of experimental research. These include sentence structure, sentential connectives, quantification, numbers, mass-count distinction, adjectives and comparison, scales and modalities.
Note: Expected to be given in 2014–15.
Prerequisite: A background in psychology or linguistics; some acquaintance with both helpful but not necessary.

[Linguistics 146. Syntax and Processing]
Catalog Number: 0536
Maria Polinsky
Half course (spring term). Hours to be arranged.
Selected grammatical phenomena will be examined from a theoretical and experimental perspective, with a view toward answering questions like the following: What theoretical treatments are available? How do experimental studies distinguish among competing theoretical approaches? What kind of future experimental work is needed to resolve the outstanding issues?
Note: Expected to be given in 2014–15.

[Linguistics 148. Language Universals]
Catalog Number: 5455
Maria Polinsky
Half course (spring term). Hours to be arranged.
Provides an introduction to the study of cross-linguistic variation and analyzes alternative approaches to language universals (functional explanations, processing explanations, explanations in terms of universal

grammar). Topics to be studied include word order, case marking, agreement, lexical categories, subject-hood, and information structure. Sampling techniques and the use of hierarchies will also be covered.
Note: Expected to be given in 2014–15.
Prerequisite: Linguistics 102 or permission of instructor.

[Linguistics 152. Prosody and Intonation]
Catalog Number: 9457
Instructor to be determined
Half course (spring term). Hours to be arranged.
Prosody and intonation are intricately linked to many domains of language use and linguistic structure. We examine the phonetic form of prosodic contours and intonational grouping, the function of prosody in expressing semantic and pragmatic information and in disambiguation during sentence production and comprehension, and the use of "implicit" prosody even in silent reading.
Note: Expected to be given in 2014–15.
Prerequisite: Linguistics 101 or permission of instructor.

[Linguistics 168. Introduction to Germanic Linguistics]
Catalog Number: 7925
Jay Jasanoff
Half course (fall term). Hours to be arranged.
An introduction to the comparative and historical linguistics of the Germanic family, with emphasis on Gothic and the early medieval languages.
Note: Expected to be given in 2014–15.
Prerequisite: Elementary knowledge of German, or another Germanic language, or permission of instructor.

[Linguistics 171. Structure of Chinese]
Catalog Number: 4346
Instructor to be determined
Half course (spring term). Hours to be arranged.
Introduction to the syntactic structure of Mandarin Chinese: the basic structure of clauses and nominal constituents; words, compounds, and phrases; word order and variations; selected special topics (passives, resultatives, ba-construction, topic and relativized structures, questions, anaphora, pro drop); syntactic structure and semantic interpretation.
Note: Expected to be given in 2014–15.
Prerequisite: Linguistics 102 in previous or current term or permission of instructor.

[Linguistics 173. Linguistic Issues in Japanese]
Catalog Number: 4208
Wesley M. Jacobsen
Half course (spring term). Hours to be arranged.
An examination of selected phenomena in Japanese phonology, morphology, and syntax with special attention to difficulties encountered in the acquisition of Japanese by adult native English speakers.
Note: Expected to be given in 2014–15.
Prerequisite: Japanese 120b or its equivalent. Familiarity with basic linguistics concepts desirable.

[Linguistics 174. Tense and Aspect in Japanese]
Catalog Number: 1856
Wesley M. Jacobsen
Half course (spring term). Hours to be arranged.

Examination of phenomena of tense and aspect in Japanese, with special attention to verbal semantics and the interaction of temporal categories with modality and transitivity.
Note: Expected to be given in 2014–15.
Prerequisite: Knowledge of Japanese equivalent to Japanese 120b, or familiarity with the linguistic structure of a non-Indo-European language, or permission of instructor.

[Linguistics 175. Structure of Japanese]
Catalog Number: 4029
Instructor to be determined
Half course (spring term). Hours to be arranged.
Introduction to the syntactic structure of Modern Japanese: the structure of clauses and noun phrases and other constituents; selected special topics such as word order and scrambling, relative clauses and other sentence modifiers, passives and causatives, case marking, etc., as they pertain to linguistic theory.
Note: Expected to be given in 2014–15.
Prerequisite: Linguistics 102 in previous or current term or permission of instructor.

Linguistics 176. History and Prehistory of the Japanese Language
Catalog Number: 4861
Wesley M. Jacobsen
Half course (spring term). M., 3–5. EXAM GROUP: 8, 9
An examination of evidence from the comparative method, internal reconstruction, and written documents for reconstructing prehistoric stages of the Japanese language and an overview of major developments in Japanese phonology and grammar from the Nara period through the present day
Prerequisite: Knowledge of Japanese equivalent to Japanese 120b, or familiarity with historical linguistics, or permission of the instructor.

Linguistics 185r (formerly Linguistics 185). Issues in Austronesian Linguistics
Catalog Number: 99421
Maria Polinsky
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
This course is an in-depth investigation into comparative Austronesian syntax. The Austronesian language family -- roughly 1,200 genetically-related languages dispersed over an area encompassing Madagascar, Taiwan, Southeast Asia, and islands of the Pacific -- exhibits several unusual properties: verb-first word order, ergativity, wh-agreement, articulated voice systems, and cleft structures. The course examines these phenomena from the perspective of comparative Austronesian syntax.

Cross-listed Courses

[Irish 160. Advanced Modern Irish]
[Irish 161r. Continuing Advanced Modern Irish]
[Semitic Philology 130. Diglossia in Semitic Languages]

Primarily for Graduates

Linguistics 200. Second Language Acquisition
Catalog Number: 6098
Stacey Katz Bourns
Half course (fall term). W., 2–4; W., 2–4. EXAM GROUP: 7, 8
An overview of second-language teaching and learning focused on theoretical models, learning objectives, developmental stages, materials design, and the use of new technology in teaching. The course

explores the nature of second language acquisition, focused specifically on the needs of graduate students teaching a second language.
Note: This course must be taken for letter grade.

Linguistics 204r. Topics in Syntax
Catalog Number: 6446
Isabelle Charnavel (fall term) and Bradley Larson (spring term)
Half course (fall term; repeated spring term). Fall: Tu., 1–3; Spring: Tu., 11–1. EXAM GROUP: Fall: 15, 16; Spring: 13, 14
Examination of current issues in syntactic theory with focus on topics of interest to the class.

Linguistics 205r. The Syntax-Semantics Interface
Catalog Number: 0776
Andreea Cristina Nicolae
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
An exploration of issues related to the architecture of the grammar, with emphasis on the structures that are interpreted at the semantic interface, and how they are derived.

[Linguistics 206r. Argument Structure and Syntactic Structure]
Catalog Number: 9020
Instructor to be determined
Half course (spring term). Hours to be arranged.
What is the relationship between a predicate's semantic content and its syntactic realization? What is the relationship between a predicate's event structure and its argument structure? Does a predicate's semantics determine the syntactic frames it occurs in, or might it be the other way around?
Note: Expected to be given in 2014–15.

Linguistics 207r. Topics in Semantics
Catalog Number: 31141
Gennaro Chierchia
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
Current issues in semantics. Topics to possibly include: Scope and anaphoric properties of indefinites, quantificational variability and generic uses, long distance indefinites.

Linguistics 212. Syntactic Theory II
Catalog Number: 8175
Maria Polinsky
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
This course is designed to enable students to follow current research in syntax. Topics vary from year to year; may include head movement, case and agreement, anaphora, functional categories, ellipsis, argument structure, constraints on movement and derivations, and on form-meaning mappings.
Prerequisite: Linguistics 112, equivalent, or permission of instructor.

Linguistics 215. Phonological Theory II
Catalog Number: 5612
Kevin M. Ryan
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
This course addresses topics of current interest in phonological theory, potentially including competing constraint grammar frameworks, learnability, naturalness biases, prosody, quantitative approaches

(experimental or corpus-driven), variation, gradience, and the morphological interface.
Prerequisite: Linguistics 115.

Linguistics 216. Semantic Theory II
Catalog Number: 8812
Gennaro Chierchia
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Continuation of Linguistics 116. Designed to enable students to follow current research in semantics. Topics covered include: intensional contexts, indexicals, modalities, event based semantics, presuppositions, and formal theories of implicatures.
Prerequisite: Linguistics 116, equivalent, or permission of the instructor.

[Linguistics 219r. Advanced Phonology]
Catalog Number: 2151
Instructor to be determined.
Half course (spring term). Hours to be arranged.
An examination of why phonological phenomena exist at all, and the nature of phonological computation. Primarily exemplification from harmony, reduplication, and meter. Design conditions imposed by economy, perception, articulation, the learning path, and the lexicon.
Note: Expected to be given in 2014–15.
Prerequisite: Linguistics 114 or permission of instructor.

Linguistics 220ar. Advanced Indo-European
Catalog Number: 3428
Jay Jasanoff
Half course (fall term). Th., 3–5. EXAM GROUP: 17, 18
Topics in Indo-European comparative grammar. Conducted as a seminar.

Linguistics 221r. Workshop in Indo-European
Catalog Number: 1008
Jeremy Rau
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
The topic for the year will be arranged in consultation with interested students. Conducted as a seminar.

[Linguistics 225a. Introduction to Hittite]
Catalog Number: 8206
Jeremy Rau
Half course (fall term). Hours to be arranged.
Grammar and reading of texts in cuneiform and in transliteration; essentials of the comparative grammar of the Indo-European languages of Anatolia.
Note: Expected to be given in 2014–15.

[Linguistics 226r. Advanced Hittite]
Catalog Number: 0858
Instructor to be determined
Half course (fall term). Hours to be arranged.
Grammar and text readings in Cuneiform and Hieroglyphic Luvian.
Note: Expected to be given in 2014–15. Provisions will be made for any student who wishes to begin Hittite.

Linguistics 241r. Practicum in Linguistics
Catalog Number: 4260
Kevin M. Ryan
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
Presentation of reports on current research or assigned topics.
Note: Required of second- and third-year Linguistics graduate students.

[Linguistics 247. Topics in Germanic Linguistics]
Catalog Number: 3693
Instructor to be determined
Half course (spring term). Hours to be arranged.
Investigation of selected topics in Germanic historical linguistics.
Note: Expected to be given in 2014–15.

[Linguistics 250. Old Church Slavonic]
Catalog Number: 8449
Michael S. Flier
Half course (fall term). Tu., Th., 10–11:30.
History of the first Slavic literary language, its role in Slavic civilization; phonology, morphology, syntax, and vocabulary of Old Church Slavonic; reading from canonical texts.
Note: Expected to be given in 2014–15.

[Linguistics 251. Advanced Readings in Church Slavonic Texts]
Catalog Number: 7038
Michael S. Flier
Half course (fall term). Hours to be arranged.
Readings in canonical Old Church Slavonic texts and later Church Slavonic redactions.
Note: Expected to be given in 2014–15.
Prerequisite: Linguistics 250.

[Linguistics 252. Comparative Slavic Linguistics]
Catalog Number: 7659
Michael S. Flier
Half course (spring term). Hours to be arranged.
Introduction to the historical phonology and morphology of the Slavic languages with special attention to relative chronology and linguistic geography.
Note: Expected to be given in 2014–15.
Prerequisite: Linguistics 250

[Linguistics 290. Heritage Languages and Their Speakers]
Catalog Number: 58133
Instructor to be determined
Half course (spring term). Hours to be arranged.
This course will present and analyze theoretical and experimental aspects of heritage language study. A heritage language is a minority language that an individual was exposed to in childhood but never learned to full competence because of the switch to another language. The course will identify critical linguistic generalizations applying to heritage languages. We will test the universal principles of language structure that are expected to stay unchanged in any language. The students will also learn crucial methodologies and tools for investigating heritage languages and their speakers in an experimental setting. Class discussions will reflect the current social and political discourse surrounding heritage populations. The

work done in this class will lead to the development of experimental methodologies and tools for studying and testing heritage languages in the classroom.
Note: Expected to be given in 2014–15.

Cross-listed Courses

Irish 200. Introduction to Old Irish
Irish 201r. Continuing Old Irish
[Welsh 225a. Medieval Welsh Language and Literature]
[Welsh 225b. Medieval Welsh Poetry]

Graduate Courses of Reading and Research

***Linguistics 300. Direction of Doctoral Dissertations**
Catalog Number: 6729
Alfonso Caramazza 1871, Isabelle Carole Charnavel 7194 (spring term only), Gennaro Chierchia 5355, Michael S. Flier 2878 (on leave 2013-14), C.-T. James Huang 4066 (on leave 2013-14), Wesley M. Jacobsen 3443, Jay Jasanoff 1661 (on leave spring term), Steven Pinker 4733 (on leave 2013-14), Maria Polinsky 5601, Jeremy Rau 4657, and P. Oktor Skjaervo 2869 (on leave spring term)

***Linguistics 301. Reading or Special Topics Course**
Catalog Number: 0861
Members of the Department and others listed under Linguistics 300.

Mathematics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Mathematics

Benedict H. Gross, George Vasmer Leverett Professor of Mathematics, Harvard College Professor *(Chair)*
Nathanael Ackerman, Lecturer on Mathematics
Jameel Habeeb Al-Aidroos, Senior Preceptor in Mathematics
Meghan Anderson, Preceptor in Mathematics
Paul G. Bamberg, Senior Lecturer on Mathematics
Alexander Bloemendal, Lecturer on Mathematics
John W. Cain, Visiting Associate Professor of Mathematics *(University of Richmond)*
Yaiza Canzani, Benjamin Peirce Fellow
Melody Tung Chan, Lecturer on Mathematics
Janet Chen, Senior Preceptor in Mathematics
Sarah Chisholm, Preceptor in Mathematics

Yaim Cooper, Lecturer on Mathematics
Andrew W. Cotton-Clay, Lecturer on Mathematics
Daniel Anthony Cristofaro-Gardiner, Benjamin Peirce Fellow *(on leave 2013-14)*
Noam D. Elkies, Professor of Mathematics
Jonathan Mboyo Esole, Benjamin Peirce Fellow
Sukhada Fadnavis, Benjamin Peirce Fellow
Dennis Gaitsgory, Professor of Mathematics
Peter McKee Garfield, Preceptor in Mathematics
Robin Gottlieb, Professor of the Practice of Mathematics
John T. Hall, Preceptor in Mathematics
Joseph D. Harris, Higgins Professor of Mathematics *(on leave fall term)*
Meredith Hegg, Preceptor in Mathematics
Michael J. Hopkins, Professor of Mathematics *(on leave spring term)*
Adam Jacob, Lecturer on Mathematics
Tasho Kaletha, Benjamin Peirce Lecturer on Mathematics *(on leave 2013-14)*
Mark Kisin, Professor of Mathematics *(Director of Graduate Studies)*
Oliver Knill, Preceptor in Mathematics
Peter B. Kronheimer, William Caspar Graustein Professor of Mathematics *(Director of Undergraduate Studies) (on leave 2013-14)*
Siu Cheong Lau, Benjamin Peirce Fellow
Jacob Lurie, Professor of Mathematics
Keerthi Shyam Madapusi Sampath, Benjamin Peirce Fellow
Barry C. Mazur, Gerhard Gade University Professor *(on leave spring term)*
Curtis T. McMullen, Maria Moors Cabot Professor of the Natural Sciences
Martin A. Nowak, Professor of Mathematics and of Biology
Stefan Theodore Patrikis, Lecturer on Mathematics
Gereon Quick, Lecturer on Mathematics
Igor Andreevich Rapinchuk, Lecturer on Mathematics
Emily Elizabeth Riehl, Benjamin Peirce Fellow *(on leave 2013-14)*
Wilfried Schmid, Dwight Parker Robinson Professor of Mathematics
Arul Shankar, Benjamin Peirce Fellow
Yum Tong Siu, William Elwood Byerly Professor of Mathematics
Shlomo Z. Sternberg, George Putnam Professor of Pure and Applied Mathematics
Junecue Suh, Benjamin Peirce Fellow
Hiro Tanaka, Benjamin Peirce Fellow *(on leave spring term)*
Clifford Taubes, William Petschek Professor of Mathematics
Shangkun Weng, Lecturer on Mathematics
W. Hugh Woodin, Professor of Philosophy and of Mathematics
Horng-Tzer Yau, Professor of Mathematics *(on leave 2013-14)*
Shing-Tung Yau, William Caspar Graustein Professor of Mathematics and Professor of Physics *(on leave 2013-14)*

Other Faculty Offering Instruction in the Department of Mathematics

Arthur M. Jaffe, Landon T. Clay Professor of Mathematics and Theoretical Science
Peter Koellner, Professor of Philosophy
Eric S. Maskin, Adams University Professor
Amartya Sen, Lamont University Professor

The Mathematics Department hopes that all students will take mathematics courses. This said, be careful to take only those courses that are appropriate for your level of experience. Incoming students should take

advantage of Harvard's Mathematics Placement Test and of the science advising available in the Science Center the week before classes begin. Members of the Mathematics Department will be available during this period to consult with students. Generally, students with a strong precalculus background and some calculus experience will begin their mathematics education here with a deeper study of calculus and related topics in courses such as Mathematics 1a, 1b, 18,19a,b, 21a,b, 23a,b and 25a,b. The Harvard Mathematics Placement Test results recommend the appropriate starting level course, either Mathematics Ma, 1a, 1b, or 21. Recommendation for Mathematics 21 is sufficient qualification for Mathematics 18, 19a,b, 21a, 23a, and 25a.

What follows briefly describes these courses: Mathematics 1a introduces the basic ideas and techniques of calculus while Mathematics 1b covers integration techniques, differential equations, and series. Mathematics 21a covers multi-variable calculus while Mathematics 21b covers basic linear algebra with applications to differential equations. Students who do not place into (or beyond) Mathematics 1a can take Mathematics Ma, Mb, a two-term sequence which integrates calculus and precalculus material and prepares students to enter Mathematics 1b.

There are a number of options available for students whose placement is to Mathematics 21. For example, Mathematics 19a,b are courses that are designed for students concentrating in the life sciences. (These course are recommended over Math 21a,b by the various life science concentrations). In any event, Math 19a can be taken either before or after Math 21a,b. Math 19b should not be taken with Math 21b. Math 19a teaches differential equations, related techniques and modeling with applications to the life sciences. Math 19b teaches linear algebra, probability and statistics with a focus on life science examples and applications. Mathematics 18 covers selected topics from Mathematics 1b and 21a for students particularly interested in economic and social science applications.

Mathematics 23 is a theoretical version of Mathematics 21 which treats multivariable calculus and linear algebra in a rigorous, proof oriented way. Mathematics 25 and 55 are theory courses that should be elected only by those students who have a strong interest in mathematics. They assume a solid understanding of one-variable calculus, a willingness to think rigorously and abstractly about mathematics, and to work extremely hard. Both courses study multivariable calculus and linear algebra plus many very deep related topics. Mathematics 25 differs from Mathematics 23 in that the work load in Mathematics 25 is significantly more than in Mathematics 23, but then Mathematics 25 covers more material. Mathematics 55 differs from Mathematics 25 in that the former assumes a very strong proof oriented mathematics background. Mathematics 55, covers the material from Mathematics 25 plus much material from Mathematics 122 and Mathematics 113. Entrance into Mathematics 55 requires the consent of the instructor.

Students who have had substantial preparation beyond the level of the Advanced Placement Examinations are urged to consult the Director of Undergraduate Studies in Mathematics concerning their initial Harvard mathematics courses. Students should take this matter very seriously. The Mathematics Department has also prepared a pamphlet with a detailed description of all its 100-level courses and their relationship to each other. This pamphlet gives sample lists of courses suitable for students with various interests. It is available at the Mathematics Department Office. Many 100-level courses assume some familiarity with proofs. Courses that supply this prerequisite include Mathematics 23, 25, 55, 101, 112, 121, and 141. Of these, note that Mathematics 101 may be taken concurrently with Mathematics 1, 18, 19, or 21.

Mathematics 113, 114, 122, 123, 131, and 132 form the core of the department's more advanced courses. Mathematics concentrators are encouraged to consider taking these courses, particularly Mathematics 113, 122 and 131. (Those taking 55a,b will have covered the material of Mathematics 113 and 122, and are encouraged to take Mathematics 114, 123, and 132.)

Courses numbered 200-249 are introductory graduate courses. They will include substantial homework and are likely to have a final exam, either in class or take home. Most are taught every year. They may be suitable for very advanced undergraduates. Mathematics 212a, 230a, 231a and 232a will help prepare graduate students for the qualifying examination in Mathematics. Courses numbered 250-299 are graduate topic courses, intended for advanced graduate students.

The Mathematics Department does not grant formal degree credit without *prior* approval for taking a course that is listed as a prerequisite of one you have already taken. Our policy is that a student who takes and passes any calculus course is not normally permitted to then take a more elementary course for credit. A student who has passed Mathematics 21a, for example, will normally not be allowed to take Mathematics 1a, or 1b for credit. The Mathematics Department is prepared to make exceptions for sufficient academic reasons; in each case, however, a student must obtain written permission from the Mathematics Director of Undergraduate Studies in advance.

In the case of students accepting admission as sophomores, this policy is administered as follows: students counting one half course of advanced standing credit in mathematics are deemed to have passed Mathematics 1a, and students counting a full course of advanced standing credit in mathematics are deemed to have passed Mathematics 1a and 1b.

Primarily for Undergraduates

Mathematics Ma. Introduction to Functions and Calculus I
Catalog Number: 1981 Enrollment: Normally limited to 15 students per section.
Meghan Anderson, Melody Chan, Peter M. Garfield, Meredith Hegg, and members of the Department
Half course (fall term). Section meeting times: Section I: M., W., F., at 10; Section II: M., W., F., at 11; Section III: M. W. F., at 12 (with sufficient enrollment); and a twice weekly lab session to be arranged. EXAM GROUP: 3
The study of functions and their rates of change. Fundamental ideas of calculus are introduced early and used to provide a framework for the study of mathematical modeling involving algebraic, exponential, and logarithmic functions. Thorough understanding of differential calculus promoted by year long reinforcement. Applications to biology and economics emphasized according to the interests of our students.
Note: Required first meeting: Tuesday, September 3, 8:30 am, Science Center D. Participation in two, one hour workshops are required each week. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning. This course, when taken for a letter grade together with Mathematics Mb, meets the Core area requirement for Quantitative Reasoning.

Mathematics Mb. Introduction to Functions and Calculus II
Catalog Number: 3857 Enrollment: Normally limited to 15 students per section.
Meredith Hegg, Meghan Anderson, Sarah Chisolm, Peter M. Garfield, and members of the Department
Half course (spring term). Section I: M., W., F., at 10; Section II: M. W., F., at 11; Section III: M., W., F., at 12 (with sufficient enrollment); and a twice weekly lab session to be arranged. EXAM GROUP: 1
Continued investigation of functions and differential calculus through modeling; an introduction to integration with applications; an introduction to differential equations. Solid preparation for Mathematics 1b.
Note: Required first Meeting in spring: Monday, January 27, 8:30 am, Science Center A . Participation in two, one hour workshops are required each week. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning. This course, when taken for a

letter grade together with Mathematics Ma, meets the Core area requirement for Quantitative Reasoning.
Prerequisite: Mathematics Ma.

Mathematics 1a. Introduction to Calculus
Catalog Number: 8434 Enrollment: Normally limited to 30 students per section.
Peter M. Garfield, Janet Chen, Sarah Chisolm, Sukhada Fadnavis, and members of the Department (fall term); Oliver Knill (spring term)
Half course (fall term; repeated spring term). Fall: Section I, M., W., F., at 9 (with sufficient enrollment); Section II, M., W., F., at 10; Section III, M., W., F., at 11; Section IV, M., W., F., at 12; Section V, Tu., Th., 10-11:30; Section Vl, Tu., Th., 11:30-1. Spring: Section I, M., W., F., at 10, and a weekly problem section to be arranged. EXAM GROUP: 1
The development of calculus by Newton and Leibniz ranks among the greatest achievements of the past millennium. This course will help you see why by introducing: how differential calculus treats rates of change; how integral calculus treats accumulation; and how the fundamental theorem of calculus links the two. These ideas will be applied to problems from many other disciplines.
Note: Required first meeting in fall: Wednesday, September 4, 8:30 am, Science Center C . This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: A solid background in precalculus.

Mathematics 1b. Calculus, Series, and Differential Equations
Catalog Number: 1804 Enrollment: Normally limited to 30 students per section.
Jameel Al-Aidroos, John Cain, Janet Chen, Sarah Chisolm, Keerthi Madapusi, and members of the Department (fall term); Robin Gottlieb, Sarah Chisolm, John Hall, and members of the Department (spring term).
Half course (fall term; repeated spring term). Section I, M., W., F., at 9 (with sufficient enrollment); Section II, M., W., F., at 10; Section III, M., W., F., at 11; Section IV, M., W., F., at 12 (with sufficient enrollment); Section V: Tu., Th., 10-11:30; Section Vl, Tu., Th., 11:30-1. Spring: Section I, M., W., F., at 10; Section II, M., W., F., 11; Section III, M., W., F., 12; Section IV, Tu., Th., 10-11:30 (with sufficient enrollment); Section V, Tu., Th., 11:30-1(with sufficient enrollment), and a weekly problem section to be arranged. Required exams. EXAM GROUP: Fall: 2; Spring: 1
Speaking the language of modern mathematics requires fluency with the topics of this course: infinite series, integration, and differential equations. Model practical situations using integrals and differential equations. Learn how to represent interesting functions using series and find qualitative, numerical, and analytic ways of studying differential equations. Develop both conceptual understanding and the ability to apply it.
Note: Required first meeting in fall: Tuesday, September 3, 8:30 am, Science Center B . Required first meeting in spring: Monday, January 27, 8:30 am, Science Center C . This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: Mathematics 1a, or Ma and Mb, or equivalent.

Mathematics 18 (formerly Mathematics 20). Multivariable Calculus for Social Sciences
Catalog Number: 0906
Meredith Hegg
Half course (fall term). M., W., F., at 9. EXAM GROUP: 2
Focus on concepts and techniques of multivariable calculus most useful to those studying the social sciences, particularly economics: functions of several variables; partial derivatives; directional derivatives and the gradient; constrained and unconstrained optimization, including the method of Lagrange multipliers. Covers linear and polynomial approximation and integrals for single variable and

multivariable functions; modeling with derivatives. Covers topics from Math 21a most useful to social sciences.
Note: Should not ordinarily be taken in addition to Mathematics 21a or Applied Mathematics 21a. Mathematics 21b can be taken before or after Mathematics 18. Examples draw primarily from economics and the social sciences, though Mathematics 18 may be useful to students in certain natural sciences. Students whose main interests lie in the physical sciences, mathematics, or engineering should consider Math or Applied Mathematics 21a. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning.
Prerequisite: Mathematics 1b or equivalent, or a 5 on the BC Advanced Placement Examination in Mathematics.

Mathematics 19a. Modeling and Differential Equations for the Life Sciences
Catalog Number: 1256
John Hall (fall term) and John Wes Cain (spring term)
Half course (fall term; repeated spring term). M., W., F., at 1, and a weekly discussion section to be arranged. EXAM GROUP: 6
Considers the construction and analysis of mathematical models that arise in the life sciences, ecology and environmental life science. Introduces mathematics that include multivariable calculus, differential equations in one or more variables, vectors, matrices, and linear and non-linear dynamical systems. Taught via examples from current literature (both good and bad).
Note: This course is recommended over Math 21a for those planning to concentrate in the life sciences and ESPP. Can be taken with or without Mathematics 21a,b. Students with interests in the social sciences and economics might consider Mathematics 18. This course can be taken before or after Mathematics 18. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.

Mathematics 19b. Linear Algebra, Probability, and Statistics for the Life Sciences
Catalog Number: 6144
Peter M. Garfield
Half course (spring term). M., W., F., at 1, and a weekly problem section to be arranged. EXAM GROUP: 6
Probability, statistics and linear algebra with applications to life sciences, chemistry, and environmental life sciences. Linear algebra includes matrices, eigenvalues, eigenvectors, determinants, and applications to probability, statistics, dynamical systems. Basic probability and statistics are introduced, as are standard models, techniques, and their uses including the central limit theorem, Markov chains, curve fitting, regression, and pattern analysis.
Note: This course is recommended over Math 21b for those planning to concentrate in the life sciences and ESPP. Can be taken with Mathematics 21a. Students who have seen some multivariable calculus can take Math 19b before Math 19a. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.

Mathematics 21a. Multivariable Calculus
Catalog Number: 6760 Enrollment: Normally limited to 30 students per section.
Oliver Knill, Meghan Anderson, Michael Hopkins, and members of the Department (fall term); John Hall, John Cain, Meredith Hegg, and members of the Department (spring term)
Half course (fall term; repeated spring term). Fall: Section I, M., W., F., at 9 (with sufficient enrollment); Section II, M., W., F., at 10; Section III, M., W., F., at 11; Section IV, M., W., F., at 12; Section V, Tu., Th., 10-11:30; Section VI, Tu., Th., 11:30-1. Spring: Section I, M., W., F., at 9 (with sufficient enrollment); Section II, M., W., F., at 10; Section III, M., W., F., at 11; Section IV, M., W., F., 12 (with

sufficient enrollment); Section V, Tu., Th., 10-11:30; Section VI, Tu., Th., 11:30-1 (with sufficient enrollment), and a weekly problem section to be arranged. EXAM GROUP: Fall: 2; Spring: 1
To see how calculus applies in practical situations described by more than one variable, we study: Vectors, lines, planes, parameterization of curves and surfaces, partial derivatives, directional derivatives and the gradient, optimization and critical point analysis, including constrained optimization and the Method of Lagrange Multipliers, integration over curves, surfaces and solid regions using Cartesian, polar, cylindrical, and spherical coordinates, divergence and curl of vector fields, and the Green's, Stokes's, and Divergence Theorems.
Note: Required first meeting in fall: Wednesday, September 4, 8:30 am, Science Center B . Required first meeting in spring: Monday, January 27, 8:30 am, Science Center D. May not be taken for credit by students who have passed Applied Mathematics 21a. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning. Activities using computers to calculate and visualize applications of these ideas will not require previous programming experience.
Prerequisite: Mathematics 1b or equivalent.

Mathematics 21b. Linear Algebra and Differential Equations
Catalog Number: 1771 Enrollment: Normally limited to 30 students per section.
John Hall, Junecue Suh, and members of the Department (fall term); Janet Chen, Jameel Al-Aidroos, Meghan Anderson, Keerthi Madapusi, and members of the Department (spring term)
Half course (fall term; repeated spring term). Fall: Section I, M., W., F., at 10 (with sufficient enrollment); Section II, M., W., F., at 11; Section III, M., W., F., at 12 (with sufficient enrollment); Spring: Section I, M., W., F., at 9 (with sufficient enrollment); Section II, M., W., F., at 10; Section III, M.,W.,F., at 11; Section IV, M., W., F., 12; Section V, M., W., F., 2 (with sufficient enrollment), and a weekly problem section to be arranged. EXAM GROUP: 1
Matrices provide the algebraic structure for solving myriad problems across the sciences. We study matrices and related topics such as linear transformations and linear spaces, determinants, eigenvalues, and eigenvectors. Applications include dynamical systems, ordinary and partial differential equations, and an introduction to Fourier series.
Note: Required first meeting in fall: Tuesday, September 3, 8:30 am, Science Center C . Required first meeting in spring: Monday, January 27, 8:30 am, Science Center B . May not be taken for credit by students who have passed Applied Mathematics 21b. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: Mathematics 1b or equivalent. Mathematics 21a is commonly taken before Mathematics 21b, but is not a prerequisite, although familiarity with partial derivatives is useful.

Mathematics 23a. Linear Algebra and Real Analysis I
Catalog Number: 2486
Paul G. Bamberg
Half course (fall term). Tu., Th., 2:30-4. EXAM GROUP: 16, 17
A rigorous, integrated treatment of linear algebra and multivariable differential calculus, emphasizing topics that are relevant to fields such as physics and economics. Topics: fields, vector spaces and linear transformations, scalar and vector products, elementary topology of Euclidean space, limits, continuity, and differentiation in n dimensions, eigenvectors and eigenvalues, inverse and implicit functions, manifolds, and Lagrange multipliers.
Note: Course content overlaps substantially with Mathematics 21a,b, 25a,b, so students should plan to continue in Mathematics 23b. See the description in the introductory paragraphs in the Mathematics section of the catalog about the differences between Mathematics 23 and Mathematics 25. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.

Prerequisite: Mathematics 1b or a grade of 4 or 5 on the Calculus BC Advanced Placement Examination, plus an interest both in proving mathematical results and in using them.

Mathematics 23b. Linear Algebra and Real Analysis II
Catalog Number: 8571
Paul G. Bamberg
Half course (spring term). Tu., Th., 2:30-4. EXAM GROUP: 16, 17
A rigorous, integrated treatment of linear algebra and multivariable calculus. Topics: Riemann and Lebesgue integration, determinants, change of variables, volume of manifolds, differential forms, and exterior derivative. Stokes's theorem is presented both in the language of vector analysis (div, grad, and curl) and in the language of differential forms.
Note: This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: Mathematics 23a.

Mathematics 25a. Honors Linear Algebra and Real Analysis I
Catalog Number: 1525
Benedict H. Gross
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
A rigorous treatment of linear algebra. Topics include: Construction of number systems; fields, vector spaces and linear transformations; eigenvalues and eigenvectors, determinants and inner products. Metric spaces, compactness and connectedness.
Note: Only for students with a strong interest and background in mathematics. There will be a heavy workload. May not be taken for credit after Mathematics 23. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: 5 on the Calculus BC Advanced Placement Examination and some familiarity with writing proofs, or the equivalent as determined by the instructor.

Mathematics 25b. Honors Linear Algebra and Real Analysis II
Catalog Number: 1590
Noam D. Elkies
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
A rigorous treatment of basic analysis. Topics include: convergence, continuity, differentiation, the Riemann integral, uniform convergence, the Stone-Weierstrass theorem, Fourier series, differentiation in several variables. Additional topics, including the classical results of vector calculus in two and three dimensions, as time allows.
Note: There will be a heavy workload. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: Mathematics 23a or 25a or 55a.

***Mathematics 55a. Honors Abstract Algebra**
Catalog Number: 4068
Dennis Gaitsgory
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
A rigorous treatment of abstract algebra including linear algebra and group theory.
Note: Mathematics 55a is an intensive course for students having significant experience with abstract mathematics. Instructor's permission required. Every effort will be made to accommodate students uncertain of whether the course is appropriate for them; in particular, Mathematics 55a and 25a will be

closely coordinated for the first three weeks of instruction. Students can switch between the two courses during the first three weeks without penalty. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.

***Mathematics 55b. Honors Real and Complex Analysis**
Catalog Number: 3312
Dennis Gaitsgory
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
A rigorous treatment of real and complex analysis.
Note: Mathematics 55b is an intensive course for students having significant experience with abstract mathematics. Instructor's permission required. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.

***Mathematics 60r. Reading Course for Senior Honors Candidates**
Catalog Number: 8500
Peter B. Kronheimer
Half course (fall term; repeated spring term). Hours to be arranged.
Advanced reading in topics not covered in courses.
Note: Limited to candidates for honors in Mathematics who obtain the permission of both the faculty member under whom they want to work and the Director of Undergraduate Studies. May not count for concentration in Mathematics without special permission from the Director of Undergraduate Studies. Graded Sat/Unsat only.

***Mathematics 91r. Supervised Reading and Research**
Catalog Number: 2165
Peter B. Kronheimer
Half course (fall term; repeated spring term). Hours to be arranged.
Programs of directed study supervised by a person approved by the Department.
Note: May not ordinarily count for concentration in Mathematics.

***Mathematics 99r. Tutorial**
Catalog Number: 6024
Peter B. Kronheimer and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised small group tutorial. Topics to be arranged.
Note: May be repeated for course credit with permission from the Director of Undergraduate Studies. Only one tutorial may count for concentration credit.

For Undergraduates and Graduates

See also Applied Mathematics and Statistics.

Mathematics 101. Sets, Groups and Topology
Catalog Number: 8066
Adam Jacob
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
An introduction to rigorous mathematics, axioms, and proofs, via topics such as set theory, symmetry groups, and low-dimensional topology.

Note: Familiarity with algebra, geometry and/or calculus is desirable. Students who have already taken Mathematics 23a,b, 25a,b or 55a,b should not take this course for credit. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.
Prerequisite: An interest in mathematical reasoning.

Mathematics 110. Vector Space Methods for Differential Equations
Catalog Number: 97995
Paul G. Bamberg
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Develops the theory of inner product spaces, both finite-dimensional and infinite-dimensional, and applies it to a variety of ordinary and partial differential equations. Topics: existence and uniqueness theorems, Sturm-Liouville systems, orthogonal polynomials, Fourier series, Fourier and Laplace transforms, eigenvalue problems, and solutions of Laplace's equation and the wave equation in the various coordinate systems.
Prerequisite: Mathematics 23ab or 25 ab, or Mathematics 21ab plus any Mathematics course at the 100 level.

Mathematics 112. Introductory Real Analysis
Catalog Number: 1123
Yaiza Canzani
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
An introduction to mathematical analysis and the theory behind calculus. An emphasis on learning to understand and construct proofs. Covers limits and continuity in metric spaces, uniform convergence and spaces of functions, the Riemann integral.
Prerequisite: Mathematics 21a,b and either an ability to write proofs or concurrent enrollment in Mathematics 101. Should not ordinarily be taken in addition to Mathematics 23a,b, 25a,b or 55a,b.

Mathematics 113. Analysis I: Complex Function Theory
Catalog Number: 0405
Clifford Taubes
Half course (spring term). M., W., F., at 12. EXAM GROUP: 5
Analytic functions of one complex variable: power series expansions, contour integrals, Cauchy's theorem, Laurent series and the residue theorem. Some applications to real analysis, including the evaluation of indefinite integrals. An introduction to some special functions.
Prerequisite: Mathematics 23a,b, 25a,b, or 112. Not to be taken after Mathematics 55b.

Mathematics 114. Analysis II: Measure, Integration and Banach Spaces
Catalog Number: 9111
Jacob Lurie
Half course (fall term). M., W., F., at 12. EXAM GROUP: 5
Lebesgue measure and integration; general topology; introduction to *L p* spaces, Banach and Hilbert spaces, and duality.
Prerequisite: Mathematics 23, 25, 55, or 112.

Mathematics 115. Methods of Analysis
Catalog Number: 1871
Siu Cheong Lau
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Complex functions; Fourier analysis; Hilbert spaces and operators; Laplace's equations; Bessel and



Legendre functions; symmetries; Sturm-Liouville theory.
Note: Mathematics 115 is especially for students interested in physics.
Prerequisite: Mathematics 23a,b, 25a,b, 55a,b, or 112.

Mathematics 116. Real Analysis, Convexity, and Optimization
Catalog Number: 5253
Paul G. Bamberg
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Develops the theory of convex sets, normed infinite-dimensional vector spaces, and convex functionals and applies it as a unifying principle to a variety of optimization problems such as resource allocation, production planning, and optimal control. Topics include Hilbert space, dual spaces, the Hahn-Banach theorem, the Riesz representation theorem, calculus of variations, and Fenchel duality. Students will be expected to understand and invent proofs of theorems in real and functional analysis.
Prerequisite: Mathematics 23ab, 25ab, or 55ab, or Mathematics 21ab plus at least one other more advanced course in mathematics.

Mathematics 117. Probability and Random Processes with Economic Applications
Catalog Number: 45584
Sukhada Fadnavis
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
A self-contained treatment of the theory of probability and random processes with specific application to the theory of option pricing. Topics: axioms for probability, calculation of expectation by means of Lebesgue integration, conditional probability and conditional expectation, martingales, random walks and Wiener processes, and the Black-Scholes formula for option pricing. Students will work in small groups to investigate applications of the theory and to prove key results.
Note: A problem-solving section is required MW 2-3 or Th 7:30-9:30 PM
Prerequisite: A thorough knowledge of single-variable calculus and infinite series, plus at least one more advanced course such as MATH E-23a that provides experience with proofs and elementary real analysis. Acquaintance with elementary probability is desirable.

Mathematics 118r. Dynamical Systems
Catalog Number: 6402
Yaiza Canzani
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Introduction to dynamical systems theory with a view toward applications. Topics include existence and uniqueness theorems for flows, qualitative study of equilibria and attractors, iterated maps, and bifurcation theory.
Prerequisite: Mathematics 21a,b.

Mathematics 121. Linear Algebra and Applications
Catalog Number: 7009
Paul G. Bamberg
Half course (fall term). M., W., at 1. EXAM GROUP: 6
Real and complex vector spaces, linear transformations, determinants, inner products, dual spaces, and eigenvalue problems. Applications to geometry, systems of linear differential equations, electric circuits, optimization, and Markov processes. Emphasizes learning to understand and write proofs. Students will work in small groups to solve problems and develop proofs.
Note: A problem-solving section is required M, W 2-3
Prerequisite: Mathematics 21b or equivalent. Should not ordinarily be taken in addition to Mathematics 23a, 25a, or 55a.

Mathematics 122. Algebra I: Theory of Groups and Vector Spaces
Catalog Number: 7855
Andrew W. Cotton-Clay
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
Groups and group actions, vector spaces and their linear transformations, bilinear forms and linear representations of finite groups.
Prerequisite: Mathematics 23a, 25a, 121; or 101 with the instructor's permission. Should not be taken in addition to Mathematics 55a.

Mathematics 123. Algebra II: Theory of Rings and Fields
Catalog Number: 5613
Joseph D. Harris
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
Rings and modules. Polynomial rings. Field extensions and the basic theorems of Galois theory. Structure theorems for modules.
Prerequisite: Mathematics 122 or 55a.

Mathematics 124. Number Theory
Catalog Number: 2398
Arul Shankar
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Factorization and the primes; congruences; quadratic residues and reciprocity; continued fractions and approximations; Pell's equation; selected Diophantine equations; theory of integral quadratic forms.
Prerequisite: Mathematics 122 (which may be taken concurrently) or equivalent.

Mathematics 129. Number Fields
Catalog Number: 2345
Mark Kisin
Half course (spring term). M., W., F., at 1. EXAM GROUP: 6
Algebraic number theory: number fields, unique factorization of ideals, finiteness of class group, structure of unit group, Frobenius elements, local fields, ramification, weak approximation, adeles, and ideles.
Prerequisite: Mathematics 123.

Mathematics 130. Classical Geometry
Catalog Number: 5811
Andrew W. Cotton-Clay
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Presents several classical geometries, these being the affine, projective, Euclidean, spherical and hyperbolic geometries. They are viewed from many different perspectives, some historical and some very topical. Emphasis on reading and writing proofs.
Prerequisite: Mathematics 21a,b, 23a, 25a or 55a (may be taken concurrently).

Mathematics 131. Topology I: Topological Spaces and the Fundamental Group
Catalog Number: 2381
Curtis T. McMullen
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Abstract topological spaces; compactness, connectedness, continuity. Homeomorphism and homotopy, fundamental groups, covering spaces. Introduction to combinatorial topology.
Prerequisite: Some acquaintance with metric space topology (Mathematics 23a,b, 25a,b, 55a,b, 101, or 112) and with groups (Mathematics 101, 122 or 55a).

Mathematics 132. Topology II: Smooth Manifolds
Catalog Number: 7725
Andrew W. Cotton-Clay
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Differential manifolds, smooth maps and transversality. Winding numbers, vector fields, index and degree. Differential forms, Stokes' theorem, introduction to cohomology.
Prerequisite: Mathematics 23a,b, 25a,b, 55a,b or 112.

Mathematics 136. Differential Geometry
Catalog Number: 1949
Siu Cheong Lau
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The exterior differential calculus and its applications to curves and surfaces in 3-space and to various notions of curvature. Introduction to Riemannian geometry in higher dimensions.
Prerequisite: Advanced calculus and linear algebra.

Mathematics 137. Algebraic Geometry
Catalog Number: 0556
Melody Tung Chan
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Affine and projective spaces, plane curves, Bezout's theorem, singularities and genus of a plane curve, Riemann-Roch theorem.
Prerequisite: Mathematics 123.

[Mathematics 141. Introduction to Mathematical Logic]
Catalog Number: 0600
Instructor to be determined
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
An introduction to mathematical logic with applications to computer science and algebra. Formal languages. Completeness and compactness of first order logic. Definability and interpolation. Decidability. Unsolvable problems. Computable functions and Turing machines. Recursively enumerable sets. Transfinite induction.
Note: Expected to be given in 2014–15.
Prerequisite: Any mathematics course at the level of Mathematics 21a,b or higher, or permission of instructor.

Mathematics 143. Set Theory
Catalog Number: 6005
Peter Koellner
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
An introduction to set theory covering the fundamentals of ZFC (cardinal arithmetic, combinatorics, descriptive set theory) and the independence techniques (the constructible universe, forcing, the Solovay model). We will demonstrate the independence of CH (the Continuum Hypothesis), SH (Suslin's Hypothesis), and some of the central statements of classical descriptive set theory.
Note: An additional hour of lecture will be scheduled independently.
Prerequisite: Any mathematics course at the level of Mathematics 21a or higher, or permission of instructor.

Mathematics 144. Model Theory
Catalog Number: 0690

Nathanael Ackerman
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
An introduction to model theory with applications to fields and groups. First order languages, structures, and definable sets. Compactness, completeness, and back-and-forth constructions. Quantifier elimination for algebraically closed, differentially closed, and real closed fields. Omitting types, prime extensions, existence and uniqueness of the differential closure, saturation, and homogeneity. Forking, independence, and rank.
Prerequisite: Mathematics 123 or the equivalent is suggested as a prerequisite, but not required.

Mathematics 145. Set Theory II - *(New Course)*
Catalog Number: 19964
Peter Koellner
Half course (spring term). W., 1–3, and an additional hour of lecture will be scheduled independently. EXAM GROUP: 6, 7
An introduction to the hierarchy of axioms of infinity in set theory, their applications and their inner models.
Note: An additional hour of lecture will be scheduled independently.

[Mathematics 152. Discrete Mathematics]
Catalog Number: 8389

Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
An introduction to finite groups, finite fields, finite geometry, discrete probability, and graph theory. A unifying theme of the course is the symmetry group of the regular icosahedron, whose elements can be realized as permutations, as linear transformations of vector spaces over finite fields, as collineations of a finite plane, or as vertices of a graph. Taught in a seminar format, and students will gain experience in presenting proofs at the blackboard.
Note: Expected to be given in 2014–15. Students who have taken Mathematics 23a,b, 25a,b or 55a,b should not take this course for credit.

Mathematics 153. Mathematical Biology-Evolutionary Dynamics
Catalog Number: 3004
Martin A. Nowak
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Introduces basic concepts of mathematical biology and evolutionary dynamics: evolution of genomes, quasi-species, finite and infinite population dynamics, chaos, game dynamics, evolution of cooperation and language, spatial models, evolutionary graph theory, infection dynamics, somatic evolution of cancer.
Prerequisite: Mathematics 21a,b.

Mathematics 154. Probability Theory
Catalog Number: 4306
Clifford Taubes
Half course (fall term). M., W., F., at 12. EXAM GROUP: 5
An introduction to probability theory. Discrete and continuous random variables; distribution and density functions for one and two random variables; conditional probability. Generating functions, weak and strong laws of large numbers, and the central limit theorem. Geometrical probability, random walks, and Markov processes.
Note: This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning and the Core area requirement for Quantitative Reasoning.
Prerequisite: A previous mathematics course at the level of Mathematics 19ab, 21ab, or higher. For

students from 19ab or 21ab, previous or concurrent enrollment in Math 101 or 112 may be helpful. Freshmen who did well in Math 23, 25 or 55 last term are also welcome to take the course.

Mathematics 155r. Combinatorics
Catalog Number: 6612
Sukhada Fadnavis
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An introduction to counting techniques and other methods in finite mathematics. Possible topics include: the inclusion-exclusion principle and Mobius inversion, graph theory, generating functions, Ramsey's theorem and its variants, probabilistic methods.
Prerequisite: The ability to read and write mathematical proofs. Some familiarity with group theory (Math 122 or equivalent.)

[Mathematics 168. Computability Theory]
Catalog Number: 31297

Half course (spring term). M., W., F., at 12. EXAM GROUP: 5
An introduction to computability theory (also known as recursion theory). A discussion of the problem of determining what it means for a set or function to be computable, including primitive recursion, Turing machines, and the Church-Turing Thesis. The theory of Turing degrees and the computably enumerable sets. Topics: the halting set, Turing reducibility and other reducibilities, Post's problem, the Recursion Theorem, priority arguments, and more.
Note: Expected to be given in 2014–15.
Prerequisite: The student must have the ability to read and write mathematical proofs.

Cross-listed Courses

Applied Mathematics 104 (formerly Applied Mathematics 105a). Series Expansions and Complex Analysis
Applied Mathematics 105 (formerly Applied Mathematics 105b). Ordinary and Partial Differential Equations
Applied Mathematics 107. Graph Theory and Combinatorics
Freshman Seminar 40p. Making the Grade? Middle and High School Math Education in the U.S. - *(New Course)
Philosophy 144. Logic and Philosophy

Primarily for Graduates

Mathematics 212a. Real Analysis
Catalog Number: 5446
Yum Tong Siu
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Banach spaces, Hilbert spaces and functional analysis. Distributions, spectral theory and the Fourier transform.
Prerequisite: Mathematics 114 or equivalent.

Mathematics 212br. Advanced Real Analysis
Catalog Number: 7294
Yum Tong Siu
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14

This class will be an introduction to harmonic analysis and singular integral. The textbook is *Classical and Multilinear Harmonic Analysis*, Volume 1, by Muscalu and Schlag. The topics covered in the course include maximum functions, interpolation of operators, Calderon-Zygmund theory and Littlewood-Paley theory. Some elementary probability theory will also be included. Good references of this course are Stein's book on singular integrals and Fourier analysis.
Prerequisite: Mathematics 212ar and 213a.

Mathematics 213a. Complex Analysis
Catalog Number: 1621
Wilfried Schmid
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
A second course in complex analysis: series, product and partial fraction expansions of holomorphic functions; Hadamard's theorem; conformal mapping and the Riemann mapping theorem; elliptic functions; Picard's theorem and Nevanlinna Theory.
Prerequisite: Mathematics 55b or 113.

Mathematics 213br. Advanced Complex Analysis
Catalog Number: 2641
Curtis T. McMullen
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Fundamentals of Riemann surfaces. Topics may include sheaves and cohomology, potential theory, uniformization, and moduli.
Prerequisite: Mathematics 213a.

Mathematics 221. Commutative Algebra
Catalog Number: 8320
Junecue Suh
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
A first course in commutative algebra: Noetherian rings and modules, Hilbert basis theorem, Cayley-Hamilton theorem, integral dependence, Noether normalization, the Nullstellensatz, localization, primary decomposition, discrete valuation rings, filtrations, completions and dimension theory.
Prerequisite: Mathematics 123.

Mathematics 222. Lie Groups and Lie Algebras
Catalog Number: 6738
Wilfried Schmid
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Lie theory, including the classification of semi-simple Lie algebras and/or compact Lie groups and their representations.
Prerequisite: Mathematics 114, 123 and 132.

[Mathematics 223a. Algebraic Number Theory]
Catalog Number: 8652

Half course (fall term). M., W., F., at 12. EXAM GROUP: 5
A graduate introduction to algebraic number theory. Topics: the structure of ideal class groups, groups of units, a study of zeta functions and L-functions, local fields, Galois cohomology, local class field theory, and local duality.
Note: Expected to be given in 2014–15.
Prerequisite: Mathematics 129.

[Mathematics 223b. Algebraic Number Theory]
Catalog Number: 2783

Half course (spring term). M., W., F., at 12. EXAM GROUP: 5
Continuation of Mathematics 223a. Topics: adeles, global class field theory, duality, cyclotomic fields. Other topics may include: Tate's thesis or Euler systems.
Note: Expected to be given in 2014–15.
Prerequisite: Mathematics 223a.

Mathematics 224. Representations of Reductive Lie Groups
Catalog Number: 25927
Igor Andreevich Rapinchuk
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
Lie groups, Lie algebras and their representation theory, focusing on the classical groups.

Mathematics 229x. Introduction to Analytic Number Theory
Catalog Number: 41034
Arul Shankar
Half course (fall term). M., W., F., at 1. EXAM GROUP: 6
Fundamental methods, results, and problems of analytic number theory. Riemann zeta function and the Prime Number Theorem; Dirichlet's theorem on primes in arithmetic progressions; lower bounds on discriminants from functional equations; sieve methods, analytic estimates on exponential sums, and their applications.
Prerequisite: Mathematics 113, 123

Mathematics 230a. Differential Geometry
Catalog Number: 0372
Shlomo Z. Sternberg
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Connections on the tangent bundle, Levi-Civita's theorem, Gauss's lemma, curvature, distance and volume, general relativity, connections on principle bundles.
Prerequisite: Mathematics 132 or equivalent.

Mathematics 230br. Advanced Differential Geometry
Catalog Number: 0504
Andrew W. Cotton-Clay
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
A continuation of Mathematics 230a. Topics in differential geometry: Analysis on manifolds. Laplacians. Hodge theory. Spin structures. Clifford algebras. Dirac operators. Index theorems. Applications.
Prerequisite: Mathematics 230a.

Mathematics 231a. Algebraic Topology
Catalog Number: 7275
Hiro Tanaka
Half course (fall term). M., W., F., at 2. EXAM GROUP: 7
Covering spaces and fibrations. Simplicial and CW complexes, Homology and cohomology, universal coefficients and Künneth formulas. Hurewicz theorem. Manifolds and Poincaré duality.
Prerequisite: Mathematics 131 and 132.

Mathematics 231br. Advanced Algebraic Topology
Catalog Number: 9127
Gereon Quick
Half course (spring term). M., W., F., at 2:30. EXAM GROUP: 7, 8
Continuation of Mathematics 231a. Vector bundles and characteristic classes. Bott periodicity. K-theory, cobordism and stable cohomotopy as examples of cohomology theories.
Prerequisite: Mathematics 231a.

Mathematics 232a. Introduction to Algebraic Geometry I
Catalog Number: 6168
Jonathan Mboyo Esole
Half course (fall term). M., W., F., at 12. EXAM GROUP: 5
Introduction to complex algebraic curves, surfaces, and varieties.
Prerequisite: Mathematics 123 and 132.

Mathematics 232br. Algebraic Geometry II
Catalog Number: 9205
Jonathan Mboyo Esole
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
The course will cover the classification of complex algebraic surfaces.
Prerequisite: Mathematics 232a.

Mathematics 233a. Theory of Schemes I
Catalog Number: 6246
Igor Andreevich Rapinchuk
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
An introduction to the theory and language of schemes. Textbooks: Algebraic Geometry by Robin Hartshorne and Geometry of Schemes by David Eisenbud and Joe Harris. Weekly homework will constitute an important part of the course.
Prerequisite: Mathematics 221 and 232a or permission of instructor.

Mathematics 233br. Theory of Schemes II
Catalog Number: 3316
Junecue Suh
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
A continuation of Mathematics 233a. Will cover the theory of schemes, sheaves, and sheaf cohomology.
Note: Expected to be omitted in 2012–13.
Prerequisite: Mathematics 233a.

Mathematics 241. Fine Structure Theory - *(New Course)*
Catalog Number: 81434
W. Hugh Woodin
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
There is evidence now that there is an ultimate version of Godel's L. This course will develop the fine structure theory of a "Penultimate L" which seems a necessary precursor to Ultimate L.

Mathematics 243. Evolutionary Dynamics
Catalog Number: 8136
Martin A. Nowak
Half course (spring term). Tu., 2:30–4; Th., 2:30–4. EXAM GROUP: 16, 17

Advanced topics of evolutionary dynamics. Seminars and research projects.
Prerequisite: Experience with mathematical biology at the level of Mathematics 153.

Mathematics 253x. Analysis on Manifolds via the Laplace Operator - *(New Course)*
Catalog Number: 61468
Yaiza Canzani
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
The study of the Laplace operator on Riemannian manifolds and explanation of how it encodes geometric information of the manifold. We will cover basic examples, existence of L^2 basis of eigenfunctions, nodal domain theorems, heat and wave operators, comparison theorems and eigenvalue estimates.

Mathematics 253y. Probability and Brownian Motion - *(New Course)*
Catalog Number: 16994
Alexander Bloemendal
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
An introduction to rigorous probability theory. Standard topics include laws of large numbers, central limit theorems, random walks and martingales; the main goal is a thorough understanding of Brownian motion from several points of view.
Prerequisite: Some exposure to measure theory such as taught in Mathematics 114, and some familiarity with elementary probability such as taught in Mathematics 154 and 117, Statistics 110 or Engineering Science 150.

Mathematics 255x. Topics in Diophantine Geometry - *(New Course)*
Catalog Number: 79431
Arul Shankar
Half course (spring term). M., W., F., at 1. EXAM GROUP: 6
Siegel's theorem on the finiteness of integral points on elliptic curves, the Thue-Siegel-Roth theorem on approximations of algebraic integers, and results on the representation of integers by binary forms.

Mathematics 255y. Spin Geometry and SuperSymmetry - *(New Course)*
Catalog Number: 14096
Jonathan Mboyo Esole
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Introduction to Clifford algebra, spinors and the geometry of supersymmetry in various dimensions.

Mathematics 256x. The Theory of Error-Correcting Codes - *(New Course)*
Catalog Number: 13741
Noam D. Elkies
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Code and linear codes; Hamming weight and distance; Weight enumerators; the dual code and the MacWilliams identity; Gleason's theorems and consequences. Construction and properties of Reed-Muller, Reed-Solomon, BCH, Golay, and Goppa codes. Generalizations and connections with sphere packing and other topics as time and students' backgrounds permit.

Mathematics 265x. Reasoning via Models - *(New Course)*
Catalog Number: 73059 Enrollment: Limited to 20.
Eric S. Maskin, Barry C. Mazur, and Amartya Sen
Half course (fall term). Tu., 2–4. EXAM GROUP: 15, 16, 17
An examination of how formal models are used in different disciplines. Examples will be taken from economics, mathematics, physics and philosophy, among other fields.

Note: This course may not be counted towards the required eight letter-graded half-courses in mathematics for the concentration requirement 1a, but may be counted as one of the four half-courses in mathematics or related fields, requirement 1b. This is cross-listed in Economics, History of Science, and Philososphy.
Prerequisite: There are no specific course prerequisites, but ease and familiarity with formal reasoning is essential.

Mathematics 268. Pure Motives and Rigid Local Systems - *(New Course)*
Catalog Number: 72509
Stefan Patrikis
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
An introduction to pure motives, balanced between the general theory and examples arising from rigid local systems. Topics include: unconditionally Tannakian variants of the category of pure homological motives; Katz's theory of middle convolution; the realization of G—2 as a motivic Galois group.

Mathematics 270x. Topics in Automorphic Forms - *(New Course)*
Catalog Number: 70229
Benedict H. Gross
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
We will give an introduction to the theory of modular and automorphic forms, with an emphasis on applications to algebraic number theory. Topics to be covered include the formalism of L-groups, functoriality, trace formulae, and the construction by Chenevier and Clozel of number fields with limited ramification.

Mathematics 273x. Topics in Algebraic Geometry - *(New Course)*
Catalog Number: 98825
Yaim Cooper
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Intersection theory with a view toward Gromov-Witten theory.

Mathematics 280x. Topics in Mathematical Physics: Bridgeland Stability Conditions - *(New Course)*
Catalog Number: 90433
Hiro Tanaka
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The basics of Bridgeland stability conditions for stable oo-catagories will be covered. The course's ultimate goal is to represent Hall (co)algebra-like structures as a co/sheaf on a Ran space.

Mathematics 280y. Topics in Symplectic Geometry - *(New Course)*
Catalog Number: 42209
Siu Cheong Lau
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
Symplectic geometry has grown into an important branch of mathematics due to its intimate relationship with physics. A focus on symplectic enumerative invariants and Lagrangian Floer theory, which have great developments in recent years brought by string theory and mirror symmetry.

Mathematics 282y. Tamagawa Numbers of Algebraic Groups over Function Fields - *(New Course)*
Catalog Number: 31459
Jacob Lurie
Half course (spring term). M., W., F., at 12. EXAM GROUP: 5

A discussion of some recent work (jointly with Dennis Gaitsgory) on the Tamagawa numbers of algebraic groups defined over function fields, using a variety of techniques inspired by algebraic topology.

Mathematics 284x. Relations between Clifford Algebras and Lie Algebras - *(New Course)*
Catalog Number: 87316
Shlomo Z. Sternberg
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
We will mostly follow the recent book by Meinrenken with applications to differential geometry.

Graduate Courses of Reading and Research

***Mathematics 300. Teaching Undergraduate Mathematics**
Catalog Number: 3996
Robin Gottlieb and Jameel Al-Aidroos
Half course (fall term). Tu., 1–2:30. EXAM GROUP: 15, 16
Become an effective instructor. This course focuses on observation, practice, feedback, and reflection providing insight into teaching and learning. Involves iterated videotaped micro-teaching sessions, accompanied by individual consultations. Required of all mathematics graduate students.

***Mathematics 304. Topics in Algebraic Topology**
Catalog Number: 0689
Michael J. Hopkins 4376 (on leave spring term)

***Mathematics 308. Topics in Number Theory and Modular Forms**
Catalog Number: 0464
Benedict H. Gross 1112

***Mathematics 314. Topics in Differential Geometry and Mathematical Physics**
Catalog Number: 2743
Shlomo Z. Sternberg 1965

***Mathematics 318. Topics in Number Theory**
Catalog Number: 7393
Barry C. Mazur 1975 (on leave spring term)

***Mathematics 321. Topics in Mathematical Physics**
Catalog Number: 2297
Arthur M. Jaffe 2095

***Mathematics 327. Topics in Several Complex Variables**
Catalog Number: 0409
Yum Tong Siu 7550

***Mathematics 333. Topics in Complex Analysis, Dynamics and Geometry**
Catalog Number: 9401
Curtis T. McMullen 3588

***Mathematics 335. Topics in Differential Geometry and Analysis**
Catalog Number: 5498
Clifford Taubes 1243



***Mathematics 339. Topics in Combinatorics**
Catalog Number: 83942
Sukhada Fadnavis 7084

***Mathematics 341. Topics in Number Theory**
Catalog Number: 28563
Keerthi Shyam Madapusi Sampath 2232

***Mathematics 345. Topics in Geometry and Topology**
Catalog Number: 4108
Peter B. Kronheimer 1759 (on leave 2013-14)

***Mathematics 346y. Topics in Analysis: Quantum Dynamics**
Catalog Number: 1053
Horng-Tzer Yau 5260 (on leave 2013-14)

***Mathematics 352. Topics in Algebraic Number Theory**
Catalog Number: 86228
Mark Kisin 6281

***Mathematics 355. Topics in Category Theory and Homotopy Theory**
Catalog Number: 95192
Emily Elizabeth Riehl 1416 (on leave 2013-14)

***Mathematics 356. Topics in Harmonic Analysis**
Catalog Number: 6534
Wilfried Schmid 5097

***Mathematics 358. Topics in Arithmetic Geometry**
Catalog Number: 30858
Junecue Suh 6835

Mathematics 361. Topics in Differential Geometry and Analysis - *(New Course)
Catalog Number: 61965
Yaiza Canzani 7325

Mathematics 363. Topics in Elliptic Fibrations and String Theory - *(New Course)
Catalog Number: 89264
Jonathan Mboyo Esole 3362

***Mathematics 365. Topics in Differential Geometry**
Catalog Number: 4647
Shing-Tung Yau 1734 (on leave 2013-14)

***Mathematics 373. Topics in Algebraic Topology**
Catalog Number: 49813
Jacob Lurie 5450

Mathematics 374. Topics in Number Theory - *(New Course)
Catalog Number: 83329
Arul Shankar 7303

***Mathematics 381. Introduction to Geometric Representation Theory**
Catalog Number: 0800
Dennis Gaitsgory 5259

***Mathematics 382. Topics in Algebraic Geometry**
Catalog Number: 2037
Joseph D. Harris 2055 (on leave fall term)

Mathematics 385. Topics in Set Theory - *(New Course)
Catalog Number: 33405
W. Hugh Woodin 7421

Mathematics 387. Topics in Mathematical Physics: Bridgeland Stability Conditions - *(New Course)
Catalog Number: 47551
Hiro Tanaka 7326 (on leave spring term)

***Mathematics 388. Topics in Mathematics and Biology**
Catalog Number: 4687
Martin A. Nowak 4568

***Mathematics 389. Topics in Number Theory**
Catalog Number: 6851
Noam D. Elkies 2604

***Mathematics 395. Topics in Symplectic, Contact, and Low - Dimensional Topology**
Catalog Number: 10029
Andrew Cotton-Clay

Medical Sciences

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Medical Sciences

David E. Golan, Professor of Biological Chemistry and Molecular Pharmacology, George R. Minot Professor of Medicine, *(Medical School) (Chair)*
Thomas G. Bernhardt, Associate Professor of Microbiology and Immunobiology *(Medical School)*
Richard T. Born, Professor of Neurobiology *(Medical School)*

David Lopes Cardozo, Assistant Professor of Neurobiology *(Medical School) (ex officio)*
Michael C. Carroll, Professor of Pediatrics *(Medical School)*
Constance L. Cepko, Bullard Professor of Genetics and Neuroscience, Professor of Ophthalmology *(Medical School)*
Stephen C. Harrison, Giovanni Armenise - Harvard Professor of Basic Biomedical Science, Professor of Pediatrics *(Medical School)*
David M. Knipe, Higgins Professor of Microbiology and Molecular Genetics *(Medical School)*
Isaac S. Kohane, Lawrence J. Henderson Professor of Pediatrics, Associate Professor of Medicine *(Medical School)*
Samara Louise Reck-Peterson, Associate Professor of Cell Biology *(Medical School)*
Clifford J. Tabin, George Jacob and Jacqueline Hazel Leder Professor of Genetics *(Medical School)*
Shannon Turley, Associate Professor of Microbiology and Immunobiology *(Medical School)*
David L. Van Vactor, Professor of Cell Biology *(Medical School)*
Christopher T. Walsh, Hamilton Kuhn Distinguished Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Sean P.J. Whelan, Professor of Microbiology and Immunobiology *(Medical School)*
Rachel I. Wilson, Professor of Neurobiology *(Medical School)*

Other Faculty Offering Instruction in the Division of Medical Sciences

Kami Ahmad, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Mark William Albers, Assistant Professor of Neurology *(Medical School)*
Todd Allen, Associate Professor of Medicine *(Medical School)*
Chester Alper, Professor of Pediatrics *(Medical School)*
Frederick W. Alt, Professor of Genetics *(Medical School)*
Galit Alter, Assistant Professor of Medicine *(Medical School)*
Marcus Altfeld, Associate Professor of Medicine *(Medical School)*
David M. Altshuler, Professor of Genetics *(Medical School)*
Mark Lawrence Andermann, Assistant Professor in Medicine *(Medical School)*
Matthew Peter Anderson, Assistant Professor of Pathology *(Medical School)*
Paul J. Anderson, K. Frank Austen Professor of Medicine *(Medical School)*
Robert Anthony, Assistant Professor of Medicine *(Medical School)*
Zoltan Pierre Arany, Assistant Professor of Medicine *(Medical School)*
Paola Arlotta, Morris Kahn Associate Professor of Stem Cell and Regenerative Biology
Jonathan P. Arm, Associate Professor of Medicine *(Medical School)*
M. Amin Arnaout, Professor of Medicine *(Medical School)*
Spyros Artavanis-Tsakonas, Professor of Cell Biology *(Medical School)*
John A. Assad, Professor of Neurobiology *(Medical School)*
Jon Christopher Aster, Professor of Pathology *(Medical School)*
Dennis A. Ausiello, Jackson Professor of Clinical Medicine *(Medical School)*
K. Frank Austen, Astrazeneca Professor of Respiratory and Inflammatory Diseases in the Department of Medicine *(Medical School)*
Frederick Ausubel, Professor of Genetics *(Medical School)*
Brian Bacskai, Associate Professor of Neurology *(Medical School)*
Roland Elie Baron, Professor of Oral Medicine, Infection, and Immunity, Professor of Medicine *(Dental School, Medical School)*
Dan Hung Barouch, Associate Professor of Medicine *(Medical School)*
Bruce P. Bean, Professor of Neurobiology *(Medical School)*
Jonathan R. Beckwith, American Cancer Society Professor of Microbiology and Molecular Genetics *(Medical School)*

Alan H. Beggs, Assistant Professor of Genetics *(Medical School)*
Samuel M. Behar, Associate Professor in the Department of Immunology and Infectious Diseases *(Medical School)*
Welcome W. Bender, Harold T. White Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Francine M. Benes, William P. and Henry B. Test Professor of Psychiatry *(Medical School)*
Gilles A. Benichou, Associate Professor of Surgery *(Medical School)*
Christophe O. Benoist, Professor of Pathology *(Medical School)*
Larry I. Benowitz, Professor of Surgery *(Medical School)*
Jack Bergman, Associate Professor of Psychobiology in the Department of Psychiatry *(Medical School)*
Bradley E. Bernstein, Associate Professor of Pathology *(Medical School)*
Rameen Beroukhim, Assistant Professor of Medicine *(Medical School)*
Sabina Berretta, Associate Professor of Psychiatry *(Medical School)*
Sudha Biddinger, Assistant Professor of Pediatrics *(Medical School)*
Joyce E. Bischoff, Assistant Professor of Cellular and Molecular Physiology (Surgery) *(Medical School)*
Stephen C. Blacklow, Gustavus Adolphus Pfeiffer Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
T. Keith Blackwell, Professor of Pathology *(Medical School)*
John Blenis, Professor of Cell Biology *(Medical School)*
Michael Demian Blower, Assistant Professor of Genetics *(Medical School)*
Richard S. Blumberg, Professor of Medicine *(Medical School)*
Vadim Bolshakov, Associate Professor of Psychiatry *(Medical School)*
Vassiliki A. Boussiotis, Associate Professor of Medicine *(Medical School)*
Joshua A. Boyce, Associate Professor of Medicine *(Medical School)*
Andrew Stephen Brack, Assistant Professor of Medicine *(Medical School)*
James Elliott Bradner, Assistant Professor of Medicine *(Medical School)*
Xandra O. Breakefield, Professor of Neurology *(Medical School)*
David T. Breault, Assistant Professor of Pediatrics *(Medical School)*
Michael B. Brenner, Theodore Bevier Bayles Professor of Medicine *(Medical School)*
Emery N. Brown, Warren M. Zapol Professor of Anaesthesia *(Medical School)*
M. Christian Brown, Associate Professor of Otology and Laryngology *(Medical School)*
Myles A. Brown, Professor of Medicine *(Medical School)*
Joan S. Brugge, Professor of Cell Biology *(Medical School)*
Joshua William Buckholtz, Assistant Professor of Psychology *(on leave spring term)*
Martha L. Bulyk, Associate Professor of Pathology *(Medical School)*
Stephen Buratowski, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Caroline Erter Burns, Assistant Professor of Medicine *(Medical School)*
Charles Geoffrey Burns, Assistant Professor of Medicine *(Medical School)*
S. Barak Caine, Associate Professor of Psychology in the Department of Psychiatry *(Medical School)*
Fernando D. Camargo, Associate Professor of Stem Cell & Regenerative Biology
James J. Campbell, Assistant Professor of Dermatology (Pathology) *(Medical School)*
Alan B. Cantor, Assistant Professor of Pediatrics *(Medical School)*
Harvey Cantor, Baruj Benacerraf Professor of Pathology *(Medical School)*
William A. Carlezon, Associate Professor of Psychiatry *(Medical School)*
Christopher Vincent Carman, Assistant Professor of Medicine *(Medical School)*
Sydney S. Cash, Associate Professor of Neurology *(Medical School)*
Joanne Chan, Assistant Professor of Surgery *(Medical School)*
Stephen Y. Chan, Assistant Professor of Medicine *(Medical School)*
Elena Halley Chartoff, Assistant Professor of Psychiatry *(Medical School)*
Talal Amine Chatila, Denise and David Bunning Professor of Pediatrics in the Field of Allergy and Immunology *(Medical School)*

Bing Chen, Assistant Professor of Pediatrics *(Medical School)*
Chinfei Chen, Associate Professor of Neurology *(Medical School)*
Dong Feng Chen, Assistant Professor of Ophthalmology *(Medical School)*
Zheng-Yi Chen, Associate Professor of Otology and Laryngology *(Medical School)*
Bobby J. Cherayil, Associate Professor of Pediatrics *(Medical School)*
Roberto Chiarle, Associate Professor of Pathology *(Medical School)*
Kenneth R. Chien, Visiting Professor of Stem Cell and Regenerative Biology
E. Antonio Chiocca, Harvey W. Cushing Professor of Neurosurgery *(Medical School)*
James Chodosh, David Glendenning Cogan Professor of Ophthalmology in the field of Cornea and External Disease *(Medical School)*
James J. Chou, Associate Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Dipanjan Chowdhury, Assistant Professor of Radiation Oncology *(Medical School)*
Raymond Taeyong Chung, Associate Professor of Medicine *(Medical School)*
George M. Church, Robert Winthrop Professor of Genetics *(Medical School)*
Lee Stirling Churchman, Assistant Professor of Genetics *(Medical School)*
Karen M. Cichowski, Assistant Professor of Medicine *(Medical School)*
David E. Clapham, Aldo R. Castaneda Professor of Cardiovascular Research *(Medical School)*
Jon Clardy, Hsien Wu and Daisy Yen Wu Professor of Biological Chemistry and Molecular Pharmacology, *(Medical School)*
Rachael Ann Clark, Assistant Professor of Dermatology *(Medical School)*
Donald M. Coen, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
David E. Cohen, Robert H. Ebert Professor of Medicine and Health Sciences and Technology *(Medical School)*
Jonathan B. Cohen, Professor of Neurobiology *(Medical School)*
Monica P. Colaiácovo, Associate Professor of Genetics *(Medical School)*
David P. Corey, Professor of Neurobiology *(Medical School)*
Gabriel Corfas, Professor of Neurology *(Medical School)*
Chad A. Cowan, Associate Professor of Stem Cell & Regenerative Biology
Christopher William Cowan, Lecturer on Psychiatry *(Medical School)*
David Cox, Assistant Professor of Molecular and Cellular Biology and of Computer Science
Clyde S. Crumpacker II, Professor of Medicine *(Medical School)*
James M. Cunningham, Associate Professor of Medicine *(Medical School)*
Charles A. Czeisler, Frank Baldino, Jr., Ph.D. Professor of Sleep Medicine *(Medical School)*
Patricia A. D'Amore, Professor of Ophthalmology (Pathology) *(Medical School)*
Alan D. D'Andrea, Alvan T. and Viola D. Fuller American Cancer Society Professor of Radiation Oncology *(Medical School)*
George Q. Daley, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Mark Joseph Daly, Associate Professor of Medicine *(Medical School)*
Reza Dana, Claes H. Dohlman Professor of Ophthalmology *(Medical School)*
Nika Danial, Assistant Professor of Pathology *(Medical School)*
Darlene Ann Dartt, Associate Professor of Ophthalmology *(Medical School)*
Sandeep Robert Datta, Assistant Professor of Neurobiology *(Medical School)*
Benjamin Lovegren de Bivort, Assistant Professor of Organismic and Evolutionary Biology
Philip Lawrence De Jager, Assistant Professor of Neurology *(Medical School)*
James A. DeCaprio, Associate Professor of Medicine *(Medical School)*
Bertrand Delgutte, Professor of Otology and Laryngology *(Medical School)*
Ronald C. Desrosiers, Professor of Microbiology and Molecular Genetics *(Medical School)*
Charles J. Dimitroff, Assistant Professor of Dermatology *(Medical School)*
Michael Tri Hoang Do, Assistant Professor of Neurology *(Medical School)*
Patricia K. Donahoe, Marshall K. Bartlett Professor of Surgery *(Medical School)*

Martin E. Dorf, Professor of Pathology *(Medical School)*
Simon L. Dove, Assistant Professor of Pediatrics (Microbiology and Molecular Genetics) *(Medical School)*
Glenn Dranoff, Associate Professor of Medicine *(Medical School)*
Ronny I. Drapkin, Assistant Professor of Pathology *(Medical School)*
Iain A. Drummond, Associate Professor of Medicine *(Medical School)*
Catherine Dulac, Higgins Professor of Molecular and Cellular Biology
Susan M. Dymecki, Assistant Professor of Genetics *(Medical School)*
Nicholas J. Dyson, Professor of Medicine *(Medical School)*
Ruth Anne Eatock, Associate Professor of Otology and Laryngology *(Medical School)*
Benjamin L. Ebert, Assistant Professor of Medicine *(Medical School)*
Michael J. Eck, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Donald Keith Eddington, Associate Professor of Otology and Laryngology *(Medical School)*
Albert Edge, Associate Professor of Otology and Laryngology *(Medical School)*
Elaine A. Elion, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Stephen J. Elledge, Gregor Mendel Professor of Genetics and of Medicine *(Medical School)*
Alan N. Engelman, Associate Professor of Medicine *(Medical School)*
Jeffrey Adam Engelman, Assistant Professor of Medicine *(Medical School)*
Florian Engert, Professor of Molecular and Cellular Biology
Elizabeth C. Engle, Professor of Neurology *(Medical School)*
Raymond L. Erikson, American Cancer Society Professor of Cellular and Developmental Biology
Emad Eskandar, Associate Professor of Surgery *(Medical School)*
Myron Essex, Mary Woodard Lasker Professor of Health Sciences *(Public Health)*
Mark Adrian Exley, Assistant Professor of Medicine *(Medical School)*
Michela Fagiolini, Assistant Professor of Neurology *(Medical School)*
Mel B. Feany, Associate Professor of Pathology *(Medical School)*
Edda Fiebiger, Assistant Professor of Pediatrics *(Medical School)*
Joyce D. Fingeroth, Associate Professor of Medicine *(Medical School)*
Stan Neil Finkelstein, Associate Professor of Medicine *(Medical School)*
Daniel Finley, Professor of Cell Biology *(Medical School)*
David E. Fisher, Edward Wigglesworth Professor of Dermatology *(Medical School)*
John G. Flanagan, Professor of Cell Biology *(Medical School)*
Mark Daniel Fleming, S. Burt Wolbach Professor of Pathology *(Medical School)*
Ramon A. Franco, Associate Professor of Otology and Laryngology *(Medical School)*
David A. Frank, Associate Professor of Medicine *(Medical School)*
Matthew P. Frosch, Associate Professor of Health Sciences and Technology *(Medical School)*
Barbara C. Fullerton, Assistant Professor of Otology and Laryngology *(Medical School)*
Nadine Gaab, Assistant Professor of Pediatrics *(Medical School)*
Dana Gabuzda, Professor of Neurology *(Medical School)*
Michaela Gack, Assistant Professor of Microbiology and Immunobiology *(Medical School)*
Guillermo Garcia-Cardena, Associate Professor of Pathology *(Medical School)*
Levi Alexander Garraway, Assistant Professor of Medicine *(Medical School)*
Wendy S. Garrett, Assistant Professor of Immunology and Infectious Diseases *(Public Health)*
Rachelle Gaudet, Professor of Molecular and Cellular Biology
Suzanne Gaudet, Assistant Professor of Genetics *(Medical School)*
Raif S. Geha, James L. Gamble Professor of Pediatrics *(Medical School)*
Lee Gehrke, Professor of Microbiology and Molecular Genetics *(Medical School)*
Rani E. George, Assistant Professor of Pediatrics *(Medical School)*
Katia Georgopoulos, Professor of Dermatology *(Medical School)*
Anne Giersch, Assistant Professor of Pathology *(Medical School)*
Michael S. Gilmore, Sir William Osler Professor of Ophthalmology *(Medical School)*

Michael A. Gimbrone, Elsie T. Friendman Professor of Pathology *(Medical School)*
Alexander Gimelbrant, Assistant Professor of Genetics *(Medical School)*
David D. Ginty, Visiting Professor of Neurobiology *(Medical School)*
Vadim Gladyshev, Professor of Medicine *(Medical School)*
Wolfram Goessling, Assistant Professor of Medicine *(Medical School)*
Alfred L. Goldberg, Professor of Cell Biology *(Medical School)*
Marcia Goldberg, Associate Professor in the Department of Immunology and Infectious Diseases *(Medical School)*
Michael Goldberg, Assistant Professor of Microbiology and Immunobiology *(Medical School)*
Anne E. Goldfeld, Professor in the Department of Immunology and Infectious Diseases *(Medical School)*
Lisa V. Goodrich, Associate Professor of Neurobiology *(Medical School)*
Laurie Joy Goodyear, Associate Professor of Medicine *(Medical School)*
Jesse M. Gray, Assistant Professor of Genetics *(Medical School)*
Nathanael Gray, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Michael E. Greenberg, Nathan Marsh Pusey Professor of Neurobiology *(Medical School)*
Richard Ian Gregory, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Anna Greka, Assistant Professor of Medicine *(Medical School)*
Chenghua Gu, Assistant Professor of Neurobiology *(Medical School)*
John J. Guinan, Professor of Otology and Laryngology *(Medical School)*
James Gusella, Bullard Professor of Neurogenetics in the Department of Genetics *(Medical School)*
Emanuela Gussoni, Assistant Professor of Pediatrics *(Medical School)*
Daniel A. Haber, Kurt J. Isselbacher/Peter D. Schwartz Professor of Medicine *(Medical School)*
Nir Hacohen, Assistant Professor of Medicine *(Medical School)*
William C. Hahn, Associate Professor of Medicine *(Medical School)*
Kevin M. Haigis, Assistant Professor of Pathology *(Medical School)*
Marcia C. Haigis, Assistant Professor of Pathology *(Medical School)*
William Nicholas Haining, Assistant Professor of Pediatrics *(Medical School)*
J. Wade Harper, Bert and Natalie Vallee Professor of Molecular Pathology *(Medical School)*
Matthew Harris, Assistant Professor of Genetics *(Medical School)*
Christopher D. Harvey, Assistant Professor of Neurobiology *(Medical School)*
Corey Harwell, Assistant Professor on Neurobiology *(Medical School)*
Aditi Hazra, Instructor of Epidemiology *(School of Public Health)*
Xi He, Assistant Professor of Neurology *(Medical School)*
Zhigang He, Professor of Neurology *(Medical School)*
James Tracey Heaton, Assistant Professor of Surgery *(Medical School)*
Maxwell G. Heiman, Assistant Professor of Genetics *(Medical School)*
Martin E. Hemler, Professor of Pathology *(Medical School)*
Takao K. Hensch, Professor of Molecular and Cellular Biology *(FAS)* and Professor of Neurology *(Medical School)*
Elizabeth Petri Henske, Professor of Medicine *(Medical School)*
Darren E. Higgins, Professor of Microbiology and Molecular Genetics *(Medical School)*
Jonathan M. G. Higgins, Assistant Professor of Medicine *(Medical School)*
Robert E. Hillman, Associate Professor of Surgery *(Medical School)*
Martin S. Hirsch, Professor in the Department of Immunology and Infectious Diseases *(Medical School)*
Joel N. Hirschhorn, Associate Professor of Genetics *(Medical School)*
I-Cheng Ho, Associate Professor of Medicine *(Medical School)*
Konrad Hochedlinger, Professor of Stem Cell and Regenerative Biology *(Medical School)*
Ann Hochschild, Professor of Microbiology and Molecular Genetics *(Medical School)*
Hanno Reinhard Hock, Assistant Professor of Medicine *(Medical School)*

James M. Hogle, Edward S. Harkness Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Jeffrey Robb Holt, Associate Professor of Otology and Laryngology *(Medical School)*
Tiffany Horng, Assistant Professor of Genetics and Complex Diseases *(Public Health)*
Bruce H. Horwitz, Assistant Professor of Pediatrics *(Medical School)*
Peter M. Howley, Shattuck Professor of Pathological Anatomy *(Medical School)*
Victor Wee Hsu, Associate Professor of Medicine *(Medical School)*
Deborah Tan Hung, Assistant Professor of Microbiology and Molecular Genetics *(Medical School)*
Sun Hur, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Robert Husson, Associate Professor of Pediatrics *(Medical School)*
Bradley T. Hyman, John B. Penney, Jr. Professor of Neurology *(Medical School)*
Donald E. Ingber, Professor of Bioengineering
Ole S. Isacson, Professor of Neurology *(Medical School)*
Joseph E. Italiano, Assistant Professor of Surgery *(Medical School)*
Laurie Jackson-Grusby, Assistant Professor of Pathology *(Medical School)*
Rakesh K. Jain, A. Werk Cook Professor of Radiation Oncology (Tumor Biology) *(Medical School)*
Pasi Antero Janne, Associate Professor of Medicine *(Medical School)*
Frances E. Jensen, Professor of Neurology *(Medical School)*
Robert P. Johnson, Associate Professor of Medicine *(Medical School)*
J. Keith Joung, Associate Professor of Pathology *(Medical School)*
Pascal Kaeser, Assistant Professor of Neurobiology *(Medical School)*
Jonathan C. Kagan, Assistant Professor of Pediatrics *(Medical School)*
C. Ronald Kahn, Mary K. Iacocca Professor of Medicine *(Medical School)*
Daniel E. Kahne, Professor of Chemistry and Chemical Biology, Harvard College Professor
Suzanne Walker, Professor of Microbiology and Immunobiology *(Medical School)*
Nada Y. Kalaany, Assistant Professor of Pediatrics *(Medical School)*
Yoshihide Kanaoka, Assistant Professor of Medicine *(Medical School)*
Joshua M. Kaplan, Professor of Neurobiology *(Medical School)*
Antoine Karnoub, Assistant Professor of Pathology *(Medical School)*
Dennis L. Kasper, Professor of Microbiology and Molecular Genetics *(Medical School)*
Howard R. Katz, Associate Professor of Medicine *(Medical School)*
Amitinder Kaur, Assistant Professor of Medicine *(Medical School)*
Kenneth M. Kaye, Associate Professor of Medicine *(Medical School)*
Andrius Kazlauskas, Associate Professor of Opthamology *(Medical School)*
Raymond J. Kelleher, Assistant Professor of Neurology *(Medical School)*
Vicki R. Kelley, Professor of Medicine *(Medical School)*
Roya Khosravi-Far, Associate Professor of Pathology *(Medical School)*
Samia Joseph Khoury, Jack, Sadie and David Breakstone Professor of Neurology *(Medical School)*
Elliott D. Kieff, Professor of Microbiology and Molecular Genetics *(Medical School)*
Carla Kim, Assistant Professor of Genetics *(Medical School)*
Kwang-Soo Kim, Associate Professor of Psychiatry *(Medical School)*
Jean-Pierre Kinet, Professor of Pathology *(Medical School)*
Randy King, Professor of Cell Biology *(Medical School)*
Robert E. Kingston, Professor of Genetics *(Medical School)*
Tomas Kirchhausen, Professor of Cell Biology *(Medical School)*
Marc W. Kirschner, John Franklin Enders University Professor of Systems Biology *(Medical School)*
Michael Klagsbrun, Patricia A. Donahoe Professor of Surgery (Pathology) *(Medical School)*
Nancy Kleckner, Herchel Smith Professor of Molecular Biology
James Bradley Kobler, Assistant Professor of Surgery *(Medical School)*
Maria Irene Kontaridis, Assistant Professor of Medicine *(Medical School)*
Igor J. Koralnik, Professor of Neurology *(Medical School)*

Edward A. Kravitz, George Packer Berry Professor of Neurobiology *(Medical School)*
Jordan A. Kreidberg, Associate Professor of Pediatrics *(Medical School)*
Gabriel Kreiman, Associate Professor of Ophthalmology *(Medical School)*
Raju Kucherlapati, Paul C. Cabot Professor of Genetics *(Medical School)*
Vijay K. Kuchroo, Samuel L. Wasserstrom Professor of Neurology *(Medical School)*
Bernhard Kuhn, Assistant Professor of Pediatrics *(Medical School)*
Sharon G. Kujawa, Associate Professor of Otology and Laryngology *(Medical School)*
Rohit N. Kulkarni, Associate Professor of Medicine *(Medical School)*
Samuel M. Kunes, Professor of Molecular and Cellular Biology
Louis M. Kunkel, Professor of Genetics *(Medical School)*
Thomas Seth Kupper, Thomas B. Fitzpatrick Professor of Dermatology *(Medical School)*
Daniel R. Kuritzkes, Professor of Medicine *(Medical School)*
Mitzi I. Kuroda, Professor of Genetics *(Medical School)*
David J. Kwiatkowski, Professor of Medicine *(Medical School)*
Lois A. Lampson, Associate Professor of Surgery *(Medical School)*
Carole Landisman, Assistant Professor of Neurology *(Medical School)*
David M. Langenau, Assistant Professor of Pathology *(Medical School)*
Andrew B. Lassar, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Matthew James Lavoie, Assistant Professor of Neurology *(Medical School)*
Sylvie Le Gall, Assistant Professor of Medicine *(Medical School)*
Jeannie T. Lee, Assistant Professor of Genetics *(Medical School)*
Richard T. Lee, Professor of Stem Cell and Regenerative Biology *(FAS)*, Professor of Medicine *(Medical School)*
Tun-hou Lee, Professor of Virology *(Public Health)*
Maria Kristiina Lehtinen, Assistant Professor of Pathology *(Medical School)*
Wayne I. Lencer, Professor of Pediatrics *(Medical School)*
Cammie Lesser, Assistant Professor of Medicine (Microbiology and Molecular Genetics) *(Medical School)*
Anthony G. Letai, Assistant Professor of Medicine *(Medical School)*
Bruce D. Levy, Associate Professor of Medicine *(Medical School)*
Ofer Levy, Assistant Professor of Pediatrics *(Medical School)*
Zhe Li, Assistant Professor of Medicine *(Medical School)*
Ronglih Liao, Associate Professor of Medicine *(Medical School)*
Stephen Daniel Liberles, Assistant Professor of Cell Biology *(Medical School)*
M. Charles Liberman, Harold F. Schuknecht Professor of Otology and Laryngology *(Medical School)*
Andrew H. Lichtman, Professor of Pathology *(Medical School)*
Jeff W. Lichtman, Jeremy R. Knowles Professor of Molecular and Cellular Biology
Judy Lieberman, Professor of Pediatrics *(Medical School)*
Xiaole Shirley Liu, Associate Professor of Biostatistics *(Public Health)*
David Morse Livingston, Professor of Genetics *(Medical School)*
Margaret S. Livingstone, Professor of Neurobiology *(Medical School)*
Eng H. Lo, Professor of Radiology *(Medical School)*
Massimo Loda, Professor of Pathology *(Medical School)*
Mary R. Loeken, Associate Professor of Medicine (Physiology) *(Medical School)*
Irving M. London, Professor of Medicine in Harvard University and in the Massachusetts Institute of Technology, Emeritus *(Medical School)*
A. Thomas Look, Professor of Pediatrics *(Medical School)*
Joseph John Loparo, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Stephen Lory, Professor of Microbiology and Molecular Genetics *(Medical School)*
Joseph Loscalzo, Hersey Professor of the Theory and Practice of Medicine *(Medical School)*

Bradford Barr Lowell, Professor of Medicine *(Medical School)*
Kun Ping Lu, Professor of Medicine *(Medical School)*
Hongbo Luo, Assistant Professor of Pathology *(Medical School)*
Francis W. Luscinskas, Professor of Pathology *(Medical School)*
Andrew D. Luster, Persis, Cyrus and Marlow B. Harrison Professor of Medicine *(Medical School)*
Qiufu Ma, Associate Professor of Neurobiology *(Medical School)*
Richard L. Maas, Professor of Medicine *(Medical School)*
Marcy E. MacDonald, Professor of Neurology *(Medical School)*
Jeffrey D. Macklis, Professor of Stem Cell and Regenerative Biology and Professor of Surgery and Neurology, Harvard Medical School
Calum Archibald MacRae, Assistant Professor of Medicine *(Medical School)*
Casey A. Maguire, Assistant Professor of Neurology *(Medical School)*
Joseph A. Majzoub, Thomas Morgan Rotch Professor of Pediatrics *(Medical School)*
Clint L. Makino, Associate Professor of Ophthalmology (Neuroscience) *(Medical School)*
Richard Malley, Associate Professor of Pediatrics *(Medical School)*
Susan Mango, Professor of Molecular and Cellular Biology *(on leave fall term)*
Wayne A. Marasco, Associate Professor of Medicine *(Medical School)*
Eleftheria Maratos-Flier, Professor of Medicine *(Medical School)*
Jarrod Marto, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Richard H. Masland, Professor of Neurobiology *(Medical School)*
Diane J. Mathis, Professor of Pathology *(Medical School)*
John Maunsell, Alice and Rodman W. Moorhead III Professor of Neurobiology *(Medical School)*
Tanya Mayadas, Professor of Pathology *(Medical School)*
Sandra McAllister, Assistant Professor of Medicine *(Medical School)*
Steven A. McCarroll, Assistant Professor of Genetics *(Medical School)*
Andrea I. McClatchey, Assistant Professor of Pathology *(Medical School)*
Terry K. Means, Assistant Professor of Medicine *(Medical School)*
Sean Megason, Assistant Professor of Systems Biology *(Medical School)*
Alexander Meissner, Associate Professor of Stem Cell & Regenerative Biology
John J. Mekalanos, Adele Lehman Professor of Microbiology and Molecular Genetics *(Medical School)*
Jennifer R. Melcher, Associate Professor of Otology and Laryngology *(Medical School)*
Thorsten Roman Mempel, Assistant Professor of Medicine *(Medical School)*
Matthew L. Meyerson, Professor of Pathology *(Medical School)*
Thomas Michel, Professor of Medicine *(Medical School)*
Richard N. Mitchell, Lawrence J. Henderson Associate Professor of Pathology and Health Sciences and Technology *(Medical School)*
Timothy J. Mitchison, Hasib Sabbagh Professor of Systems Biology *(Medical School)*
Danesh Moazed, Professor of Cell Biology *(Medical School)*
D. Branch Moody, Associate Professor of Medicine *(Medical School)*
James J. Moon, Assistant Professor of Medicine *(Medical School)*
Jorge Rodrigo Mora, Assistant Professor of Medicine *(Medical School)*
Cynthia C. Morton, William Lambert Richardson Professor of Obstetrics, Gynecology and Reproductive Biology *(Medical School)*
Marsha Moses, Julia Dyckman Andrus Professor of Surgery *(Medical School)*
Raul Mostoslavsky, Assistant Professor of Medicine *(Medical School)*
Mohammad Motamedi, Assistant Professor of Medicine *(Medical School)*
Peter Hermann Mundel, Associate Professor of Medicine *(Medical School)*
Karl Münger, Associate Professor of Medicine *(Medical School)*
Venkatesh N. Murthy, Professor of Molecular and Cellular Biology
Anders Michael Naar, Associate Professor of Cell Biology *(Medical School)*

Joseph B. Nadol, Walter Augustus Lecompte Professor of Otology and Laryngology *(Medical School)*
Charles A. Nelson, Professor of Psychology in the Department of Psychiatry *(Medical School),* Professor of Pediatrics, *(Medical School),* Professor in the Department of Social and Behavioral Sciences *(Public Health)*
Christopher Holmes Newton-Cheh, Assistant Professor of Medicine *(Medical School)*
Max L. Nibert, Professor of Microbiology and Molecular Genetics *(Medical School)*
Anne Nicholson-Weller, Professor of Medicine *(Medical School)*
Trista Elizabeth North, Assistant Professor of Pathology *(Medical School)*
Luigi D. Notarangelo, Professor of Pathology *(Medical School)*
Carl D. Novina, Assistant Professor of Pathology *(Medical School)*
Marjorie A. Oettinger, Professor of Genetics *(Medical School)*
Bjørn R. Olsen, Hersey Professor of Cell Biology, Professor of Developmental Biology *(Medical School, Dental School)*
Stuart H. Orkin, David G. Nathan Professor of Pediatrics *(Medical School)*
Umut Ozcan, Assistant Professor of Pediatrics *(Medical School)*
Pier Paolo Pandolfi, George C. Reisman Professor of Medicine *(Medical School)*
Peter J. Park, Assistant Professor of Pediatrics *(Medical School)*
David L. Paul, Professor of Neurobiology *(Medical School)*
Barry Htin Paw, Assistant Professor of Medicine *(Medical School)*
Tracy Pearse, Assistant Professor of Neurology *(Medical School)*
David Pellman, Professor of Cell Biology *(Medical School)*
Lev T. Perelman, Associate Professor of Obstetrics, Gynecology and Reproductive Biology *(Medical School)*
Norbert Perrimon, Professor of Genetics *(Medical School)*
Xianhua Piao, Assistant Professor of Pediatrics *(Medical School)*
Gerald Pier, Professor of Medicine (Microbiology and Molecular Genetics) *(Medical School)*
Shiv S. Pillai, Associate Professor of Health Sciences and Technology *(Medical School)*
Mikael J. Pittet, Assistant Professor of Radiology *(Medical School)*
Diego Pizzagalli, Associate Professor of Psychiatry *(Medical School)*
Martin R. Pollak, Associate Professor of Medicine *(Medical School)*
Daniel B. Polley, Assistant Professor of Otology and Laryngology *(Medical School)*
Kornelia Polyak, Associate Professor of Medicine *(Medical School)*
Scott L. Pomeroy, Bronson Crothers Professor of Neurology *(Medical School)*
Pere B. Puigserver, Associate Professor of Cell Biology *(Medical School)*
Samuel D. Rabkin, Associate Professor of Surgery (Microbiology and Molecular Genetics) *(Medical School)*
Jayaraj Rajagopal, Assistant Professor of Medicine *(Medical School)*
Tom Rapoport, Professor of Cell Biology *(Medical School)*
Elio Raviola, Bullard Professor of Neurobiology *(Medical School)*
Soumya Raychaudhuri, Assistant Professor of Medicine *(Medical School)*
Wade G. Regehr, Professor of Neurobiology *(Medical School)*
R. Clay Reid, Professor of Neurobiology *(Medical School)*
Ellis L. Reinherz, Professor of Medicine *(Medical School)*
Charles C. Richardson, Edward S. Wood Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
John L. Rinn, Alvin and Esta Star Associate Professor of Stem Cell and Regenerative Biology
Charles M. Roberts, Assistant Professor of Pediatrics *(Medical School)*
Thomas M. Roberts, Professor of Pathology *(Medical School)*
Edwin Malcolm Robertson, Assistant Professor of Neurology *(Medical School)*
Dragana Rogulja, Assistant Professor in Neurobiology *(Medical School)*
Barrett J. Rollins, Linde Family Professor of Medicine *(Medical School)*

Evan David Rosen, Assistant Professor of Medicine *(Medical School)*
Vicki Rosen, Professor of Developmental Biology *(Dental School)*
Paul Allen Rosenberg, Associate Professor of Neurology *(Medical School)*
Anthony Rosenzweig, Professor of Medicine *(Medical School)*
John J. Rosowski, Professor of Otology and Laryngology *(Medical School)*
Derrick J. Rossi, Assistant Professor of Stem Cell and Regenerative Biology
Eric J. Rubin, Assistant Professor of Medicine (Microbiology and Molecular Genetics) *(Medical School)*
Lee L. Rubin, Professor of Stem Cell and Regenerative Biology
Robert H. Rubin, Gordon and Marjorie Osborne Professor of Health Sciences and Technology *(Medical School)*
David Z. Rudner, Assistant Professor of Microbiology and Molecular Genetics *(Medical School)*
Uwe Rudolph, Associate Professor of Psychiatry *(Medical School)*
Ruth M. Ruprecht, Professor of Medicine *(Medical School)*
Gary B. Ruvkun, Professor of Genetics *(Medical School)*
Bernardo L. Sabatini, Professor of Neurobiology *(Medical School)*
David H. Sachs, Paul S. Russell/Warner Lambert Professor of Surgery *(Medical School)*
Amar Sahay, Assistant Professor of Psychiatry *(Medical School)*
Mustafa Sahin, Assistant Professor of Neurology *(Medical School)*
Adrian Salic, Assistant Professor on Cell Biology *(Medical School)*
Joshua R. Sanes, Jeff C. Tarr Professor of Molecular and Cellular Biology
Clifford B. Saper, James Jackson Putnam Professor of Neurology *(Medical School)*
David T. Scadden, Professor of Stem Cell and Regenerative Biology and Gerald and Darlene Jordan Professor of Medicine
Clemens Scherzer, Assistant Professor of Neurology *(Medical School)*
Alexander F. Schier, Leo Erikson Life Sciences Professor of Molecular and Cellular Biology *(on leave 2013-14)*
Stuart L. Schreiber, Morris Loeb Professor of Chemistry *(on leave 2013-14)*
Peter H. Schur, Professor of Medicine *(Medical School)*
Thomas L. Schwarz, Professor of Neurology and Neurobiology in the Department of Neurology *(Medical School)*
Ralph Scully, Assistant Professor of Medicine *(Medical School)*
Brian Seed, Professor of Genetics *(Medical School)*
Rosalind A. Segal, Professor of Neurobiology *(Medical School)*
Christine E. Seidman, Professor of Genetics *(Medical School)*
Jonathan G. Seidman, Henrietta B. and Frederick H. Bugher Foundation Professor of Genetics *(Medical School)*
Dennis J. Selkoe, Vincent and Stella Coates Professor of Neurologic Diseases in the Department of Neurology *(Medical School)*
Charles N. Serhan, Simon Gelman Professor of Anaesthesia *(Medical School)*
Arlene H. Sharpe, George Fabyan Professor of Comparative Pathology *(Medical School)*
Jen Sheen, Professor of Genetics *(Medical School)*
Jie Shen, Professor of Neurology *(Medical School)*
Christopher A. Shera, Associate Professor of Otology and Laryngology *(Medical School)*
Yang Shi, Professor of Pathology *(Medical School)*
Yujiang Shi, Assistant Professor of Medicine *(Medical School)*
William Shih, Associate Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Ramesh Shivdasani, Associate Professor of Medicine *(Medical School)*
Steven E. Shoelson, Professor of Medicine *(Medical School)*
Piotr Sicinski, Assistant Professor of Pathology *(Medical School)*
Pamela A. Silver, Elliott T. and Onie H. Adams Professor of Biochemistry and Systems Biology *(Medical*

School)
David A. Sinclair, Professor of Pathology *(Medical School)*
Susan A. Slaugenhaupt, Associate Professor of Neurology *(Medical School)*
Piotr Sliz, Assistant Professor of Pediatrics *(Medical School)*
Scott Brian Snapper, Associate Professor of Medicine *(Medical School)*
Joseph G. Sodroski, Professor in the Department of Immunology and Infectious Diseases *(Public Health)*
Caren Grossbard Solomon, Associate Professor of Medicine *(Medical School)*
Peter K. Sorger, Professor of Systems Biology *(Medical School)*
Bruce M. Spiegelman, Stanley J. Korsmeyer Professor of Cell Biology and Medicine *(Medical School)*
Michael Springer, Assistant Professor of Systems Biology *(Medical School)*
Timothy A. Springer, Latham Family Professor of Pathology *(Medical School)*
Konstantina Stankovic, Assistant Professor of Otology and Laryngology *(Medical School)*
Michael Starnbach, Professor of Microbiology and Molecular Genetics *(Medical School)*
Joan E. Stein-Streilein, Associate Professor of Ophthalmology *(Medical School)*
Beth Stevens, Assistant Professor of Neurology and Immunology *(Medical School)*
Richard L. Stevens, Professor of Medicine *(Medical School)*
Robert A. Stickgold, Associate Professor of Psychiatry *(Medical School)*
Charles D. Stiles, Professor of Microbiology and Molecular Genetics *(Medical School)*
Gary R. Strichartz, Professor of Anaesthesia (Pharmacology) *(Medical School)*
Terry B. Strom, Professor of Surgery *(Medical School)*
Jack L. Strominger, Higgins Professor of Biochemistry in the Department of Stem Cell and Regenerative Biology
Kevin Struhl, David Wesley Gaiser Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Lynda Stuart, Assistant Professor of Pediatrics *(Medical School)*
Shamil R. Sunyaev, Associate Professor of Medicine *(Medical School)*
Jack Szostak, Professor of Chemistry and Chemical Biology; Professor of Genetics *(Medical School)*
Rudolph E. Tanzi, Joseph P. and Rose F. Kennedy Professor of Child Neurology and Mental Retardation *(Medical School)*
Daniel G. Tenen, Professor of Medicine *(Medical School)*
Cox Terhorst, Professor of Medicine (Pediatrics) *(Medical School)*
Alex Toker, Associate Professor of Pathology *(Medical School)*
George C. Tsokos, Professor of Medicine *(Medical School)*
Laurence A. Turka, Professor of Medicine *(Medical School)*
Naoshige Uchida, Professor of Molecular and Cellular Biology
Luk Hugo Vandenberghe, Assistant Professor of Ophthalmology *(Medical School)*
Shobha Vasudevan, Assistant Professor of Medicine *(Medical School)*
Cheryl Denise Vaughan, Lecturer on Molecular and Cellular Biology
Marc Vidal, Professor of Genetics *(Medical School)*
Ulrich H. Von Andrian-Werburg, Edward Mallinckrodt Jr. Professor of Immunopathology *(Medical School)*
Jatin Mahesh Vyas, Assistant Professor of Medicine *(Medical School)*
Amy J. Wagers, Forst Family Professor of Stem Cell and Regenerative Biology
Denisa D. Wagner, Professor of Pathology *(Medical School)*
Gerhard Wagner, Elkan Blout Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Matthew K. Waldor, Professor of Medicine *(Medical School)*
Loren D. Walensky, Assistant Professor of Pediatrics *(Medical School)*
Bruce Walker, Professor in the Department of Immunology and Infectious Diseases *(Medical School)*
W. Allan Walker, Conrad Taff Professor of Pediatrics *(Medical School)*
Conrad Wall, Professor of Otology and Laryngology *(Medical School)*

Christopher A. Walsh, Bullard Professor of Pediatrics and Neurology *(Medical School)*
Dominic M. Walsh, Associate Professor of Neurology *(Medical School)*
Johannes Walter, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Thomas Walz, Professor of Cell Biology *(Medical School)*
Da-Zhi Wang, Associate Professor of Pediatrics *(Medical School)*
Frederick C. Wang, Professor of Medicine *(Medical School)*
Matthew L. Warman, Harriet M. Peabody Professor of Orthopedic Surgery, Professor of Genetics *(Medical School)*
Paula I. Watnick, Assistant Professor of Pediatrics *(Medical School)*
Wenyi Wei, Assistant Professor of Pathology *(Medical School)*
Howard L. Weiner, Robert L. Kroc Professor of Neurology *(Medical School)*
David Marc Weinstock, Assistant Professor of Medicine *(Medical School)*
Charles J. Weitz, Robert Henry Pfeiffer Professor of Neurobiology *(Medical School)*
Peter F. Weller, Professor in the Department of Immunology and Infectious Diseases *(Medical School)*
Michael R. Wessels, John F. Enders Professor of Pediatrics *(Medical School)*
Marianne Wessling-Resnick, Professor of Nutritional Biochemistry *(Public Health)*
Johnathan Whetstine, Assistant Professor of Medicine *(Medical School)*
Kristin White, Associate Professor of Dermatology *(Medical School)*
Morris F. White, Professor of Pediatrics *(Medical School)*
Jessica Whited, Assistant Professor of Orthopedic Surgery *(Medical School)*
Malcolm Whitman, Professor of Developmental Biology *(Dental School)*
David Allen Williams, Leland Fikes Professor of Pediatrics *(Medical School)*
Ziv Williams, Assistant Professor of Surgery *(Medical School)*
Florian Winau, Assistant Professor of Microbiology and Immunobiology *(Medical School)*
Fred Winston, John Emory Andrus Professor of Genetics *(Medical School)*
Dyann F. Wirth, Richard Pearson Strong Professor of Infectious Disease *(Public Health)*
Michael S. Wolfe, Professor of Neurology *(Medical School)*
Wesley Philip Wong, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Clifford Woolf, Professor of Neurobiology *(Medical School)*
Catherine Ju-Ying Wu, Assistant Professor of Medicine *(Medical School)*
Chao-Ting Wu, Professor of Genetics *(Medical School)*
Hao Wu, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Kai Wucherpfennig, Professor of Neurology *(Medical School)*
Ramnik Xavier, Associate Professor of Medicine *(Medical School)*
Catherine T. Yan, Assistant Professor of Pathology *(Medical School)*
Priscilla Yang, Assistant Professor of Microbiology and Molecular Genetics *(Medical School)*
Bruce Yankner, Associate Professor of Neurology *(Medical School)*
Gary I. Yellen, Professor of Neurobiology *(Medical School)*
Paul B. Yu, Assistant Professor of Medicine *(Medical School)*
Junying Yuan, Professor of Cell Biology *(Medical School)*
Edmond J. Yunis, Professor of Pathology *(Medical School)*
Timur Yusufzai, Assistant Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Bruce R. Zetter, Charles Nowiszewski Professor of Cancer Biology in the Department of Surgery *(Medical School)*
Yi Zhang, Professor of Genetics *(Medical School)*
Jean J. Zhao, Associate Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Jing Zhou, Associate Professor of Medicine *(Medical School)*
Qiao Zhou, Assistant Professor of Stem Cell and Regenerative Biology
Xiaowei Zhuang, Professor of Chemistry and Chemical Biology and of Physics

Leonard I. Zon, Professor of Stem Cell and Regenerative Biology and Grousbeck Professor of Pediatrics, Harvard Medical School *(Medical School)*
Lee Zou, Associate Professor of Pathology *(Medical School)*

The Division of Medical Sciences makes available to graduate students the facilities of the preclinical departments and research laboratories of the Harvard Medical School and its affiliated hospitals and institutions. The Division offers advanced courses and research in cell biology, biological chemistry and molecular pharmacology, genetics, immunology, microbiology and molecular genetics, neurosciences, pathology, physiology, and virology. Qualified undergraduates may be admitted with the permission of the instructor and the student's department of concentration, as far as the facilities of the special laboratories permit. Inquiries should be addressed to the Division of Medical Sciences, Harvard Medical School, 260 Longwood Avenue, Boston, MA 02115, or telephone (617) 432-0162, email address dms@hms.harvard.edu.

For other courses in biological sciences, see listings of the Program in Biological Sciences in Public Health, Biophysics and Molecular and Cellular Biology.

Biological and Biomedical Sciences (BBS)

BBS is an interdepartmental graduate training program in cellular and molecular biology. BBS faculty members are drawn from all of the basic science departments of Harvard Medical School — Biological Chemistry and Molecular Pharmacology (BCMP), Cell Biology, Stem Cell and Regenerative Biology, Genetics, Microbiology and Immunobiology, Neurobiology and Systems Biology — and from many of Harvard's affiliated teaching hospitals. BBS has also incorporated faculty from the Faculty of Arts and Sciences (FAS) as part of its effort to build new initiatives in graduate training.

Primarily for Graduates

BBS 230 (formerly Microbiology 230). Analysis of the Biological Literature
Catalog Number: 36968
Michael Demian Blower (Medical School), Dipanjan Chowdhury (Medical School), Stephen J. Elledge (Medical School), Jonathan M. G. Higgins (Medical School), Cammie Lesser (Medical School), Adrian Salic (Medical School), Andreas Herrlich (Medical School), Laurie Jackson-Grusby (Medical School)
Half course (fall term). Tu., Th., 3-6.
Students participate in intensive small group discussions focused on the critical analysis of basic research papers from a wide range of fields including biochemistry, cell and developmental biology, genetics, and microbiology. Papers are discussed in terms of their background, significance, hypothesis, experimental methods, data quality, and interpretation of results. Students will be asked to propose future research directions, to generate new hypotheses and to design experiments aimed at testing them.
Note: This course is required for first year BBS students. Students who are not first year BBS are welcome to contact the course director to determine if space is available and receive course materials in advance of class. For the midterm and final exams the students will be asked to submit written critiques of recent papers from the literature, with an emphasis on proposing new experimental directions to test the models proposed in the papers.

Graduate Courses of Reading and Research

***BBS 301. Teaching Practicum**
Catalog Number: 77888
David L. Van Vactor (Medical School) 2089 and members of the Departments

Half course (fall term). Hours to be arranged.
Course for TAs currently teaching in an approved BBS Core Course. This course aims to better prepare TAs for the course in which they are working, to teach skills in instruction and to provide training in curriculum planning.

***BBS 333r. Introduction to Research in Biological and Biomedical Sciences**
Catalog Number: 1206
David L. Van Vactor (Medical School) 2089
Note: BBS students register for lab rotations under this course number.

***BBS 380. Reading and Research in Biological and Biomedical Sciences**
Catalog Number: 0349
David L. Van Vactor (Medical School) 2089

Biological Chemistry and Molecular Pharmacology

All courses in Biological Chemistry and Molecular Pharmacology are subject to limitation in enrollment and will not be offered unless there is sufficient demand. For courses in Neuropharmacology, see listings under Neurobiology. For more courses in biochemistry, see other listings in the FAS Biological Sciences section.

Primarily for Graduates

BCMP 200. Molecular Biology
Catalog Number: 5591
Joseph John Loparo (Medical School), Paul J. Anderson (Medical School), Lee Stirling Churchman (Medical School), Johannes Walter (Medical School), and Timur Yusufzai (Medical School)
Half course (fall term). M., W., F., 10:45-12:15.
An advanced treatment of molecular biology's Central Dogma. Considers the molecular basis of information transfer from DNA to RNA to protein, using examples from eukaryotic and prokaryotic systems. Lectures, discussion groups, and research seminars.
Note: Offered jointly with the Medical School as BP 723.0.
Prerequisite: Intended primarily for graduate students familiar with basic molecular biology or with strong biology/chemistry background.

BCMP 201. Biological Macromolecules: Structure, Function and Pathways
Catalog Number: 5068
Stephen C. Harrison (Medical School), Stephen C. Blacklow (Medical School), and Peter K. Sorger (Medical School)
Half course (spring term). Tu., Th., 9:30–11, W., 4–5:30.
Macromolecular structure with emphasis on biochemistry, interactions and catalysis in cellular processes and pathways. Links between theory and observation will emerge from discussion of fundamental principles, computational approaches and experimental methods.
Note: The course is intended for all Division of Medical Sciences (DMS) graduate students and is open to advanced undergraduates. Offered jointly with the Medical School as BP 714.0.

***BCMP 213. Behavioral Pharmacology**
Catalog Number: 4782 Enrollment: Limited to 15.
Jack Bergman (Medical School) and Brian D. Kangas (Medical School)
Half course (spring term). Hours to be arranged.

Introduction to behavioral pharmacology of CNS drugs (e.g., psychomotor stimulants, antischizophrenics,opioid analgesics, antianxiety agents);seminar format with emphasis on behavioral methodology (i.e., model and assay development) and pharmacological analysis (i.e., receptor selectivity and efficacy); attention to tolerance, drug dependence/addiction/treatment, and basic behavioral processes.
Note: Offered jointly with the Medical School as BP 719.0.

***BCMP 218. Molecular Medicine**
Catalog Number: 2049 Enrollment: Limited to 35.
George Q. Daley (Medical School), David E. Cohen (Medical School), and Irving M. London (Medical School)
Half course (fall term). Tu., 1–3.
A seminar on various human diseases and their underlying genetic or biochemical bases. Primary scientific papers discussed. Lectures by faculty and seminars conducted by students, faculty supervision.
Note: Faculty mentors will guide student-led discussions of the papers. Jointly offered with the Medical School as HT 140.
Prerequisite: Molecular Biology and Biochemistry.

[BCMP 228. Macromolecular NMR]
Catalog Number: 3969
Gerhard Wagner (Medical School) and James J. Chou (Medical School)
Half course (fall term). M., F., 2–3:30.
Theory and practice of modern methods of macromolecular structure determination using multi-dimensional NMR.
Note: Expected to be given in 2014–15. Given in alternate years. Offered jointly with the Medical School as BP 722.0. Classroom lectures on Mondays and Fridays. The course will include classroom lectures, practical training and hands-on problem solving. The latter includes basic aspects of spectrometer operation, computer-based assignment of protein NMR spectra and structure calculation.

BCMP 230. Principles and Practice of Drug Development
Catalog Number: 1295
Stan Neil Finkelstein (Medical School) and Robert H. Rubin (Medical School)
Half course (fall term). Th., 3–6.
Critical assessment of the major issues and stages of developing a pharmaceutical or biopharmaceutical. Drug discovery, preclinical development, clinical investigation, manufacturing and regulatory issues considered for small and large molecules. Economic considerations of the drug development process.
Note: Classes held at MIT.

BCMP 234. Cellular Metabolism and Human Disease
Catalog Number: 9644 Enrollment: May be limited
Thomas Michel (Medical School), Cheryl Denise Vaughan and members of the Department
Half course (spring term). M., W., F., 9-10:30.
Cellular and organismal metabolism, with focus on interrelationships between key metabolic pathways and human disease states. Genetic and acquired metabolic diseases and functional consequences. Interactive lectures and critical reading conferences are integrated with clinical encounters.
Note: Also listed as MCB 234.
Prerequisite: Knowledge of introductory biochemistry, genetics, and cell biology required (MCB 52 and 54 or equivalent); one year of organic chemistry.

BCMP 236. Modern Drug Discovery: from principles to patients - *(New Course)*
Catalog Number: 84345
Nathanael Gray (Medical School) and members of the Department
Half course (spring term). Tu., Th., 3:30–5.
This course will familiarize students with central concepts in drug action and therapeutics at the level of molecules, cells, tissues and patients. These concepts and methods are central to modern drug development and regulatory evaluation. In the 1st half of the course we will cover drug-target interactions, Pharmacokinetics and Pharmacodynamics at a quantitative level, the clinical trials process, biomarkers and new frontiers in Therapeutic development. The 2nd half will focus on modern approaches to therapeutic discovery and development, both small molecules and protein based. Examples are drawn from numerous unmet medical needs including cancer, HIV, neurodegenerative and infectious diseases. The course will include computational exercises and a MATLAB workshop.
Note: This course is the combination of the BCMP 309qc and 307qc quarter courses, offered as half course. Students who plan to take the two quarters must sign up under BCMP 236.

Graduate Courses of Reading and Research

***BCMP 309. Regulation of Membrane Protein and Lipid Dynamics: Molecular Mechanisms and Biological Implications**
Catalog Number: 1558
David E. Golan (Medical School) 1558

***BCMP 310. Molecular and Cellular Mechanisms of Insulin Action**
Catalog Number: 4299
Morris F. White (Medical School) 3158

***BCMP 311. Structure and Dynamics of Macromolecular Assemblies**
Catalog Number: 3623
Stephen C. Harrison (Medical School) 3597

***BCMP 312. Downregulating DNA Repair: Phosphatases & MicroRNAs**
Catalog Number: 30165
Dipanjan Chowdhury (Medical School) 6266

***BCMP 313 (formerly Pathology 354). Biochemistry of transmembrane receptors and signaling**
Catalog Number: 49628
Stephen C. Blacklow (Medical School) 1462

***BCMP 314. Protein NMR Spectroscopy of Membrane Protein**
Catalog Number: 3449
James J. Chou (Medical School) 4950

***BCMP 315. Growth Factor Structure and Function**
Catalog Number: 6034
Michael Klagsbrun (Medical School) 3167

***BCMP 316. Signal Transduction and Phosphorylation in Heart Disease**
Catalog Number: 96794
Maria Irene Kontaridis (Medical School) 6398

***BCMP 317. Signal Transduction and Related Molecular Pathophysiology**
Catalog Number: 3354
Steven E. Shoelson (Medical School) 3951

***BCMP 318. Innate Immunity Against RNA Viruses**
Catalog Number: 45272
Sun Hur (Medical School) 6403

***BCMP 319. Histone Variants and Chromosome Biology**
Catalog Number: 1748
Kami Ahmad (Medical School) 4592

***BCMP 320. Systems and Synthetic Biology**
Catalog Number: 0265
Pamela A. Silver (Medical School) 1595

***BCMP 324. Structure and Replication of DNA**
Catalog Number: 5059
Charles C. Richardson (Medical School) 2479

***BCMP 325. Genomic Instability and Cancer Susceptibility**
Catalog Number: 4110
Alan D. D'Andrea (Medical School) 3532

***BCMP 328. Computational Analysis of Sequence Variation and Divergence**
Catalog Number: 2468
Shamil R. Sunyaev (Medical School) 4671

***BCMP 329. Structure Biology of Cytoplasmic Signal Transduction**
Catalog Number: 5005
Michael J. Eck (Medical School) 1739

***BCMP 331. Biochemistry and Biology of Neurodegenerative Diseases**
Catalog Number: 9727
Michael S. Wolfe (Medical School) 4543

BCMP 332. Pathophysiologic functions of BMP signaling - *(New Course)
Catalog Number: 93159
Paul B. Yu (Medical School) 7432

BCMP 333. Structural biology of mechanisms in gene regulation - *(New Course)
Catalog Number: 95018
Piotr Sliz (Medical School) 6569

***BCMP 334. MicroRNA Functions in Cancers and Quiescence**
Catalog Number: 79343
Shobha Vasudevan (Medical School) 6972



***BCMP 335. Biochemical and Genetic Analysis of Eukaryotic Gene Expression**
Catalog Number: 8052
Stephen Buratowski (Medical School) 1790

***BCMP 337. Drosophila Molecular Genetics**
Catalog Number: 0782
Welcome W. Bender (Medical School) 7083

***BCMP 338. Gene regulation in yeast and cancer**
Catalog Number: 0549
Kevin Struhl (Medical School) 7415

***BCMP 339. Regulation of the Cellular Uptake of Macromolecular Nutrients**
Catalog Number: 3453
Marianne Wessling-Resnick (Public Health) 1315

***BCMP 340. Biologically Active Small Molecules**
Catalog Number: 8300
Jon Clardy (Medical School) 4667

***BCMP 343. Molecular Genetics of Herpes Viruses**
Catalog Number: 0868
Donald M. Coen (Medical School) 7617

***BCMP 344. Molecular Pharmacology of Excitable Membranes**
Catalog Number: 0200
Gary R. Strichartz (Medical School) 7530

***BCMP 345. Transcription Factors in Hematopoiesis and Leukemogenesis**
Catalog Number: 4792
Alan B. Cantor (Medical School) 5150

***BCMP 348. Chromatin and Cancer**
Catalog Number: 6409
Charles M. Roberts (Medical School) 5151

***BCMP 349. Targeting Deregulated Apoptotic and Transcriptional Pathways in Cancer**
Catalog Number: 1071
Loren D. Walensky (Medical School) 5665

***BCMP 352. Chemical Mediators in Inflammation and Resolution**
Catalog Number: 4853
Charles N. Serhan (Medical School) 3163

***BCMP 353. Epigenomics and Chromatin Systems Biology**
Catalog Number: 8682
Yujiang Shi (Medical School) 5509



***BCMP 355. Transcriptional Control of Hematopoiesis and Leukemia**
Catalog Number: 4489
Hanno Reinhard Hock (Medical School) 5660

***BCMP 356. NMR Spectroscopy of Proteins and Metabolites**
Catalog Number: 8093
Gerhard Wagner (Medical School) 2626

***BCMP 358. Targeting Apoptosis Regulation in Cancer**
Catalog Number: 6735
Anthony G. Letai (Medical School) 5663

***BCMP 359. Molecular Mechanisms of Signal Transduction**
Catalog Number: 8520
Elaine A. Elion (Medical School) 2941

***BCMP 360. Regeneration of Cartilage and Skeletal Muscle**
Catalog Number: 6934
Andrew B. Lassar (Medical School) 2946

***BCMP 361. X-Ray Crystallographic Studies of Viruses and Proteins**
Catalog Number: 4155
James M. Hogle (Medical School) 2943

***BCMP 362. Eukaryotic Survival Decisions**
Catalog Number: 4972
David E. Fisher (Medical School) 1800

***BCMP 363. Normal cell division mechanisms and cell division defects in cancer**
Catalog Number: 4981
David Pellman (Medical School) 3702

***BCMP 366. Stem Cells in Disease and Development**
Catalog Number: 9236
George Q. Daley (Medical School) 4951

***BCMP 370. Advanced Topics in Biological Chemistry and Molecular Pharmacology**
Catalog Number: 0482
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (7 weeks). Two seminars, which can be taken in different terms, are required for credit.
Note: Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***BCMP 371. Maintenance of genome stability in S phase**
Catalog Number: 3739
Johannes Walter (Medical School) 3846



***BCMP 375. Biomolecular Nanotechnology**
Catalog Number: 3288
William Shih (Medical School) 5256

***BCMP 376. Mechanisms of Action of Antibiotics**
Catalog Number: 3033
Daniel E. Kahne 5065

***BCMP 377. Quantitative Proteomics of Cancer Progression**
Catalog Number: 5225
Jarrod Marto (Medical School) 5326

***BCMP 378. Mechanisms of Hepatic Cholesterol Elimination**
Catalog Number: 6669
David E. Cohen (Medical School) 3478

***BCMP 379. Biochemical and Molecular Regulation of Vascular Growth**
Catalog Number: 9374
Marsha Moses (Medical School) 5388

***BCMP 381. Functional Small Molecules for Biological Discovery**
Catalog Number: 8841
Nathanael Gray (Medical School) 5730

***BCMP 382. Mechanisms of RNAi in Stem Cells**
Catalog Number: 9601
Richard Ian Gregory (Medical School) 5743

***BCMP 383. Integrated and Functional Genomic Studies of Human Cancer**
Catalog Number: 5334
Levi Alexander Garraway (Medical School) 6203

***BCMP 384. Embryonic stem cells, Nuclear Transfer, Cancer, Reprogramming**
Catalog Number: 5330
Konrad Hochedlinger (Medical School) 6101

***BCMP 385 (formerly Pathology 316). Control of Gene Expression in Tumorgenesis and Differentiation**
Catalog Number: 59773
Thomas M. Roberts (Medical School) 7729

***BCMP 386 (formerly Pathology 387). Kinase Signaling in Cancer**
Catalog Number: 23358
Jean J. Zhao (Medical School) 6237

***BCMP 387. Single-molecule Biophysics and Force Spectroscopy**
Catalog Number: 47527
Wesley Philip Wong (Medical School) 6463

***BCMP 388. Single-molecule studies of DNA repair**
Catalog Number: 19862
Joseph John Loparo (Medical School) 6798

***BCMP 389. Chromatin and DNA Dynamics**
Catalog Number: 86491
Timur Yusufzai (Medical School) 6953

***BCMP 390. Gene Regulation Studied with Small Molecules**
Catalog Number: 87028
James Elliott Bradner (Medical School) 6542

***BCMP 391. Redox biology, trace elements and aging**
Catalog Number: 82614
Vadim Gladyshev (Medical School) 3401

***BCMP 392. Genomic and Epigenomic Susceptibility to Cancer**
Catalog Number: 35506
Aditi Hazra (School of Public Health) 2913

Quarter Courses for Graduate Students Only

***BCMP 300qc. Advanced Topics in Biological Chemistry and Molecular Pharmacology**
Catalog Number: 69187
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (7 weeks).
Note: Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***BCMP 301qc. Translational Pharmacology**
Catalog Number: 97487 Enrollment: Enrollment may be limited.
Donald M. Coen (Medical School) 7617 and David E. Golan (Medical School)
Quarter course (spring term). Hours to be arranged.
This intensive course held during the first two full weeks of January (ten days) covers principles of pharmacology and their translation into new drug development. Students participate in project groups composed of both graduate students and post-graduate M.D.'s to propose a drug development strategy from target choice through clinical trials. There are two hours of lectures each of the first eight mornings; afternoons include case studies discussed by Harvard faculty and faculty from the pharmaceutical and biotechnology industries, or time to work on the project. Evaluation is based on the project and class participation. Enrollment may be limited.

[*BCMP 302qc. Molecular Movies: Introduction to 3D Visualization with Maya]
Catalog Number: 45965 Enrollment: Limited to 8. Will accept up to 12 auditors.
David Lopes Cardozo (Medical School) 5995 and Members of the Department
Quarter course (fall term). F., 9–12.
Introduction to advanced scientific visualization techniques using leading 3D software packages Maya and Molecular Maya. Focus will be placed on adapting existing 3D modeling/animation tools for purposes of visualizing biological processes.
Note: Expected to be given in 2014–15.

[*BCMP 303qc. Molecular Movies: Advanced 3D Visualization with Maya]
Catalog Number: 61072 Enrollment: Limited to 18.
David Lopes Cardozo (Medical School) 5995
Quarter course (spring term). F., 9–12.
Explore Maya's vast visualization toolset. Advanced techniques in each of the phases of the 3D production pipeline will be presented including dynamics systems like Hair, nCloth, nParticles and PaintFx. Introduction to Maya's Embedded Language (MEL).
Note: Expected to be given in 2014–15.
Prerequisite: Molecular Movies: Introduction to 3D Visualization with Maya required.

***BCMP 307qc. Approaches to Drug Action, Discovery, and Design**
Catalog Number: 52371 Enrollment: May be limited.
Nathanael Gray (Medical School) 5730, and members of the Department
Quarter course (spring term). Tu., Th., 3:30–5.
Application of molecular, systems, and structural biology, genetics, genomics, enzymology, and chemistry to development of new therapies. Examples drawn from diseases including cancer and AIDS. Students write and present proposals for discovery of new therapeutics.
Note: This course pairs with *BCMP 309qc. Principles of Drug Action in Man. Students who plan to take both quarter courses must sign up under BCMP 236.

***BCMP 308qc. Cell Fate Decisions in Development and Disease**
Catalog Number: 21552 Enrollment: Limited to 10.
Alan B. Cantor (Medical School) 5150
Quarter course (fall term). W., 1:30 - 3:30.
This quarter course will offer students an in-depth examination of current knowledge regarding mechanisms of cell fate decisions. In addition, it will examine these processes in the context of developmental cell plasticity, cellular reprogramming, and cancer. This will primarily be a literature-based course, with examination and discussion of key studies in the field. Concepts involving transcription factor networks, transcription factor cross-antagonism, feedback loops, lineage priming, lineage identity maintenance, mitotic bookmarking, epigenetics, Notch signaling, cytokine signaling, and microRNAs will be explored. These ideas will be examined in the context of a number of different tissue systems including blood, breast, lung, and gastrointestinal tract.

***BCMP 309qc. Principles of Drug Action in Man**
Catalog Number: 63265
Timothy J. Mitchison (Medical School) 3713
Quarter course (spring term). Tu., Th., 3:30–5.
This course pairs with BCMP 307qc. Approaches to Drug Action, Discovery, and Design.
Note: This course pairs with *BCMP 307qc. Molecular Approaches to Drug Action, Discovery, and Design. Students who plan to take both quarter courses must sign up under BCMP 236.

Cell Biology

Primarily for Graduates

Cell Biology 201. Molecular Biology of the Cell
Catalog Number: 1044
Marcia C. Haigis (Medical School)
Half course (spring term). M., W., 10:30-12, and sections F., at 10:30-12.
Molecular basis of cellular compartmentalization, protein trafficking, cytoskeleton dynamics, mitosis, cell

locomotion, cell cycle regulation, signal transduction, cell-cell interaction, cell death, and cellular/biochemical basis of diseases.
Note: Methodological focus on current approaches in cell biology including quantitative tools. Emphasis on experimental design. Offered jointly with the Medical School as CB 713.0.
Prerequisite: Basic knowledge in biochemistry, genetics and cell biology.

Cell Biology 207. Developmental Biology: Molecular Mechanisms of Vertebrate Development
Catalog Number: 2044 Enrollment: Limited to 25.
Andrew B. Lassar (Medical School), John G. Flanagan (Medical School), Wolfram Goessling (Medical School), Jordan A. Kreidberg (Medical School), Sean Megason (Medical School), Trista Elizabeth North (Medical School), Ramesh Shivdasani (Medical School), Jessica Whited (Medical School), and Malcolm Whitman (Dental School)
Half course (spring term). M., Th., 2–4.
Analyzes the developmental programs of frog, chick, zebrafish, and mouse embryos, emphasizing experimental strategies for understanding the responsible molecular mechanisms that pattern the vertebrate embryo. Morphogenesis, organogenesis, stem cells and regeneration will also be discussed.
Note: Offered jointly with the Medical School as CB 710.0. Includes lectures and conference sessions in which original literature is discussed in depth. Short research proposals are required in lieu of exams.

Cell Biology 211. Molecular and Systems Level Cancer Cell Biology
Catalog Number: 5771
Piotr Sicinski (Medical School), Jarrod Marto (Medical School), and Marc Vidal (Medical School)
Half course (spring term). M., W., 1–2:30.
Examines the molecular basis of cancer formation including alterations in signal transduction pathways, cell cycle machinery, cell metabolism and apoptosis. Describes novel systems biology proteomic approaches to study cancer cell interactomes.
Note: Given alternate years with Cell Biology 212. Offered jointly with the Medical School as CB 704.0.
Prerequisite: General knowledge of biochemistry, molecular genetics, and cell biology.

[Cell Biology 212. Biology of the Cancer Cell]
Catalog Number: 4169
David A. Frank (Medical School) and Jean J. Zhao (Medical School)
Half course (spring term). M., W., 12:30-2:00.
This semester long course takes a molecular approach to examine the basis of human cancer. The main concepts that we will cover include: tumor suppressor genes and oncogenes, signal transduction, DNA damage and repair, angiogenesis, metastasis and invasion, and apoptosis. Lectures will be delivered by experts in the various fields of Cancer Biology research to provide an integrated perspective on past, current and future approaches in Cancer Biology Research.
Note: Expected to be given in 2014–15. Given alternate years with Cell Biology 211.
Prerequisite: Advanced biochemistry, molecular genetics, and cell biology.

[Cell Biology 225. Hormonally Active Pollutants and Human Disease]
Catalog Number: 94802
Joan V. Ruderman (Medical School)
Half course (spring term). Th., 4:30–6:30.
Surprising number of environmental pollutants can mimic or interfere with developmental and physiological effects of hormones. This course examines landmark discoveries and legislation, and emphasizes current work in this emerging area.
Note: Expected to be given in 2014–15. Intended for interested students from all concentrations.

Cell Biology 226. Concepts in Development, Self-Renewal, and Repair
Catalog Number: 8747 Enrollment: Limited to 12.
Iain A. Drummond (Medical School) and Andrew Stephen Brack (Medical School)
Half course (fall term). F., 2–5.
Explores developmental mechanisms through the life cycle, contrasting pluripotency and cell fate restriction in embryos and adult tissues. In depth analysis of in vivo approaches, with emphasis on adult stem cells, tissue repair and self-renewal.
Note: Offered jointly with the Medical School as CB 721.0. For more information visit: Massachusetts General Hospital and select CB 226.
Prerequisite: Upper division cell biology or equivalent.

Graduate Courses of Reading and Research

***Cell Biology 300. Advanced Topics in Cell, Molecular, and Developmental Biology**
Catalog Number: 5825
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (seven weeks). Different topics are covered each term.
Note: Two seminars, which can be taken in different terms, are required for credit. Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***Cell Biology 305. Bone Cells Differentiation, Function and Signaling**
Catalog Number: 60379
Roland Elie Baron (Dental School, Medical School) 6397

***Cell Biology 306. Chromatin Dynamics in metabolism and DNA repair**
Catalog Number: 75486
Raul Mostoslavsky (Medical School) 6402

***Cell Biology 307. Cell-cell signaling in neural development and regeneration**
Catalog Number: 1911
John G. Flanagan (Medical School) 3149

***Cell Biology 308. Membrane Biology**
Catalog Number: 6173
Dennis A. Ausiello (Medical School) 1288

***Cell Biology 310. Mechanisms of Vertebrate Hedgehog Signaling**
Catalog Number: 9189
Adrian Salic (Medical School) 5351

***Cell Biology 311. Cardiovascular Signal Transduction**
Catalog Number: 9196
Thomas Michel (Medical School) 4392

***Cell Biology 312. Molecular Mechanisms of Transcriptional Control**
Catalog Number: 8538
Anders Michael Naar (Medical School) 4328



***Cell Biology 313. Systems Biology of Mammalian Signal Transduction**
Catalog Number: 23964
Peter K. Sorger (Medical School) 5544

***Cell Biology 314. Molecular Biology of Extracellular Matrix**
Catalog Number: 5077
Bjørn R. Olsen (Medical School, Dental School) 1164

***Cell Biology 316. Mechanism and Function of Intracellular Protein Turnover**
Catalog Number: 1017
Alfred L. Goldberg (Medical School) 2827

***Cell Biology 317. Mechanisms of Programmed Cell Death**
Catalog Number: 2270
Junying Yuan (Medical School) 2105

***Cell Biology 318. Molecular Biology of Cell Growth Regulation and Transformation**
Catalog Number: 3355
John Blenis (Medical School) 2612

***Cell Biology 319 (formerly Pathology 368). Signaling Pathways in Cancer Cell Biology**
Catalog Number: 71626
Alex Toker (Medical School) 4971

***Cell Biology 321. Neuronal Pathfinding and Synaptogenesis**
Catalog Number: 4841
David L. Van Vactor (Medical School) 2089

***Cell Biology 325. Molecular and Cellular Regulators of Cancer Progression**
Catalog Number: 27821
Sandra McAllister (Medical School) 3226

***Cell Biology 326. Signal Transduction During Early Development**
Catalog Number: 1872
Malcolm Whitman (Dental School) 3267

***Cell Biology 328. Single-molecule biology and visualization of cellular dynamics**
Catalog Number: 0438
Tomas Kirchhausen (Medical School) 1155

***Cell Biology 329. The Ubiquitin-Proteasome Pathway**
Catalog Number: 6826
Daniel Finley (Medical School) 2313

***Cell Biology 332. Mass Spectrometry and Proteomics**
Catalog Number: 1568
Instructor to be determined



***Cell Biology 333. Electron Microscopic Structure Determination**
Catalog Number: 9254
Thomas Walz (Medical School) 3778

***Cell Biology 336. Signal Transduction in Normal and Transformed Cells**
Catalog Number: 6833
Joan S. Brugge (Medical School) 1486

***Cell Biology 339. Cell Morphogenesis and Regulation**
Catalog Number: 3898
Marc W. Kirschner (Medical School) 1078

***Cell Biology 340. Dissection of Angiogenic Signaling in Zebrafish**
Catalog Number: 7792
Joanne Chan (Medical School) 5391

***Cell Biology 343. Mechanisms of Mammalian Cell Differentiation and Gene Expression**
Catalog Number: 0202
Bruce M. Spiegelman (Medical School) 7733

***Cell Biology 344. Molecular Mechanism of Signal Transduction**
Catalog Number: 6093
Xi He (Medical School) 2004

***Cell Biology 345. Protein Transport Across the Endoplasmic Reticulum Membrane**
Catalog Number: 6793
Tom Rapoport (Medical School) 1815

***Cell Biology 346. Molecular Basis of Human Disease**
Catalog Number: 1591
Andrius Kazlauskas (Medical School) 2088

***Cell Biology 347. Cellular and Molecular Aspects of Insulin Action**
Catalog Number: 1494
C. Ronald Kahn (Medical School) 2019

Cell Biology 348. Transcriptional regulation and epigenetics in breast and prostate cancer - *(New Course)
Catalog Number: 87887
Myles A. Brown (Medical School) 1789

***Cell Biology 349. Gene Silencing and Chromosome Structure**
Catalog Number: 8765
Danesh Moazed (Medical School) 4254

***Cell Biology 351. Cardiovascular Stem Cells in Development and Disease**
Catalog Number: 7604
Kenneth R. Chien 5667

***Cell Biology 354. Basic and Applied Mechanisms of Intracellular Transport**
Catalog Number: 7605
Victor Wee Hsu (Medical School) 2606

***Cell Biology 356. Cell Growth Regulation, Telomere Maintenance, Cancer and Alzheimer's Disease**
Catalog Number: 3718
Kun Ping Lu (Medical School) 2607

***Cell Biology 358. Mechanisms of Tumor Metastasis**
Catalog Number: 0606
Bruce R. Zetter (Medical School) 7737

***Cell Biology 359. Intracellular Signaling Pathways in the Regulation of Cell Growth and Differentiation**
Catalog Number: 0335
David A. Frank (Medical School) 3276

***Cell Biology 360. Genetic Control of Apoptosis in Drosophila**
Catalog Number: 6046
Kristin White (Medical School) 3955

***Cell Biology 365 (formerly Pathology 370). Mechanism and biology of ubiquitin-like protein conjugation cascades**
Catalog Number: 96188
J. Wade Harper (Medical School) 4957

***Cell Biology 366 (formerly Pathology 379). Mitochondria in Aging and Metabolism**
Catalog Number: 44666
Marcia C. Haigis (Medical School) 5734

***Cell Biology 370. Mitotic Kinases, Chromatin and Chromosome Segregation**
Catalog Number: 0661
Jonathan M. G. Higgins (Medical School) 5543

***Cell Biology 371. Nutrient Sensing and Metabolic Control**
Catalog Number: 5804
Pere B. Puigserver (Medical School) 5735

***Cell Biology 372. Cytoskeletal Dynamics**
Catalog Number: 5032
Timothy J. Mitchison (Medical School) 3713

***Cell Biology 373. Molecular Genetics of Cell Interaction in Development**
Catalog Number: 8133
Spyros Artavanis-Tsakonas (Medical School) 2609

***Cell Biology 374. Cell-extracellular matrix interaction in brain development and malformation**
Catalog Number: 35175
Xianhua Piao (Medical School) 7046

***Cell Biology 375. Cancer Genetics and DNA**
Catalog Number: 26444
David Marc Weinstock (Medical School) 6929

***Cell Biology 376. Chemical Approaches to Cell Division and Cancer**
Catalog Number: 7680
Randy King (Medical School) 3941

***Cell Biology 377. Islet cell signaling mechanisms, Stem cells, iPS Cells in diabetes**
Catalog Number: 7966
Rohit N. Kulkarni (Medical School) 5152

***Cell Biology 378. Bacterial Toxin Entry and Immunoglobulin Transport in Mucosal Epithelial Cells**
Catalog Number: 7656
Wayne I. Lencer (Medical School) 5153

***Cell Biology 379. BMP Signaling in Organogenesis**
Catalog Number: 2894
Vicki Rosen (Dental School) 4790

***Cell Biology 380. Cytoskeletal Mechanics of Blood Platelet Production**
Catalog Number: 9706
Joseph E. Italiano (Medical School) 5392

***Cell Biology 381. Molecular Mechanism of Microtubule-based Motility**
Catalog Number: 8578
Samara Louise Reck-Peterson (Medical School) 6165

***Cell Biology 382. Regulation of Rho GTPases by synaptopodin**
Catalog Number: 16967
Peter Hermann Mundel (Medical School) 7040

***Cell Biology 383. Molecular Biology of Instinctive Animal Behavior**
Catalog Number: 8119
Stephen Daniel Liberles (Medical School) 6159

***Cell Biology 384. Molecular Biology of Insulin and Leptin Receptor Signaling Systems in Obesity**
Catalog Number: 50613
Umut Ozcan (Medical School) 2557

***Cell Biology 385. Epigenetic mechanisms and genomic integrity**
Catalog Number: 72714
Mohammad Motamedi (Medical School) 7039

***Cell Biology 386. Systemic metabolism and cancer**
Catalog Number: 41321
Nada Y. Kalaany (Medical School) 7026

***Cell Biology 387. Calcium signaling in health and disease**
Catalog Number: 81727
Anna Greka (Medical School) 7021

***Cell Biology 389 (formerly *Pathology 380). Modeling ovarian cancer pathogenesis and early detection**
Catalog Number: 97721
Ronny I. Drapkin (Medical School) 5912

***Cell Biology 390 (formerly *Pathology 351). Membrane:cytoskeleton interface in morphogenesis and tumorigenesis/metastasis**
Catalog Number: 31092
Andrea I. McClatchey (Medical School) 2204

***Cell Biology 399. Nanocourses**
Catalog Number: 0087
David Lopes Cardozo (Medical School) 5995 and Spyros Artavanis-Tsakonas (Medical School) 2609

Quarter Courses for Graduate Students Only

***Cell Biology 300qc. Advanced Topics in Cell, Molecular, and Developmental Biology**
Catalog Number: 17665
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (7 weeks).
Note: Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***Cell Biology 301qc. The Epidemiology and Molecular Pathology of Cancer**
Catalog Number: 24657
Instructor to be determined
Quarter course (spring term). M. through F., 9:30–5.
This January course will provide students with an in-depth introduction to the epidemiology and molecular pathology of cancer. We will explore multiple types of cancer, including breast, colon, lung, prostate and brain, through a series of lectures and hands-on practice tutorials. These tutorials will include training in molecular pathology techniques, state of the art image analysis of human biomarkers, tissue processing, immunohistochemistry, and tumor histology. In addition, the epidemiology, genetics and relevant signal transduction pathways of cancer will be highlighted.
Note: This is an intensive January course. Curriculum Fellow: Megan Mittelstadt, 617-432-7498.

***Cell Biology 302qc. Advanced Experimental Design for Biologists**
Catalog Number: 91286 Enrollment: Limited to 24.
Randy King (Medical School) 3941 and David Jonathan Glass (Medical School)
Quarter course (spring term). M., W., 4–6.
Theory and practice of experimental design. Build on principles from experimental design boot camp. Conducted in workshop setting to apply those principles to current student projects. Emphasis placed on interpretation and strategic project planning.

***Cell Biology 304qc. Introduction to Human Gross Anatomy**
Catalog Number: 61023 Enrollment: Limited to 10.

David Lopes Cardozo (Medical School) 5995, Gerald Greenhouse (Medical School), Everett Anderson (Medical School), Mohini Lutchman (Medical School)
Quarter course (spring term). M., W., F., 12–7, and some 12-5.
Lectures, laboratory dissections, and prosections to explore the gross structure and function of the human body. Provide a foundation to acquire practical skills in recognizing, dissecting, and differentiating key anatomical structures.
Note: Open to graduate students only.

***Cell Biology 305qc. Intracellular transport**
Catalog Number: 61228
Victor Hsu (Medical School) and invited faculty
Quarter course (fall term). Tu., 3–5.
This course will provide a practical guide to understanding the role of intracellular transport in physiology and disease settings. Basic mechanisms and also interdisciplinary areas that involve this fundamental cellular process will be selected for discussion.
Note: Offered in alternate years.

***Cell Biology 306qc. Teaching 100: The Theory and Science of Teaching**
Catalog Number: 62351 Enrollment: Limited to 15.
David L. Van Vactor (Medical School) 2089
Quarter course (fall term). Th., 2–4:30.
The Theory and Science of Teaching focuses on understanding why certain teaching methods are effective by examining the scientific research and theoretical frameworks that support classroom methods. Topics to be covered include: the nature of knowledge, Bloom's Taxonomy (including the Cognitive, Affective, and Pyschomotor domains), how active learning and contextualization increase student learning, as well as the theory behind critical thinking skills and problem solving. Classroom sessions will be broken up into part lecture and part in-class activities.
Note: The course has been designed as a companion to Genetics 302qc: Teaching 101, but neither course is a prerequisite of the other.

***Cell Biology 307qc. Molecular Aspects of Chromatin Dynamics**
Catalog Number: 91774 Enrollment: Limited to 25.
Raul Mostoslavsky 6402, Danesh Moazed (Medical School), Johnathan Whetstine (Medical School), and Lee Zou (Medical School), and members of the Department
Quarter course (spring term). Hours to be arranged.
Discuss chromatin dynamics in modulating cellular processes. Cover molecular mechanisms that regulate chromatin dynamics. How chromatin itself modulates biological processes, including mechanisms of inheritance. Discuss DNA methylation, histone modifications, nucleosome dynamics and novel epigenetic modulators.

***Cell Biology 308qc. Introduction to Histology**
Catalog Number: 38084 Enrollment: Limited to 11.
Adrian Salic (Medical School), Gerald Greenhouse (Medical School) and Stephen Daniel Liberles (Medical School)
Quarter course (spring term). M., W., F., 1-5.
The study of structure and how structure relates to function, in cells and tissues.

***Cell Biology 309qc. Advanced Topics in Cell Biology**
Catalog Number: 14797
David L. Van Vactor (Medical School) 2089 and members of the Medical School Faculty

Quarter course (spring term). Th., 6–7:30 p.m.
Dinner Seminar Theme: Controlling Cellular Behavior and Metabolism through Cell Interaction and Signaling. Review articles assigned each week to prepare students for discussion.

***Cell Biology 310qc. Current Topics in Cancer Biology Research**
Catalog Number: 60742
Charles D. Stiles (Medical School) 4828
Quarter course (spring term). M., W., F., 2:30–4:30.
This course is designed for mid- to upper-year graduate students that are interested in Current Topics in Cancer Biology research. Leading and cutting edge technologies in Cancer Biology Research are explored in-depth using recent papers of high profile in a round-table discussion format. Topics include: Cancer Cell Signaling, Metastasis and EMT, Cancer Genomics, Cancer and microRNAs and Cancer Stem Cells.

Cell Biology 311qc. Recent Advances in Cell Biology - *(New Course)
Catalog Number: 86396 Enrollment: Open to first-year and second-year BBS students.
David L. Van Vactor (Medical School) 2089 (spring term only) and Wade Harper (Medical School) 4957
Provides a comprehensive overview on the most recent advances in cell biology, covering hands-on experimental sessions including, electron microscopy, live cell imaging, single molecule imaging, 3D cultures, quantitative proteomics, protein interaction mapping, and more.
Note: Meeting dates and times: Monday, January 6 to Wednesday, January 22, 2014; 9-6 pm. Not repeatable for credit.

Developmental and Regenerative Biology

Graduate Course

***DRB 310. Blood Stem Cell Development and Regeneration**
Catalog Number: 35575
Trista Elizabeth North (Medical School) 6515

***DRB 311. Cardiovascular Stem Cell Biology**
Catalog Number: 50682
Caroline Erter Burns (Medical School) 6516

***DRB 312. Epigenetic Modifications and Cellular Identity**
Catalog Number: 65789
Alexander Meissner 6702

***DRB 313. Liver Development, Regeneration and Carcinogenesis**
Catalog Number: 14267
Wolfram Goessling (Medical School) 6563

***DRB 314. Investigation of the molecular mechanisms governing development and reprogramming of neuronal subtypes in the mammalian cerebral cortex.**
Catalog Number: 80896
Paola Arlotta 6703

***DRB 315. Environmental Signaling, Plasticity and Fate Specification during Development**
Catalog Number: 29374
Susan Mango 6386 (on leave fall term)



***DRB 316. Stem Cells and Organ Size Control**
Catalog Number: 96003
Fernando D. Camargo 6401

***DRB 317. Stem cells, Cancer, and Hematological Disorders**
Catalog Number: 44481
Catherine T. Yan (Medical School) 6517

***DRB 318. Adult hippocampal neurogenesis, cognition and affective behaviors**
Catalog Number: 18357
Amar Sahay (Medical School) 7195

***DRB 319. Adult mammalian regeneration**
Catalog Number: 45223
Qiao Zhou 6578

***DRB 320. Lung Regeneration and Lung Disease**
Catalog Number: 42137
Jayaraj Rajagopal (Medical School) 6762

***DRB 321. Stem Cells and Neurodegenerative Disease**
Catalog Number: 30604
Lee L. Rubin 6061

***DRB 322. Regulation of tissue stem cells**
Catalog Number: 80827
David T. Breault (Medical School) 2595

***DRB 323. Myocardial regeneration, heart muscle cell proliferation**
Catalog Number: 29305
Bernhard Kuhn (Medical School) 2605

***DRB 324. Adult skeletal muscle stem cell regulation**
Catalog Number: 88077
Andrew Stephen Brack (Medical School) 7008

***DRB 325 (formerly Pathology 371). Biology and Function of Tissue-Specific Stem Cells**
Catalog Number: 85039
Amy J. Wagers 5212

***DRB 326 (formerly Pathology 385). Epigenetic Regulation by Large Non-coding RNA**
Catalog Number: 14839
John L. Rinn 6229

DRB 331. Critical Analysis and Experimental Approaches in Developmental Biology - *(New Course)
Catalog Number: 22543 Enrollment: Limited to 16.
Paola Arlotta 6703 and members of the Department
Half course (spring term). M. through Sa., 12–6.
This course will provide a survey of major topics and contemporary research in developmental and

regenerative biology. Students will rotate in the laboratories of DRB faculty across the Harvard campuses and affiliated hospitals. Students engage with faculty and gain hands on experience in a variety of model systems, techniques and research areas. Each day of the course will consist of a lecture followed by hands-on laboratory activities and interactive discussions. Students will be required to complete the lab experience and the following assignments: lead two chalk-talk format paper presentations, and write one 5-6 page research proposal.

Quarter Course for Graduate Students Only

***DRB 330qc (formerly *DRB 330). Experimental Approaches to Developmental Biology**
Catalog Number: 6590 Enrollment: Limited to 16.
Paola Arlotta 6703, and members of the Department
Quarter course (spring term). M. through Sa., 12–6, January 6th-January 17th, 2014.
This laboratory course is designed to provide a survey of major topics and contemporary research in developmental and regenerative biology. Students will rotate in the laboratories of DRB faculty across the Harvard campuses and affiliated hospitals. Students engage with faculty and gain hands on experience in a variety of model systems, experimental techniques and research areas. Each day of the course will consist of a lecture followed by hands-on laboratory activities and interactive discussions.
Note: Open to first-year and second-year BBS students; Not repeatable for credit. January course.

Genetics

Primarily for Graduates

Genetics 201. Principles of Genetics
Catalog Number: 4225
Fred Winston (Medical School), Thomas G. Bernhardt (Medical School), Maxwell G. Heiman (Medical School), Mitzi I. Kuroda (Medical School), and Steven A. McCarroll (Medical School)
Half course (fall term). M., W., F., 9-10:30.
An in-depth survey of genetics, beginning with basic principles and extending to modern approaches and special topics. We will draw on examples from various systems, including yeast, *Drosophila, C. elegans*, mouse, human and bacteria.
Note: Intended for first-year graduate students. Offered jointly with the Medical School as GN 701.0.

Genetics 202. Human Genetics
Catalog Number: 8064 Enrollment: Minimum of 8 and maximum of 30 students.
Matthew L. Warman (Medical School) and members of the Department
Half course (spring term). M., 12:30–4.
This course examines genetic principles and experimental approaches for addressing fundamental questions about human variation, history, health, and disease. Each session is comprised of a lecture followed by a class discussion.
Prerequisite: Genetics 201 (or permission of the instructor) and basic knowledge of probability and statistics. Familiarity with bioinformatics and computational tools will be useful, but tutorial assistance will be provided where necessary.

[Genetics 216. Advanced Topics in Gene Expression]
Catalog Number: 2244
Robert E. Kingston (Medical School) and Fred Winston (Medical School)
Half course (spring term). Tu., 1–4.
Covers both biochemical and genetic studies in regulatory mechanisms. Small number of topics discussed

in depth, using the primary literature. Topics range from prokaryotic transcription to eukaryotic development.
Note: Expected to be given in 2014–15. Offered jointly with the Medical School as GN 703.0.
Prerequisite: BCMP 200 and Genetics 201.

Genetics 219. Inheritance and Weird Stuff
Catalog Number: 14189
Chao-Ting Wu (Medical School) and Kami Ahmad (Medical School)
Half course (spring term). Tu., 11-2.
Focus on patterns of inheritance, including those that were once considered extraordinary but are now recognized as paradigms spanning fungi to humans. Expectations: questions, ideas, conversation during class. No tests, problem sets, or papers.
Prerequisite: Primarily for first-year graduate students, but is open to medical students and advanced undergraduates. A basic understanding of genetics recommended.

Genetics 220. Molecular Biology and Genetics in Modern Medicine
Catalog Number: 4660
Anne Giersch (Medical School)
Half course (fall term). F., 8:30-12:30, Tu., 2-5.
This course will provide a firm foundation for understanding the relationship between molecular biology, developmental biology, genetics, genomics, bioinformatics, and medicine. The goal is to develop explicit connections between basic research, medical understanding, and the perspective of patients. During the course the principles of human genetics will be reviewed. Students will become familiar with the translation of clinical understanding into analysis at the level of the gene, chromosome and molecule, the concepts and techniques of molecular biology and genomics, and the strategies and methods of genetic analysis, including an introduction to bioinformatics. The course will extend beyond basic principles to current research activity in human genetics.
Note: Offered jointly with the Medical School as HT 160.

Genetics 228. Genetics in Medicine - From Bench to Bedside
Catalog Number: 9840
Susan A. Slaugenhaupt (Medical School) and Christopher Holmes Newton-Cheh (Medical School)
Half course (spring term). F., 2–5.
Focus on translational medicine: the application of basic genetic discoveries to human disease. Will discuss specific genetic disorders and the approaches currently used to speed the transfer of knowledge from the laboratory to the clinic.
Note: Course will include patient presentations and lectures by investigators known for their work in a specific disease area. Course will be held at MGH (transportation provided to MGH). Offered jointly with the Medical School as GN 711.0. For more information visit the Massachusetts General Hospital.
Prerequisite: Genetics 201 or equivalent.

[*Genetics 229. Computational Statistics for Biomedical Sciences]
Catalog Number: 55994
Peter J. Park (Medical School)
Half course (fall term). Th., 1–4.
Practical introduction to analysis of biological and biomedical data. Basic statistical techniques covered, including descriptive statistics, elements of probability, hypothesis testing, nonparametric methods, correlation analysis, and linear regression. Emphasis on choosing appropriate statistical tests.
Note: Expected to be given in 2014–15. Offered jointly with Medical School as BMI713.0.

Graduate Courses of Reading and Research

***Genetics 300. Advanced Topics in Genetics**
Catalog Number: 1037
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (seven weeks). Different topics are covered each term.
Note: Two seminars, which can be taken in different terms, are required for credit. Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***Genetics 303. Molecular Biology of Pathogenesis**
Catalog Number: 1972
Frederick Ausubel (Medical School) 4639

***Genetics 304. Molecular Genetics Basis of Human Disease, Particularly Cardiovascular Pathogenesis**
Catalog Number: 0693
Christine E. Seidman (Medical School) 3013

***Genetics 305. Centrosomes, Cilia, Cysts and Diseases**
Catalog Number: 9027
Jing Zhou (Medical School) 3779

***Genetics 306. Inherited Human Disorders**
Catalog Number: 7324
Jonathan G. Seidman (Medical School) 7529

***Genetics 308. Molecular Biology of Signal Transduction**
Catalog Number: 5616
Brian Seed (Medical School) 7619

***Genetics 309. Gene Expression in Yeast**
Catalog Number: 3763
Fred Winston (Medical School) 7877

***Genetics 310. Molecular Genetics of Neural Development and Gene Therapy to Prevent Blindness**
Catalog Number: 6324
Constance L. Cepko (Medical School) 1150

***Genetics 311. Molecular Mechanisms of Transcription Regulation in Mammals**
Catalog Number: 7310
Robert E. Kingston (Medical School) 1153

***Genetics 312. Molecular Genetics of Development**
Catalog Number: 8363
Gary B. Ruvkun (Medical School) 1366

***Genetics 313. Genomic Approaches to Human Disease Genetics**
Catalog Number: 6059
David M. Altshuler (Medical School) 4307

***Genetics 314. Structure and Activities of Ribozymes**
Catalog Number: 7244
Jack Szostak (Medical School) 7096

***Genetics 315. Molecular Genetics of Inherited Disorders**
Catalog Number: 3362
James Gusella (Medical School) 1152

***Genetics 316. Transcription Factors and DNA Regulatory Elements**
Catalog Number: 2247
Martha L. Bulyk (Medical School) 4259

***Genetics 317. Signaling Networks in Development and Disease**
Catalog Number: 2271
Jordan A. Kreidberg (Medical School) 2080

***Genetics 318. Genome Structure**
Catalog Number: 5012
George M. Church (Medical School) 1608

***Genetics 320. Genetics of Common Human Disease**
Catalog Number: 39071
Mark Joseph Daly (Medical School) 6519

***Genetics 321. Genetic Analysis of Growth and Homeostasis**
Catalog Number: 6501
Norbert Perrimon (Medical School) 1679

***Genetics 322. Vertebrate Pattern Formation**
Catalog Number: 0436
Clifford J. Tabin (Medical School) 2430

***Genetics 323. Molecular Biology of V(D)J Recombination**
Catalog Number: 6950
Marjorie A. Oettinger (Medical School) 3172

***Genetics 325. Human Genetics, Genomics and Complex Traits**
Catalog Number: 8275
Joel N. Hirschhorn (Medical School) 4321

***Genetics 326. Human Molecular and Cancer Genetics**
Catalog Number: 2900
David J. Kwiatkowski (Medical School) 3770

***Genetics 327. Systems Biology of Mammalian Cell Fate Decisions**
Catalog Number: 69285
Suzanne Gaudet (Medical School) 6183

***Genetics 328. Lymphocyte Differentiation, Recombination, DNA Repair, Cancer**
Catalog Number: 2702
Frederick W. Alt (Medical School) 3146

***Genetics 329. Genetic Analysis of Synaptic Transmission**
Catalog Number: 9734
Joshua M. Kaplan (Medical School) 3522

***Genetics 331. Developmental Oncobiology and Cancer Stem Cells**
Catalog Number: 17763
Zhe Li (Medical School) 7193

***Genetics 332. Combining genetic and biochemical approaches to elucidate mechanisms underlying cancer**
Catalog Number: 2975
Karen M. Cichowski (Medical School) 3932

***Genetics 333. Computational biology of transcriptional and epigenetic regulation**
Catalog Number: 96777
Xiaole Shirley Liu (Public Health) 4911

***Genetics 334. Genomics and the Genetics of Human Disease**
Catalog Number: 5144
Raju Kucherlapati (Medical School) 4324

***Genetics 335. Genetics, epigenetics, gene regulation, evolution, disease**
Catalog Number: 4982
Chao-Ting Wu (Medical School) 3535

***Genetics 336. Developmental Biology of Hematopoiesis**
Catalog Number: 7165
Leonard I. Zon (Medical School) 1137

***Genetics 337. Human Molecular Genetics**
Catalog Number: 7194
Stuart H. Orkin (Medical School) 7402

***Genetics 341. Development and Homeostasis of the Skeleton**
Catalog Number: 8874
Matthew L. Warman (Medical School) 5875

***Genetics 342. Genetic Analysis of Zebrafish Kidney Organogenesis**
Catalog Number: 4498
Iain A. Drummond (Medical School) 5350

Genetics 343. Zebrafish cardiovascular development and regeneration - *(New Course)
Catalog Number: 76107
Charles Geoffrey Burns (Medical School) 7433

***Genetics 344. Computational Genomics**
Catalog Number: 2125
Peter J. Park (Medical School) 5917

***Genetics 347 (formerly *Pathology 381). Ras signaling and colon cancer**
Catalog Number: 72917
Kevin M. Haigis (Medical School) 5913

***Genetics 350. Genetic Regulation of Organogenesis and Organ Regeneration**
Catalog Number: 4974
Richard L. Maas (Medical School) 3703

***Genetics 352. Cardiovascular Development and Disease, Muscle Biology**
Catalog Number: 58035
Da-Zhi Wang (Medical School) 3228

***Genetics 353. Genetics of Human Disease**
Catalog Number: 6608
Susan A. Slaugenhaupt (Medical School) 5483

***Genetics 354. Integrative genomics of cancer and autism**
Catalog Number: 53387
Isaac S. Kohane (Medical School) 4531

***Genetics 355. Molecular Genetics of Human Neuromuscular Diseases**
Catalog Number: 9253
Alan H. Beggs (Medical School) 1422

***Genetics 356 (formerly Pathology 312). Research in Molecular Cytogenetics**
Catalog Number: 21395
Cynthia C. Morton (Medical School) 2194

***Genetics 357. Lung Stem Cell Biology and Cancer**
Catalog Number: 9494
Carla Kim (Medical School) 5742

***Genetics 358. Developmental Neurobiology and Genetics**
Catalog Number: 8297
Susan M. Dymecki (Medical School) 1736

***Genetics 359. Cancer and Development, Thrombopoiesis, Intestinal Development**
Catalog Number: 9880
Ramesh Shivdasani (Medical School) 4538

***Genetics 360. Microtubule Associated RNAs During Mitosis**
Catalog Number: 5677
Michael Demian Blower (Medical School) 5733

***Genetics 361. Mechanism of X-inactivation in Mammals**
Catalog Number: 9152
Jeannie T. Lee (Medical School) 2129

***Genetics 362. Molecular Biology and Genetics of Cancer**
Catalog Number: 9382
David Morse Livingston (Medical School) 4872

***Genetics 366. Molecular Genetic Approaches to Human Disease Mechanisms**
Catalog Number: 8153
Marcy E. MacDonald (Medical School) 2635

***Genetics 368 (formerly Neurobiology 368). Molecular Genetics of Aging and Neurodegenerative Disorders**
Catalog Number: 50867
Bruce Yankner (Medical School) 1557

***Genetics 369. Molecular Mechanisms of Plant Signal Transduction**
Catalog Number: 3010
Jen Sheen (Medical School) 3892

***Genetics 370. Molecular Basis of Breast Cancer Initiation and Progression**
Catalog Number: 4519
Kornelia Polyak (Medical School) 3898

***Genetics 371. Functional Genomics and Proteomics**
Catalog Number: 2190
Marc Vidal (Medical School) 3914

***Genetics 372 (formerly Pathology 361). Molecular Mechanisms of Aging and Age Related Diseases**
Catalog Number: 65974
David A. Sinclair (Medical School) 2610

***Genetics 373. Kidney Disease, Genetics, Cytoskeleton**
Catalog Number: 3875
Martin R. Pollak (Medical School) 4329

***Genetics 374. Mechanisms underlying accurate meiotic chromosome segregation**
Catalog Number: 4419
Monica P. Colaiácovo (Medical School) 4949

***Genetics 376. Cell Cycle Control and Genomic Integrity**
Catalog Number: 3788
Stephen J. Elledge (Medical School) 4954

***Genetics 377. Molecular Genetics of Chromosome Organization and Gene Expression**
Catalog Number: 0811
Mitzi I. Kuroda (Medical School) 4959

***Genetics 378 (formerly Pathology 330). Aging, Stress Defenses, and Developmental Gene Regulation in C. elegans**
Catalog Number: 14452
T. Keith Blackwell (Medical School) 1826

***Genetics 379. Applying Population Genetics to Find Disease Genes**
Catalog Number: 1677
Instructor to be determined

***Genetics 380. Molecular Approaches to Metabolism and Energy Balance**
Catalog Number: 4688
Evan David Rosen (Medical School) 4966

***Genetics 382. Muscle Stem Cell Commitment and Differentiation**
Catalog Number: 2626
Emanuela Gussoni (Medical School) 5155

***Genetics 385 (formerly Pathology 353). Cell Cycle Proteins in Development and Cancer**
Catalog Number: 81081
Piotr Sicinski (Medical School) 2245

***Genetics 387. Stem Cells and Developmental Biology**
Catalog Number: 4080
Chad A. Cowan 6099

***Genetics 388. Genetics of Neuronal Morphogenesis and Connectivity in C. Elegans**
Catalog Number: 63445
Maxwell G. Heiman (Medical School) 3225

***Genetics 389 (formerly Pathology 315). Epigenomics of Allele-Specific Expression**
Catalog Number: 29559
Alexander Gimelbrant (Medical School) 6521

***Genetics 391. Human Genome Structural and Regulatory Variation**
Catalog Number: 51043
Steven A. McCarroll (Medical School) 6557

***Genetics 392 (formerly *Pathology 318). Self-Renewal and Cancer**
Catalog Number: 10448
David M. Langenau (Medical School) 6459

***Genetics 393. Genetic basis of skeletal development and evolution**
Catalog Number: 71384
Matthew Harris (Medical School) 6954

***Genetics 394. How transcriptional networks rewire neuronal circuits**
Catalog Number: 42703
Jesse M. Gray (Medical School) 3469

***Genetics 395. Global studies of transcription elongation**
Catalog Number: 72253
Lee Stirling Churchman (Medical School) 3222

***Genetics 396 (formerly Pathology 369). Molecular recognition and protein engineering**
Catalog Number: 46863
J. Keith Joung (Medical School) 5149

***Genetics 397. Immunogenomics**
Catalog Number: 95934
Soumya Raychaudhuri (Medical School) 2624

***Genetics 398. Epigenetic regulation in stem cell/development & disease**
Catalog Number: 48404
Yi Zhang (Medical School) 7196

Quarter Courses for Graduate Students Only

***Genetics 300qc. Advanced Topics in Genetics**
Catalog Number: 84294
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (7 weeks).
Note: Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***Genetics 302qc. Teaching 101: Bringing Effective Teaching Practices to your Classroom**
Catalog Number: 91159 Enrollment: Limited to 15.
Fred Winston (Medical School) 7877, Johanna Gutlerner (Medical School), and Henrike Besche (Medical School)
Quarter course (spring term). Th., 1-3:30.
Survey basics of effective teaching practices, focusing on practical application and real-life examples. Topics include effective lecturing techniques, using goals and learning styles to inform lesson planning and design, assessing student understanding, and facilitating discussions.

***Genetics 390qc. Advanced Experimental Methods: Experimental Approaches in Genetic Analysis**
Catalog Number: 8039 Enrollment: Limited to 8.
Fred Winston (Medical School) 7877 and members of the Department
Quarter course (spring term). M. through F., 8:30-4. January Course.
A survey of major themes in genetics combined with exposure to various experimental techniques, technologies, and model systems. Combines lectures and hands-on laboratory activities emphasizing experimental methods, hypothesis generation and testing, and data analysis.
Note: Priority will be given to first year graduate students. Students must first contact the faculty for enrollment approval prior to registration for the course. Meeting Dates/Times: Approximately 8:30 am-4:00 pm each day for 10 days from January 6th - January 19th, 2014.
Prerequisite: Students must also enroll in, or have taken, Genetics 201.

Genetics 391qc. Advanced Experimental Design in Genetics - *(New Course)
Catalog Number: 70918 Enrollment: Limited to 8.
Fred Winston (Medical School) 7877 and members of the Department
Quarter course (spring term). M. through F., 8:30-4. January Course.
To be run concurrently with Genetics 390qc. Students will have the opportunity to design experimental approaches that aim to answer specific questions in the field of genetics. Combined with the hands-on laboratory experience of Genetics 390qc, students will use their knowledge of experimental methods and data analysis with a variety of model organisms and techniques. Over the two-week course period, students will be asked to reflect daily on their experiences and design two unique experiments that will broaden their experience in the areas of hypothesis testing and data interpretation.
Note: Must be taken concurrently with Genetics 390qc. Priority will be given to first year graduate students. Students must first contact the faculty for enrollment approval prior to registration for the course. Approximately 8:30am - 4:00pm each day for 10 days from January 6 - January 19, 2014.
Prerequisite: Students must also enroll in, or have taken, Genetics 201.

Human Biology and Translational Medicine

Human Biology and Translational Medicine (HBTM) focuses on providing rigorous multidisciplinary training in the fundamental mechanisms and essential methodologies of human biology and disease-oriented research, and in the translation of these discoveries into advances in the diagnosis, prevention, and treatment of human disease.

Primarily for Graduates

HBTM 200. Principles and Practice of Human Pathology
Catalog Number: 10575 Enrollment: Enrollment may be limited
Ronny I. Drapkin (Medical School)
Half course (spring term). Tu., Th., 9–11, and lab Th., 11-1.
Overview of human pathology, emphasis on mechanisms of disease and modern diagnostic technologies. Integrated lectures, labs, and student-driven term project leading to formal presentation on a medical, socioeconomic, or technological issue in human pathology.
Note: Jointly offered with HMS as HT035.0

HBTM 201 (formerly Pathology 209). Tumor Pathophysiology and Transport Phenomena - A Systems Biology Approach
Catalog Number: 5934
Rakesh K. Jain (Medical School)
Half course (fall term). M., 5-7.
Tumor pathophysiology plays a central role in the growth, metastasis, detection, and treatment of solid tumors. Principles of transport phenomena are applied to develop a quantitative understanding of tumor biology and treatment.
Note: Given in alternate years. Offered jointly with the Medical School as PA 712.0. Classes held at MIT.

HBTM 235 (formerly BCMP 235.). Principles of Human Disease: Physiology and Pathology
Catalog Number: 82892 Enrollment: Will be limited.
Constance L. Cepko (Medical School), and members of the Medical School Faculty
Half course (fall term). M., W., F., 9–10:30.
This course covers the normal physiology and pathophysiology of selected organs, through lectures, readings, tutorials based on clinical cases, and patient presentations. Human biology is emphasized, with some examples also drawn from model organisms.

Note: Course enrollment will be limited, with priority given to graduate students and a maximum of 10 undergraduates (priority given to seniors).
Prerequisite: Knowledge of introductory biochemistry, molecular biology, and cell biology required (MCB52 and MCB54 or equivalent and one year of organic chemistry for undergraduates).

Graduate Courses of Reading and Research

***HBTM 304. Resolution of Lung Inflammation and Injury**
Catalog Number: 1421
Bruce D. Levy (Medical School) 5922

***HBTM 305. Endothelial Cell, Nitric Oxide, Proteomic Redox Regulation**
Catalog Number: 9077
Joseph Loscalzo (Medical School) 5923

***HBTM 307. Mechanisms of heart growth, regeneration, and failure**
Catalog Number: 1294
Anthony Rosenzweig (Medical School) 5925

***HBTM 314. Skin Immunology T Cell Trafficking Lymphoma**
Catalog Number: 2368
Thomas Seth Kupper (Medical School) 5960

***HBTM 315. Hypothalamic Gene Function and Regulation**
Catalog Number: 1577
Joseph A. Majzoub (Medical School) 1875

***HBTM 317. Adhesion, Integrins, Hematopoiesis, Kidney Genetics**
Catalog Number: 5746
M. Amin Arnaout (Medical School) 1822

***HBTM 320. Endothelial Progenitors in Health Disease**
Catalog Number: 8324
Joyce E. Bischoff (Medical School) 1448

HBTM 321. Regenerative Biology - *(New Course)
Catalog Number: 58335
Richard T. Lee 6168

***HBTM 322. Cardiac Repair and Regeneration**
Catalog Number: 4398
Ronglih Liao (Medical School) 6169

***HBTM 323. Cardiovascular Biology in Human and Zebrafish**
Catalog Number: 5160
Calum Archibald MacRae (Medical School) 6170



***HBTM 324. Principles/Practices of Developing Human Antibody Therapies**
Catalog Number: 3910
Wayne A. Marasco (Medical School) 6171

***HBTM 325. Genetics of Blood Development**
Catalog Number: 7279
Barry Htin Paw (Medical School) 6172

***HBTM 326. Human Genetics of Neuroinflammatory and Neurodegenerative Disorders**
Catalog Number: 1515
Philip Lawrence De Jager (Medical School) 6233

***HBTM 327. Translational Research on Kinase Inhibitors**
Catalog Number: 0138
Pasi Antero Janne (Medical School) 6234

***HBTM 328. Translational immunology in immunocompromised hosts**
Catalog Number: 8917
Ofer Levy (Medical School) 6236

HBTM 329. Developing Targeted Therapies for Cancer - *(New Course)
Catalog Number: 49916
Jeffrey Adam Engelman (Medical School) 6225

***HBTM 330. Developmental Biology/Genetics (Congenital Anomalies, Cancer)**
Catalog Number: 8982
Patricia K. Donahoe (Medical School) 3252

***HBTM 331. Tumor Microenvironment, Angiogenesis and Metastasis: from Bench-to-Bedside-to-Biomarkers**
Catalog Number: 8347
Rakesh K. Jain (Medical School) 2079

***HBTM 340. (LHB). Disease-Centered Tutorial Clinics**
Catalog Number: 8640 Enrollment: Limited to LHB students only.
Jordan A. Kreidberg (Medical School) 2080 (spring term only)

***HBTM 341. Gene Regulation of Metabolism in Cardiovascular Health and Disease**
Catalog Number: 99499
Zoltan Pierre Arany (Medical School) 6409

***HBTM 342. Research in Hematology and Oncology**
Catalog Number: 47977
Benjamin L. Ebert (Medical School) 6410

***HBTM 343. Complex Trait Genetics of Blood Pressure and QT Interval Variation**
Catalog Number: 63084
Christopher Holmes Newton-Cheh (Medical School) 6270



***HBTM 344. Biology of Hematopoietic Stem Cells**
Catalog Number: 11562
David Allen Williams (Medical School) 6460

***HBTM 345. Tuberous Sclerosis and LAM: Pathogenic Mechanisms**
Catalog Number: 91208
Elizabeth Petri Henske (Medical School) 6579

***HBTM 346. Bioimaging and Optical Spectroscopy: Detection of Early Disease with Light**
Catalog Number: 79138
Lev T. Perelman (Medical School) 6601

***HBTM 347. Effects of Diabetes, Exercise, and Skeletal Muscle Metabolism**
Catalog Number: 73142
Laurie Joy Goodyear (Medical School) 3231

***HBTM 348. Molecular Pathogenesis of the Metabolic Syndrome**
Catalog Number: 44412
Sudha Biddinger (Medical School) 2628

***HBTM 349. Network Medicine in Vascular Disease**
Catalog Number: 14556
Stephen Y. Chan (Medical School) 7011

***HBTM 350. Molecular basis of hematologic and solid cancers**
Catalog Number: 61555
Roberto Chiarle (Medical School) 7016

***HBTM 351. Biology and Immunotherapy of Chronic Lymphocytic Leukemia**
Catalog Number: 49316
Catherine Ju-Ying Wu (Medical School) 7060

***HBTM 352 (Formerly Pathology 310). Regulation of Vascular Development and Pathology**
Catalog Number: 28771
Patricia A. D'Amore (Medical School) 1168

***HBTM 353 (formerly Pathology 313). Mechanobiology and Developmental Control**
Catalog Number: 82486
Donald E. Ingber 2832

***HBTM 354 (formerly Pathology 317). Epithelial:stromal Interactions in the Formation and Progression of Carcinomas**
Catalog Number: 64171
Antoine Karnoub (Medical School) 6458

***HBTM 355 (formerly Pathology 377). Epigenetic Mechanisms in Mammalian Development**
Catalog Number: 42288
Bradley E. Bernstein (Medical School) 5669



***HBTM 356 (formerly Pathology 327). Genetic Models of Leukemogenesis**
Catalog Number: 86835
A. Thomas Look (Medical School) 3771

***HBTM 358 (formerly Pathology 332). Control of Cell Proliferation by RB/E2F**
Catalog Number: 33855
Nicholas J. Dyson (Medical School) 1829

***HBTM 359 (formerly Pathology 333). Genetics of Neurodegenerative Disease**
Catalog Number: 99808
Mel B. Feany (Medical School) 4439

***HBTM 360 (formerly Pathology 334). Characterization of Molecular Targets of Cancer Therapy**
Catalog Number: 25971
Daniel A. Haber (Medical School) 1832

***HBTM 361 (formerly Pathology 335). Molecular Approaches to Cell Immortalization and Transformation**
Catalog Number: 39571
William C. Hahn (Medical School) 4317

***HBTM 362 (formerly Pathology 350). Topics in Vascular Biology**
Catalog Number: 14796
Michael A. Gimbrone (Medical School) 1896

***HBTM 363 (formerly Pathology 352). Recombination Functions of the BRCA Genes**
Catalog Number: 22147
Ralph Scully (Medical School) 4536

***HBTM 364 (formerly Pathology 359). Signal Transduction Pathways Involved in Cellular Proliferation and Apoptosis**
Catalog Number: 14536
Roya Khosravi-Far (Medical School) 2704

***HBTM 365 (formerly Pathology 360). Biology and Genetics of Human Cancers**
Catalog Number: 37417
Matthew L. Meyerson (Medical School) 2421

***HBTM 366 (formerly Pathology 364). Molecular Genetics of Erythroid Iron Metabolism**
Catalog Number: 22101
Mark Daniel Fleming (Medical School) 4955

***HBTM 367 (formerly Pathology 365). Control of Endothelial Cell Fate and Vascular Development by Fluid Mechanical Forces**
Catalog Number: 57098
Guillermo Garcia-Cardena (Medical School) 4956

***HBTM 369 (formerly Pathology 372). DNA Damage Responses and Genomic Stability**
Catalog Number: 54705
Lee Zou (Medical School) 5258



***HBTM 370 (formerly Pathology 373). Integration of Metabolism and Stress Pathways**
Catalog Number: 39025
Nika Danial (Medical School) 5393

***HBTM 371 (formerly Pathology 374). Cell signaling in innate immunity**
Catalog Number: 27824
Hongbo Luo (Medical School) 5395

***HBTM 372 (formerly Pathology 378). Epigenetic Regulation in Development and Disease**
Catalog Number: 55243
Laurie Jackson-Grusby (Medical School) 5671

***HBTM 373 (formerly Pathology 382). Mechanisms of Acute and Chronic Allograft Rejection**
Catalog Number: 27268
Richard N. Mitchell (Medical School) 5916

***HBTM 374 (formerly Pathology 383). Cell Cycle, Ubiquitination and Protein Degradation, Cancer Research**
Catalog Number: 62612
Wenyi Wei (Medical School) 5918

***HBTM 375 (formerly Pathology 384). The Molecular Genetics of Human Cancer**
Catalog Number: 50657
Pier Paolo Pandolfi (Medical School) 6177

***HBTM 376 (formerly Pathology 386). Hematopoietic stem cell biology and aging**
Catalog Number: 28486
Derrick J. Rossi 6330

***HBTM 377 (formerly Pathology 388). Impact of Epigenetics On Cellular Homeostasis**
Catalog Number: 30031
Johnathan Whetstine (Medical School) 6244

HBTM 378. Inherited basis for myocardial infarction - *(New Course)
Catalog Number: 95712
Instructor to be announced

HBTM 379. Molecular pathogenesis of pediatric cancer - *(New Course)
Catalog Number: 18969
Rani E. George (Medical School) 7428

HBTM 380. Gene Therapy Translation and Vector Development - *(New Course)
Catalog Number: 14087
Luk Hugo Vandenberghe (Medical School) 7356

HBTM 381. Neurodevelopmental and neurodegenerative disorders - *(New Course)
Catalog Number: 92899
Tracy Pearse (Medical School) 7417

Quarter Courses for Graduate Students Only

***HBTM 300qc. Advanced Topics in Human Biology and Translational Medicine**
Catalog Number: 32772
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (7 weeks).
Note: Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***HBTM 301qc. Case Studies in Human Biology and Translational Medicine**
Catalog Number: 95905 Enrollment: Will be limited.
Caren Grossbard Solomon (Medical School) 6960 and Mary Elizabeth Hamel (Medical School)
Quarter course (spring term). M. through F., 9–10:30.
Two-week course that is required of and restricted to first-year LHB students. Each week of the course focuses on a different "case study" in translational medicine.
Note: January term course. Restricted to Leder students only.

***HBTM 302qc. Imaging and Microscopy Methods in Biology and Medicine**
Catalog Number: 13534 Enrollment: Limited to 12.
Lev T. Perelman (Medical School) 6601
Quarter course (fall term). T., 3-5.
Introduce modern imaging modalities with emphasis on modalities frequently employed in cellular, molecular biology and medicine. Overview of noninvasive medical imaging techniques frequently used in scientific research: X-ray CT, MRI, ultrasound, PET/SPECT and optical imaging.

***HBTM 303qc (formerly Introduction to the Visual System). Vision: A System and its Assessment**
Catalog Number: 65449
Patricia A. D'Amore (Medical School) 1168 and Russell L. Woods (Medical School)
Quarter course (fall term). W., 3–5.
This course provides an introduction to the visual system and its assessment. In general, we will consider vision as a system rather than its low-level components. Each two-hour session consists of two lectures provided by faculty with expertise in that area. Topics will include basic science and clinical topics, normal vision and abnormal vision, methods of assessment of animals and humans, clinical and laboratory measures.

***HBTM 304qc. Drug Development: From Concept to Commercialization**
Catalog Number: 83871 Enrollment: Limited to 30.
Michael Goldberg (Medical School) 7037
Quarter course (spring term). Tu., 5–7 p.m.
This course is intended to provide graduate students with exposure to the diverse aspects of the drug development process. The proteasomal inhibitor Velcade will be used as an exemplar, though the themes of discovery, development, manufacturing, business development, commercialization, and growth are relevant across most therapeutics. Each class will include a lecture by a person involved in that particular aspect of Velcade development followed by a group discussion of the associated case study.

***HBTM 305qc (formerly *Pathology 301qc). The Molecular Bases of Eye Disease**
Catalog Number: 85085
Darlene Ann Dartt (Medical School) 6904 and Magali Saint-Geniez (Medical School)

Quarter course (spring term). M., 3–5.
Understanding of the molecular bases for diseases that target the eye.

Immunology

All courses in Immunology are subject to limitation in enrollment and will not be offered unless there is sufficient demand.

Primarily for Graduates

***Immunology 201. Principles of Immunology**
Catalog Number: 8337 Enrollment: Limited to 50.
Shannon Turley (Medical School), Ulrich H. Von Andrian-Werburg (Medical School) and members of the Program in Immunology
Half course (fall term). Tu., Th., 1:30-3, with section Tu., Th., 3-4. EXAM GROUP: 15, 16
Comprehensive core course in immunology. Topics include a broad but intensive examination of the cells and molecules of the immune system. Special attention given to the experimental approaches that led to general principles of immunology.
Note: Intended for students who have had prior exposure to immunology on the undergraduate level. In the absence of such exposure, students *must* obtain the permission of the Course Director. Offered jointly with the Medical School as IM 702.0.
Prerequisite: A background in genetics and biochemistry strongly recommended.

Immunology 202. Advanced Principles of Immunology
Catalog Number: 5674
D. Branch Moody (Medical School) and Martin E. Hemler (Medical School)
Half course (spring term). Tu., Th., 1:30–4.
Continuation of Immunology 201 as an intensive core course in fundamentals of immune system, emphasis of physiological roles of immune cells in vivo. Classes taught by experts in their fields; involve critical reading of primary literature.
Note: Offered jointly with the Medical School as IM 712.0.
Prerequisite: Immunology 201 or its equivalent.

Immunology 204. Critical Readings for Immunology
Catalog Number: 9563
Florian Winau (Medical School)
Half course (spring term). Th., 10-1.
Original research articles from fields including immunology, biochemistry, genetics, and cell and developmental biology will be critically analyzed in an intensive small group format. Grading will be based on class participation and oral presentations.
Note: Required for first-year immunology students, open to second-year immunology students. No auditors. Offered jointly with the Medical School as IM 703.0.

Graduate Courses in Reading and Research

Primarily designed for work on a dissertation problem, carried out under the supervision of the following faculty members whose special research interests are listed.
***Immunology 300. Advanced Topics in Immunology**
Catalog Number: 4739
David Lopes Cardozo (Medical School) 5995

Reading and discussion seminars each running for a half term (7 weeks). Two seminars, which can be taken in different terms, are required for credit. Topics include the role of intracellular and transmembrane protein phosphates in signal transduction.
Note: Intended for first- and second-year Immunology graduate students. Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Call 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***Immunology 301. Immunology Seminar**
Catalog Number: 4971 Enrollment: Limited to 20.
Michael C. Carroll (Medical School) 2050 and William Nicholas Haining (Medical School) 6946
Half course (fall term; repeated spring term). W. 12:15-1:15 (lunch) and 3:30-5 (discussion).
Gives students exposure to research topics in Immunology. Students prepare for the weekly seminar through readings, discussions, and preparing brief write-ups. These discussions are facilitated by members of the Committee on Immunology.
Note: Required for, and limited to, first-year Immunology graduate students.

***Immunology 302. Innate and adaptive immune inflammation in allergic and asthmatic models**
Catalog Number: 1355
K. Frank Austen (Medical School) 6887

***Immunology 303. Immunity to Tuberculosis**
Catalog Number: 9490
Samuel M. Behar (Medical School) 4570

***Immunology 304. Innate immunity and host-pathogen interactions**
Catalog Number: 62634
Lynda Stuart (Medical School) 6466

***Immunology 305. T Cell Immunology - tolerance, transplantation, autoimmunity**
Catalog Number: 74626
Laurence A. Turka (Medical School) 2633

***Immunology 309. Molecular Aspects of Lymphocyte Interactions**
Catalog Number: 3778
Cox Terhorst (Medical School) 6280

***Immunology 310. Responses mediated by innate and adaptive immune cells in cancer and other inflammatory disorders**
Catalog Number: 53318
Mikael J. Pittet (Medical School) 2641

Immunology 311. Macrophage biology in multiple contexts, including IBD and metabolism - *(New Course)
Catalog Number: 93003
Tiffany Horng (Public Health) 6612 (spring term only)

***Immunology 312. Interplay Between the Innate Immune System and Gut Microbial Communities**
Catalog Number: 11923
Wendy S. Garrett (Public Health) 6613

***Immunology 314. Rheumatic Diseases**
Catalog Number: 8065
Peter H. Schur (Medical School) 4551

***Immunology 315. Immunoregulation**
Catalog Number: 5540
Martin E. Dorf (Medical School) 4541

***Immunology 316. Molecular Basis of Immunologic Recognition and Communication**
Catalog Number: 3192
Harvey Cantor (Medical School) 4460

***Immunology 317. Molecular Biology of Receptor Transduction in the Immune System**
Catalog Number: 0518
Brian Seed (Medical School) 7619

***Immunology 318. Mechanisms of Antigen Presentation and Cellular Immunology**
Catalog Number: 23104
Florian Winau (Medical School) 2639

***Immunology 319. Molecular Basis of Cell Adhesion and Migration**
Catalog Number: 0293
Timothy A. Springer (Medical School) 6145

***Immunology 320. Cell Adhesion in Vascular Biology and Innate Immunity**
Catalog Number: 85446
Denisa D. Wagner (Medical School) 2092

***Immunology 320L. The study of human tissue resident T cells**
Catalog Number: 86176
Rachael Ann Clark (Medical School) 3429

***Immunology 321. Why functional memory T cells are formed, and why protective T cell immunity fails to develop against chronic viral infection and cancer**
Catalog Number: 15497
William Nicholas Haining (Medical School) 6946

***Immunology 321L. The molecular mechanism of immunity to fungal pathogens.**
Catalog Number: 46538
Jatin Mahesh Vyas (Medical School) 7055

***Immunology 322. Systems Approaches to Innate and Adaptive Immunity; Functional Genomics of Complex Disease Genetics**
Catalog Number: 12714
Ramnik Xavier (Medical School) 6878

***Immunology 322L. Molecular and cellular analysis of primary immunodeficiencies**
Catalog Number: 79856
Luigi D. Notarangelo (Medical School) 6666

***Immunology 323L. Immunity to bacterial enteropathogens: modulation by host and microbial factors**
Catalog Number: 47426
Bobby J. Cherayil (Medical School) 7014

***Immunology 324. T-cell Development in Animal Models of Autoimmunity Disease**
Catalog Number: 1905
Christophe O. Benoist (Medical School) 3928

***Immunology 324L. T cell sensitization and immunoregulation in ocular allo- and autoimmunity**
Catalog Number: 38401
Reza Dana (Medical School) 7164

***Immunology 325. Immune Cell Interactions Controlling T Cell Effector Function**
Catalog Number: 1078
Thorsten Roman Mempel (Medical School) 6173

***Immunology 325L. Mechanisms of Peripheral Tolerance and Their Breakdown in Allergic and Autoimmune Diseases**
Catalog Number: 46639
Talal Amine Chatila (Medical School) 7126

***Immunology 326. Human T-cell Antigen Receptor; Human Lymphocyte Differentiation Antigens; TCR; Thymic Development; Protective Immunity; HIV-I; T-cell Vaccines**
Catalog Number: 6719
Ellis L. Reinherz (Medical School) 1408

***Immunology 326L. Mechanistic elucidation of immune signaling**
Catalog Number: 86626
Hao Wu (Medical School)

***Immunology 327. Chemical Cell Biology**
Catalog Number: 0824
Stuart L. Schreiber 2166 (on leave 2013-14)

***Immunology 327L (formerly *HBTM 368). Phagocyte-endothelial Cell Responses in Inflammation**
Catalog Number: 28559
Tanya Mayadas (Medical School) 4963

***Immunology 328r. Introduction to Research**
Catalog Number: 5531
Michael C. Carroll (Medical School) 2050

***Immunology 329. Basic and Clinical Mechanisms of Autoimmunity**
Catalog Number: 0354
Howard L. Weiner (Medical School) 1335

***Immunology 329L. Examining the interplay of inflammation and glycosylation**
Catalog Number: 20965
Robert Anthony (Medical School) 7201

***Immunology 330. Molecular Aspects of Mast Cells—Mediated Immune Responses**
Catalog Number: 7296
Richard L. Stevens (Medical School) 2892

***Immunology 330L. CD4+ T Cell Tolerance**
Catalog Number: 55675
James J. Moon (Medical School) 7251

***Immunology 331. Lymphoid Organs**
Catalog Number: 5725
Joan E. Stein-Streilein (Medical School) 4769

***Immunology 332. The Role of Cysteinyl Leukotrienes and their Receptors in Pulmonary Inflammation and Fibrosis**
Catalog Number: 9530
Yoshihide Kanaoka (Medical School) 5401

***Immunology 334. Understanding the Mechanisms of Pathogen-sensing by the Innate Immune System**
Catalog Number: 11337
Terry K. Means (Medical School) 6898

***Immunology 336. T-Lymphocyte Recognition**
Catalog Number: 7292
Michael B. Brenner (Medical School) 2864

***Immunology 337. Study of the influence of initial bacterial colonization on the development of the mucosal immune system**
Catalog Number: 1320
W. Allan Walker (Medical School, Public Health) 1175

Immunology 337L. Vascular and Cell Biology of Inflammation and Wound Healing - *(New Course)
Catalog Number: 36804
Christopher Vincent Carman (Medical School) 7438

***Immunology 339. Function and Regulation of Cellular Adhesion Mechanisms**
Catalog Number: 7841
Martin E. Hemler (Medical School) 2868

***Immunology 340. The Human Major Histocompatibility Complex, Immune Function, and Disease**
Catalog Number: 6650
Chester Alper (Medical School) 2951

***Immunology 341. Gene Regulation in Normal and Leukemic Stem Cells**
Catalog Number: 9403
Daniel G. Tenen (Medical School) 1172

***Immunology 342. Immune Cell Signaling, Gene Transcription and Tissue Injury in Lupus.**
Catalog Number: 7829
George C. Tsokos (Medical School) 5911

***Immunology 343. The Regulation of Eicosanoid Generation**
Catalog Number: 8593
Jonathan P. Arm (Medical School) 4946

***Immunology 344. Genetic Analysis of Lymphocyte Development and Nuclear Oncogene Function**
Catalog Number: 6438
Frederick W. Alt (Medical School) 3146

***Immunology 345. Assembly and Function of pre-B Cell-fate and B Lymphocyte Antigen Receptors**
Catalog Number: 0866
Shiv S. Pillai (Medical School) 3393

***Immunology 346. The Role of Complement in the Immune Response**
Catalog Number: 1755
Michael C. Carroll (Medical School) 2050

***Immunology 348. Cell Biology, Biochemistry, and Immunology of Leukocyte-endothelial Adhesion**
Catalog Number: 0901
Francis W. Luscinskas (Medical School) 3772

***Immunology 350. Regulation of Autoimmune T Cell Responses**
Catalog Number: 1916
Vijay K. Kuchroo (Medical School) 2041

***Immunology 351. Investigating the Role of Lectin - Carbohydrate Interactions in T Cell Trafficking and Differentiation and in Tumor Immune Evasion**
Catalog Number: 1875
Charles J. Dimitroff (Medical School) 5521

***Immunology 353. Innate and Adaptive Immune Responses in HIV-1 Infection**
Catalog Number: 6000
Marcus Altfeld (Medical School) 5689

***Immunology 354. Topics in Transplantation Biology**
Catalog Number: 1459
David H. Sachs (Medical School) 1075

***Immunology 355. Molecular mechanisms of antigen presentation**
Catalog Number: 59519
Edda Fiebiger (Medical School) 2631

***Immunology 356. Cytotoxic T Lymphocytes**
Catalog Number: 8232
Judy Lieberman (Medical School) 1542

***Immunology 357. Microbial-epithelial-immune Cell Interactions in Mucosal Tissues**
Catalog Number: 2111
Richard S. Blumberg (Medical School) 2351

***Immunology 360. Hematopoietic Stem Cells and their Niche**
Catalog Number: 8952
David T. Scadden 2649

***Immunology 361. Induction and Regulation of Antigen-specific T Cell Responses**
Catalog Number: 7578
Gilles A. Benichou (Medical School) 2652

***Immunology 362. Chemokine and Lipid Chemoattractants in Immune Cell Trafficking in Normal Physiology and Disease**
Catalog Number: 3817
Andrew D. Luster (Medical School) 2654

***Immunology 363. Regulation of Immune and Inflammatory Responses by the Leukocyte Immunoglobulin-like Receptor Family**
Catalog Number: 6813
Howard R. Katz (Medical School) 2837

***Immunology 364. T-cell Differentiation, Tolerance and Autoimmunity**
Catalog Number: 0972
Diane J. Mathis (Medical School) 3063

***Immunology 366. Immune Mechanisms in Cardiovascular Disease**
Catalog Number: 6676
Andrew H. Lichtman (Medical School) 3523

***Immunology 367. Biology and Chemistry of Complement Problems**
Catalog Number: 8080
Anne Nicholson-Weller (Medical School) 1063

***Immunology 368. RNA Granules**
Catalog Number: 8986
Paul J. Anderson (Medical School) 1947

***Immunology 369. Mechanisms of Autoimmune Disease**
Catalog Number: 6787
Vicki R. Kelley (Medical School) 2656

***Immunology 371. Cellular and Molecular Mechanisms of Eosinophil and Other Leukocyte Involvement in Allergic Flammation**
Catalog Number: 3716
Peter F. Weller (Medical School) 2657

***Immunology 372. Immunopathogenesis & regulation of immune response in EAE**
Catalog Number: 34969
Samia Joseph Khoury (Medical School) 6948

***Immunology 373. Biology of Histocompatibility Systems in Man and Experimental Animals; Immunology of Aging**
Catalog Number: 6317
Edmond J. Yunis (Medical School) 6036

***Immunology 374. Tumor Necrosis Factor-Alpha Gene Regulation in the Immunopathogenesis of AIDS and TB**
Catalog Number: 4558
Anne E. Goldfeld (Medical School) 1008

***Immunology 375. Biology and Function of Immunoreceptors**
Catalog Number: 0510
Jean-Pierre Kinet (Medical School) 2663

***Immunology 376. Molecular Basis of Immunodeficiencies; Immunological and Molecular Basis of Atopic Dermatitis**
Catalog Number: 3618
Raif S. Geha (Medical School) 1795

***Immunology 378. T cell Biology and Cancer Immunology**
Catalog Number: 2916
Kai Wucherpfennig (Medical School) 2481

***Immunology 380. Control of Leukocyte Trafficking and the Immune Response By Chemokines and Other Cytokines**
Catalog Number: 4872
Barrett J. Rollins (Medical School) 3775

***Immunology 382. AIDS Immunopathogenesis and Immune Reconstitution**
Catalog Number: 0468
Robert P. Johnson (Medical School) 6125

***Immunology 384. The Role of Cysteinyl Leukotrienes and Nucleotide Receptors in Control of Pulmonary Allergic Immunity**
Catalog Number: 1056
Joshua A. Boyce (Medical School) 6230

***Immunology 385. Regulation of T Lymphocyte Activation and Differentiation**
Catalog Number: 1243
I-Cheng Ho (Medical School) 2764

***Immunology 386. Molecular and signaling pathways regulating T cell immunity and T cell anergy**
Catalog Number: 35936
Vassiliki A. Boussiotis (Medical School) 6879

***Immunology 389. Development of Cancer Vaccines**
Catalog Number: 4106
Glenn Dranoff (Medical School) 1821

***Immunology 390. The Role of NK Cells in Tissues**
Catalog Number: 87458
Galit Alter (Medical School) 6760

***Immunology 391. Transcription Factors in Lymphocyte Commitment and Differentiation**
Catalog Number: 5285
Katia Georgopoulos (Medical School) 2070

***Immunology 392. Dendritic Cells and the Initiation of Immune Reponses; Genetic Analysis using Genome-Wide Mammalian RNAi Libraries**
Catalog Number: 0298
Nir Hacohen (Medical School) 5157

***Immunology 393. The Role of the Transcription Factor NF-kB in Regulating Innate Inflammatory Responses**
Catalog Number: 3287
Bruce H. Horwitz (Medical School) 5158

***Immunology 394. Cytotoxic Lymphocytes**
Catalog Number: 0938
D. Branch Moody (Medical School) 5159

***Immunology 395. NKT and Other Immune Cell Subsets in Anti-Tumor & Anti-Viral Immunity**
Catalog Number: 2491
Mark Adrian Exley (Medical School) 5749

***Immunology 396. Interested in Immune Tolerance, Particularly in Settings of Autoimmunity and Transplantation.**
Catalog Number: 1812
Terry B. Strom (Medical School) 5160

***Immunology 397. Antigen Processing and Presentation by Dendritic Cells in Autoimmunity and Cancer**
Catalog Number: 3393
Shannon Turley (Medical School) 5255

***Immunology 398. The Role of Notch Signaling in Lymphoid Neoplasia**
Catalog Number: 9151
Jon Christopher Aster (Medical School) 5750

Quarter Courses for Graduate Students Only

***Immunology 300qc. Advanced Topics in Immunology**
Catalog Number: 99401
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (7 weeks).
Note: Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

[*Immunology 301qc. Autoimmunity]
Catalog Number: 69978
Kai Wucherpfennig (Medical School) 2481, Vijay K. Kuchroo (Medical School)
Quarter course (fall term). M., 4–6.
This course will focus on basic immunological mechanisms of autoimmune diseases, with an emphasis on recent advances in the field. At each session, we will focus on a particular topic and discuss three important publications.
Note: Expected to be given in 2014–15. Offered in alternate years.

***Immunology 302qc. Clinical Sessions**
Catalog Number: 40428
Rachael Ann Clark (Medical School) 3429
Quarter course (spring term). Tu., at 12. Hours for clinical visits to be arranged.
Lectures by physician scientists and clinical exposure to patients with immunologically mediated diseases. The goal is to foster translational research into human immunologic disease.
Note: Limited to Immunology students.

***Immunology 303qc. The Warring Genomes: Innate Immunity and Host Defense**
Catalog Number: 55535
Jonathan C. Kagan (Medical School) 6235
Quarter course (spring term). M., 4–6.
Focus on basic cellular and molecular aspects of innate immunity, with an emphasis on recent advances in the field. Each class will cover a specific topic, and supporting literature will be provided by the instructor.
Prerequisite: Students are expected to have already taken IMM201.

[*Immunology 304qc. Current Concepts in Mucosal Immunology]
Catalog Number: 25936
J. Rodrigo Mora (Medical School) and Scott Snapper (Medical School)
Quarter course (spring term). Hours to be arranged.
Innate and adaptive immune mechanisms operating at mucosal surfaces and their interplay under normal and pathological conditions.
Note: Expected to be given in 2014–15.

***Immunology 305qc. Neuro-immunology in Development, Regeneration and Disease**
Catalog Number: 98545
Beth Stevens (Medical School) 6678
Quarter course (spring term). Th., 4–6:30.
It is increasingly clear that the nervous system and immune system share parallel molecular pathways, and communication between neurons and immune cells play significant roles in homeostasis and disease. This course will investigate current topics in neuro-immunology: CNS development, chronic pain, neuro-degeneration, aging, axon regeneration, auto-immunity and infection. We will focus our discussions on molecular mechanisms shared by the immune and nervous systems and the molecular cross-talk between these two systems.
Note: Each class will cover a specific topic in neuro-immunology. Students should be prepared to lead discussions on pre-selected papers for each session.

***Immunology 306qc. Systems Immunology**
Catalog Number: 87129
Nir Hacohen (Medical School) 5157, William Nicholas Haining (Medical School), Christophe O. Benoist

(Medical School), and visiting speakers
Quarter course (spring term). F., 9–11.
Our focus in this course is on the emerging field of systems immunology. Each session will review a class of experimental approaches, followed by a critical discussion of illustrative papers. Hands-on workshops will introduce students to computational tools for analyzing large-scale datasets, focusing on gene expression.

***Immunology 307qc. Tumor Immunology**
Catalog Number: 29695
Kai Wucherpfennig (Medical School) 2481, Glenn Dranoff (Medical School), Shannon Turley (Medical School), Michael Goldberg (Medical School)
Quarter course (fall term). M., 4–6.
There have been many exciting recent developments in the cancer immunology field, and multiple therapeutic approaches have shown efficacy against diverse types of cancer. This course will emphasize new mechanistic insights, in particular on the following topics: Mechanisms of spontaneous protective anti-tumor immunity; Key effector cell populations of anti-tumor immunity; Inflammation and tumor microenvironment; Immunosuppressive mechanisms in tumor immunity; Targeting of inhibitory receptors; Cancer vaccines; New approaches for delivery of immunotherapies into tumors.

Medical Sciences

Primarily for Graduates

***Medical Sciences 250ab. Human Functional Anatomy**
Catalog Number: 6946 Enrollment: Limited to 52. This course requires rental of a locker.
Lee Gehrke (Medical School)
Full course (fall term). Lectures, M., W., F., 1:30-2:30; laboratory, M., W., F., 2:30-6.
Lectures, detailed laboratory dissections, and prosections provide a thorough exploration of the gross structure and function of the human body. Fundamental principles of embryology and bioengineering promote analytical approaches to understanding the body's design.
Note: Open to qualified graduate students with permission of the course director. The course has a minimum enrollment of 30. This course requires rental of a locker for two hundred and ten dollars. Offered jointly with the Medical School as HT010.

Graduate Courses of Reading and Research

***Medical Sciences 303. Cancer Genomics**
Catalog Number: 25409
Rameen Beroukhim (Medical School) 7235

***Medical Sciences 310. Advanced Topics in Medical Sciences**
Catalog Number: 7449
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (seven weeks). Different topics are covered each term.
Note: Two seminars, which can be taken in different terms, are required for credit. Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***Medical Sciences 399. Topics in Medical Sciences**
Catalog Number: 3197
David Lopes Cardozo (Medical School) 5995
Subject selected by students and faculty member.

Quarter Courses for Graduate Students Only

***Medical Sciences 300qc. Conduct of Science**
Catalog Number: 47879
Raju Kucherlapati (Medical School) 4324
Quarter course (fall term). Hours to be arranged .
Note: Restricted to GSAS graduate students on the Longwood campus.

***Medical Sciences 301qc. PATHS courses**
Catalog Number: 35301
David Lopes Cardozo (Medical School) 5995
A series of career development PATH courses and discussion seminars. Different topics are covered each term.
Note: Limited to the Division of Medical Sciences students. Not for academic credit towards the PhD degree.

***Medical Sciences 302qc. Conduct of Science Refresher**
Catalog Number: 16457
Raju Kucherlapati (Medical School) 4324
Quarter course (fall term). Hours to be arranged.
Note: Restricted to DMS graduate students.

Microbiology and Immunobiology

All courses in Microbiology and Immunobiology are subject to limitation in enrollment and will not be offered unless there is sufficient demand.

Primarily for Graduates

Microbiology 201. Molecular Biology of the Bacterial Cell
Catalog Number: 38739
David Z. Rudner (Medical School), Thomas G. Bernhardt (Medical School), Simon L. Dove (Medical School), and Ann Hochschild (Medical School)
Half course (spring term). Tu., Th., 10–12.
This course is devoted to bacterial structure, physiology, genetics, and regulatory mechanisms. The class consists of lectures and group discussions emphasizing methods, results, and interpretations of classic and contemporary literature.

[Microbiology 202. Molecular Basis of Bacterial Pathogenesis and Host Response]
Catalog Number: 23632
John J. Mekalanos (Medical School), Michael S. Gilmore (Medical School), Marcia Goldberg (Medical School), Darren E. Higgins (Medical School), Suzanne Walker (Medical School), Stephen Lory (Medical School), Gerald Pier (Medical School), Eric J. Rubin (Medical School), and Michael Starnbach (Medical School)
Half course (fall term). Tu., Th., 10–11:30.

Overview of classic paradigms in bacterial-host interactions. Discussions of pathogenic strategies and mechanisms used by representative bacterial pathogens during infection and innate and adaptive host immune defenses. Emphasis on the analysis of published work.
Note: Expected to be given in 2014–15.

***Microbiology 205. Mechanisms of Microbial Pathogenesis**
Catalog Number: 2480 Enrollment: Limited to 40.
Clyde S. Crumpacker II (Medical School) and members of the Department
Half course (fall term). Tu., Th., 8:30-1.
The mechanisms of bacterial, mycoplasmal, fungal, and viral pathogenesis are covered. Topics are selected for intrinsic interest and cover the spectrum of pathophysiologic mechanisms of the infectious process. Emphasis on pathogenesis at the molecular level.
Note: Offered jointly with the Medical School as HT 040.
Prerequisite: A background course in molecular biology is strongly encouraged.

***Microbiology 210. Microbial Sciences: Chemistry, Ecology, and Evolution**
Catalog Number: 63006 Enrollment: Limited to 30.
Michael S. Gilmore (Medical School)
Half course (spring term). F., at 8:30, F., 9:45–11:45.
This is an interdisciplinary graduate-level and advanced undergraduate-level course in which students explore topics in molecular microbiology, microbial diversity, and microbially-mediated geochemistry in depth. This course will be taught by faculty from the Microbial Sciences Initiative. Topics include the origins of life, biogeochemical cycles, microbial diversity, and ecology.
Note: Also offered as Organismic and Evolutionary Biology 290.
Prerequisite: For advanced undergraduates, Life Sciences 1a and 1b are required, or permission of instructor. MCB 52 is recommended.

Microbiology 213. Social Issues in Biology
Catalog Number: 7905 Enrollment: Limited to 20.
Jonathan R. Beckwith (Medical School), and Louis Guenin (Medical School)
Half course (spring term). Th., 1–4.
Discussion course on topics selected from the following: history, philosophy of science; evolution vs. creationism; genetics and race; women and science; genetic testing; science journalism; genetics and criminality; science in wartime; scientists and social responsibility; theater and the public presentation of science.
Note: Offered jointly with the Medical School as MG 722.0. Alternates yearly between the Longwood and the Cambridge Campuses.
Prerequisite: Some background in genetics.

Graduate Courses of Reading and Research

Primarily designed for work on a dissertation problem, carried out under the supervision of the following faculty members, whose special research interests are listed. Courses in parasitology are listed in the catalog of the Harvard School of Public Health (see Pathology).
***Microbiology 300. Advanced Topics in Microbiology and Molecular Genetics**
Catalog Number: 2304
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (7 weeks). Two seminars, which can be taken in different terms, are required for credit.
Note: Non-DMS students must get permission from the Division of Medical Sciences before registering

for this course. Please contact us at 617-432-0605 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.
Prerequisite: Dependent on seminar.

***Microbiology 304. Molecular Pathogenesis of Streptococcal Infection**
Catalog Number: 9527
Michael R. Wessels (Medical School) 4540

***Microbiology 305. Molecular Determinants of Intracellular Bacterial Pathogenesis**
Catalog Number: 3190
Darren E. Higgins (Medical School) 2963

***Microbiology 308. Bacterial/ Host Interactions in Symbiosis and Pathogenesis**
Catalog Number: 4217
Dennis L. Kasper (Medical School) 4815

***Microbiology 310. Bacterial Genetics of Tuberculosis and Tularemia**
Catalog Number: 7652
Eric J. Rubin (Medical School) 4084

***Microbiology 312. Acquired and Innate Immunity to Pneumococci**
Catalog Number: 78191
Richard Malley (Medical School) 6461

***Microbiology 313. T-Lymphocyte Responses to Bacterial Pathogens**
Catalog Number: 4959
Michael Starnbach (Medical School) 1816

Microbiology 315. Signaling Networks That Regulate Synapse Development - *(New Course)
Catalog Number: 58003
Michael E. Greenberg (Medical School) 1400

***Microbiology 316. Host Pathogen Interactions**
Catalog Number: 7769
Stephen Lory (Medical School) 4326

***Microbiology 317. Molecular Mechanisms in Pathogenesis**
Catalog Number: 8985
John J. Mekalanos (Medical School) 7315

***Microbiology 318. RNA Structure, RNA-protein Interactions, and Translation-level Gene Regulation in RNA Viruses**
Catalog Number: 1205
Lee Gehrke (Medical School) 8036

***Microbiology 320. Molecular Biology of Herpes Viruses**
Catalog Number: 3967
David M. Knipe (Medical School) 7089

***Microbiology 324. Bacterial Pathogenesis and Vaccine Development**
Catalog Number: 3472
Gerald Pier (Medical School) 2853

***Microbiology 325. Signal Transduction, Host-Microbial Interactions and Immunology**
Catalog Number: 2839
Scott Brian Snapper (Medical School) 4969

***Microbiology 326. Biology and virulence of enteric pathogens**
Catalog Number: 4703
Matthew K. Waldor (Medical School) 5919

***Microbiology 328. Molecular Biology of Epstein Barr Virus Infection and Transformation of B Lymphocytes**
Catalog Number: 3188
Elliott D. Kieff (Medical School) 1858

***Microbiology 329. The Regulation of Gene Expression in Pathogenic Bacteria**
Catalog Number: 5892
Simon L. Dove (Medical School) 4953

***Microbiology 330. Bacterial chromosome dynamics and cell biology**
Catalog Number: 5102
David Z. Rudner (Medical School) 4968

***Microbiology 331. Modeling Mechanisms of Bacterial Pathogenesis**
Catalog Number: 1929
Cammie Lesser (Medical School) 4962

***Microbiology 332. Gene Regulation of Prokaryotes**
Catalog Number: 0915
Ann Hochschild (Medical School) 2314

***Microbiology 335. Molecular Biology of Parasites**
Catalog Number: 0528
Dyann F. Wirth (Public Health) 2492

***Microbiology 336. Pathogen-host Interactions**
Catalog Number: 3981
Marcia Goldberg (Medical School) 3783

***Microbiology 337. Mycobacterial Signal Transduction and Transcription Regulation**
Catalog Number: 5826
Robert Husson (Medical School) 5914

***Microbiology 339. Bacterial Cell Division and Cell Biology**
Catalog Number: 7237
Thomas G. Bernhardt (Medical School) 5752

***Microbiology 341. Molecular Biology Multi-drug Resistant Pathogens**
Catalog Number: 88249
Michael S. Gilmore (Medical School) 6227

***Microbiology 343. Chemical Biology, Enzymology, Antibiotics, Glycosyltransferases, Inhibitors**
Catalog Number: 2963
Suzanne Walker (Medical School) 5087

***Microbiology 344. Chemistry and Biology of Host-Virus Interactions**
Catalog Number: 8853
Priscilla Yang (Medical School) 5156

***Microbiology 346. Genetics of Bacterial Adhesion and Pathogenesis**
Catalog Number: 5690
Paula I. Watnick (Medical School) 5666

***Microbiology 347. Chemical Genetics Approach to Bacterial Pathogenesis**
Catalog Number: 2308
Deborah Tan Hung (Medical School) 5701

***Microbiology 348. Toll-like Receptors and Innate Immunity**
Catalog Number: 9708
Jonathan C. Kagan (Medical School) 6235

***Microbiology 349 (formerly Pathology 302). Molecular Mechanisms of Leukocyte Trafficking**
Catalog Number: 10956
Ulrich H. Von Andrian-Werburg (Medical School) 2090

***Microbiology 350 (formerly Pathology 324). Regulation of T-cell Mediated Immune Response**
Catalog Number: 77585
Arlene H. Sharpe (Medical School) 1588

***Microbiology 351 (formerly Pathology 303). Viral Pathogenic and Transformation Mechanisms**
Catalog Number: 92692
Peter M. Howley (Medical School) 1076

***Microbiology 352 (formerly Pathology 375). The Biology of microRNAs and their Dysregulation in Cancers**
Catalog Number: 56277
Carl D. Novina (Medical School) 5356

***Microbiology 353. Development and delivery of RNA therapeutics**
Catalog Number: 43059
Michael Goldberg (Medical School) 7037

Quarter Courses for Graduate Students Only

***Microbiology 300qc. Advanced Topics in Microbiology and Molecular Genetics**
Catalog Number: 62986

David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (7 weeks).
Note: Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

[*Microbiology 301qc. Molecular Mechanisms of Microbial Pathogenesis]
Catalog Number: 76052 Enrollment: Limited to 15.
Marcia Goldberg (Medical School) 3783 and Simon L. Dove (Medical School)
Quarter course (spring term). One 1.5 hr session weekly. Hours to be arranged .
During infection, microbial pathogens employ sophisticated mechanisms to enhance infection or dissemination. This course will focus on the recent literature on molecular mechanisms involved in bacteria pathogenesis during host-pathogen interactions.
Note: Expected to be given in 2014–15.

***Microbiology 302qc. Introduction to Infectious Disease Research: Infectious Diseases Consortium Boot Camp**
Catalog Number: 96439
Eric J. Rubin (Medical School) 4084
Quarter course (spring term). M. through F., 9-5.
This intensive January course provides an introduction to the breadth of infectious disease research carried out at Harvard. Students will learn techniques for studying infectious diseases, more about different types of infectious diseases, and meet faculty, students, and postdocs in infectious diseases labs at Harvard.

Neurobiology

The Program in Neuroscience offers multidisciplinary training in the neurosciences leading to the PhD degree. Course instruction and supervision of dissertation research is provided by faculty of the Department of Neurobiology at Harvard Medical School as well as faculty of other departments at Harvard Medical School (and its affiliated medical institutions) and the Faculty of Arts and Sciences.

Courses at the 200 level may be open to advanced undergraduates with permission of the instructor. Additional courses open to undergraduates are offered by the Neurobiology concentration, listed separately.

Primarily for Graduates

Neurobiology 200. Neurobiology
Catalog Number: 6062 Enrollment: Limited to 50.
John A. Assad (Medical School), Matthew P. Frosch (Medical School), Jeffrey Robb Holt (Medical School), Rosalind A. Segal (Medical School), and Ziv Williams (Medical School)
Half course (fall term). M., W., F., 9-12. EXAM GROUP: 2, 3, 4
This is a comprehensive course in Neuroscience. Basic principles of organization and function of the nervous system will be discussed with frequent reference to pathophysiology of neurological and psychiatric disorders. Combining pathophysiology with basic neuroscience should provide physician/scientists and Ph.D. candidates with a dynamic picture of the rapidly evolving field of neuroscience and the experimental process from which the picture is derived, and all students should emerge with a greater awareness both of the applications of their work in alleviating disease, and of the ways that disease can provide insight into basic scientific questions. The course will span modern

neuroscience from molecular neurobiology to perception and cognition, and will include the following major topics: Anatomy and Development of the Brain; Cell Biology of Neurons and Glia; Ion Channels and Electrical Signaling; Synaptic Transmission, Integration, and Chemical Systems of the Brain; Sensory Systems, from Transduction to Perception; Motor Systems; and Higher Brain Function (Memory, Language, Affective Disorders).
Note: Offered jointly with the Medical School as HT 130. Follows the Medical School calendar. Nine hours of lecture or lab/conference weekly.
Prerequisite: Introductory cell and molecular biology course and permission of instructor.

Neurobiology 204. Neurophysiology of Central Circuits
Catalog Number: 5603
Rachel I. Wilson (Medical School), John A. Assad (Medical School), Richard T. Born (Medical School), Michael Tri Hoang Do (Medical School), Christopher D. Harvey (Medical School), Gabriel Kreiman (Medical School), and Margaret S. Livingstone (Medical School)
Half course (spring term). M., W., 10–12.
This course introduces major themes and fundamental concepts underlying current research in systems neuroscience. Each week covers a different theme, and draws on research from different sensorimotor modalities and model organisms.
Note: Offered jointly with the Medical School as NB 721.0.
Prerequisite: Neurobiology 200 or with permission of instructor.

Neurobiology 207. Developmental Neurobiology
Catalog Number: 4977 Enrollment: Limited to 20.
Lisa V. Goodrich (Medical School), Michela Fagiolini (Medical School), Chenghua Gu (Medical School), and Beth Stevens (Medical School)
Half course (spring term). F., 10-12. & W., 1:30- 3:30.
Advanced topics in nervous system development, including cell fate determination, axon guidance, synapse development and critical periods. Focus on current areas of investigation, unresolved questions, and common experimental approaches.
Note: Offered jointly with the Medical School as NB 720.0. Students will read and discuss primary literature in the discussion sessions. Emphasis will be given to learning how to identify an important question and develop a feasible research plan, including a lecture on how to write a grant proposal and a mock study section. The final exam consists of a grant proposal; grades will also be determined by successful completion of homework assignments and class participation.
Prerequisite: Neurobiology 200 or with permission of instructor.

Neurobiology 209. Neurobiology of Disease
Catalog Number: 5562
Edward A. Kravitz (Medical School), Susanna Mierau (Medical School) and members of various clinical departments
Half course (spring term). M., 6-8:30., W., 7-9:30.
Monday sessions involve patient presentations and "core" lectures describing clinical progression, pathology, and basic science underlying a major disease or disorder. Wednesdays, students present material from original literature sources, and there is general discussion.
Note: Given in alternate years. Offered jointly with the Medical School as NB 713.0. For advanced undergraduate, graduate students, MD and MD/PhD students.
Prerequisite: Introductory neurobiology, biochemistry, and genetics/molecular biology recommended.

***Neurobiology 220. Cellular Neurophysiology**
Catalog Number: 2141

Bruce P. Bean (Medical School), Wade G. Regehr (Medical School), Bernardo L. Sabatini (Medical School), and Gary I. Yellen (Medical School)
Half course (fall term). Tu., Th., 9–12.
Introduction to the physiology of neurons, focusing on using electrophysiology and imaging to study function of ion channels, generation of action potentials, and physiology of synaptic transmission. Includes problem sets and reading of original papers.
Note: Offered jointly with the Medical School as NB 714.0.
Prerequisite: Introductory neurobiology.

Neurobiology 221. Molecular Neurobiology
Catalog Number: 0443
Sandeep Robert Datta (Medical School), Jonathan B. Cohen (Medical School), Pascal Kaeser (Medical School), and Joshua M. Kaplan (Medical School)
Half course (spring term). Tu., Th., 10-12.
Molecular biology and genetics of the nervous system. Emphasis on importance of ligand-receptor interactions and receptor regulation for the function of the nervous system and on the mechanisms of storage and release of neurotransmitters.
Note: Offered jointly with the Medical School as NB 715.0.
Prerequisite: Introductory neurobiology and molecular biology. Permission of the instructor required for undergraduates.

Neurobiology 230. Visual Object Recognition
Catalog Number: 78454
Gabriel Kreiman (Medical School)
Half course (fall term). M., 3:30–5:30.
Examines how neuronal circuits represent information and how those circuits are implemented in artificial intelligence algorithms. Topics: architecture of visual cortex, neurophysiology, visual consciousness, computational neuroscience, models of pattern recognition and computer vision.
Prerequisite: Life Sciences 1a (or Life and Physical Sciences A) and Life Sciences 1b (or equivalent). Recommended: Math (Maa/Mab, Math 1A,1B, Math 19 a or equivalent). Physical Sciences 1. MCB 80.

Graduate Courses of Reading and Research

***Neurobiology 300. Advanced Topics in Neurobiology**
Catalog Number: 6206
David Lopes Cardozo (Medical School) 5995 and members of the Department
Topics cover areas at the molecular, cellular, and systems levels in both basic and clinical neuroscience. A series of reading and discussion seminars, each running for a half term (seven weeks).
Note: Two seminars, which can be taken in different terms, are required for credit. Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***Neurobiology 301. Visual Object Recognition: Computational Models and Neurophysiological Mechanisms**
Catalog Number: 8402
Gabriel Kreiman (Medical School) 6174

***Neurobiology 302. Attention and Representation of Sensory Information in Cerebral Cortex**
Catalog Number: 9850
John Maunsell (Medical School) 5670



***Neurobiology 303. Development, Function, and Disease State of the Inner Ear**
Catalog Number: 0660
Zheng-Yi Chen (Medical School) 5478

***Neurobiology 304. Behavioral Genetic Studies of Aggression in Drosophila**
Catalog Number: 5467
Edward A. Kravitz (Medical School) 2063

***Neurobiology 305. Cellular and Molecular Mechanisms of Epilepsy, Autism, and Postnatal Circuit Development**
Catalog Number: 1349
Matthew Peter Anderson (Medical School) 6691

***Neurobiology 306. The Molecular Mechanisms of How Neural and Vascular Networks are Coordinately Developed**
Catalog Number: 0992
Chenghua Gu (Medical School) 5479

***Neurobiology 307. Architecture and plasticity of neurotransmitter release sites**
Catalog Number: 77741
Pascal Kaeser (Medical School) 6467

***Neurobiology 308. Molecular Mechanisms of Catecholaminergic-specific Gene Regulation**
Catalog Number: 6125
Kwang-Soo Kim (Medical School) 3046

***Neurobiology 309. Neural Circuitry in Schizophrenia**
Catalog Number: 3823
Francine M. Benes (Medical School) 1869

***Neurobiology 310. Neural Coding of Chemosensory Stimuli**
Catalog Number: 2408
Rachel I. Wilson (Medical School) 5257

***Neurobiology 311. Cellular and Molecular Studies of Synapse Formation in the Vertebrate Nervous System**
Catalog Number: 0081
Joshua R. Sanes 5094

***Neurobiology 312. Study of synaptic competition by visualizing synaptic rearrangements directly in living animals using modern optical imaging techniques**
Catalog Number: 0082
Jeff W. Lichtman 5163

***Neurobiology 313. Molecular Biology of Mammalian Circadian Clocks**
Catalog Number: 1758
Charles J. Weitz (Medical School) 1139

***Neurobiology 314. Cellular Mechanism(s) of Axon Guidance**
Catalog Number: 1742
Mustafa Sahin (Medical School) 6175

***Neurobiology 315. Neurotrophic Factors in Development: Functions and Mechanisms of Action**
Catalog Number: 0128
Rosalind A. Segal (Medical School) 1564

Neurobiology 316. The development, organization, and functions of sensory neurons that mediate touch - *(New Course)
Catalog Number: 68038
David D. Ginty (Medical School) 7431

***Neurobiology 317. Molecular genetic dissection of circuit assembly and morphogenesis**
Catalog Number: 4979
Lisa V. Goodrich (Medical School) 4771

Neurobiology 317L. Identification of pre-markers of developmental dyslexia (DD) in the pre-reading and infant brain and the identification of the underlying neural mechanism of comorbidity of DD and ADHD - *(New Course)
Catalog Number: 17626
Nadine Gaab (Medical School) 7430

***Neurobiology 318. Molecular Genetics of Cerebral Cortical Development**
Catalog Number: 0825
Christopher A. Walsh (Medical School) 1560

***Neurobiology 319. Neurological Control of Cell Growth and Differentiation**
Catalog Number: 2991
Michael E. Greenberg (Medical School) 1400

Neurobiology 319L. Characterizing the molecular, neural circuit and ecological underpinnings of behavioral diversity in fruit flies - *(New Course)
Catalog Number: 40312
Benjamin Lovegren de Bivort 7305

***Neurobiology 320. Neuroprotection and Neuronal Repair in Neurodegenerative Disease**
Catalog Number: 4825
Ole S. Isacson (Medical School) 2077

***Neurobiology 320L. Neural circuits underlying cognitive behaviors in mice**
Catalog Number: 31157
Christopher D. Harvey (Medical School) 6140

***Neurobiology 321. Visual Perception, Object Recognition, Higher Cognitive Functions, Vision and Art**
Catalog Number: 5387
Margaret S. Livingstone (Medical School) 1064

***Neurobiology 321L (formerly *Neurobiology 321l). Multi-modal, multiscalar studies of human neurophysiology from single neurons to neuronal ensembles.**
Catalog Number: 72929
Sydney S. Cash (Medical School) 7010

***Neurobiology 322. Cellular and Molecular Mechanisms in Axon Guidance and Regeneration**
Catalog Number: 2873
Zhigang He (Medical School) 3910

***Neurobiology 322L. Molecular mechanisms of reward-related behavior**
Catalog Number: 88657
Elena Halley Chartoff (Medical School) 7012

***Neurobiology 323. Synaptic Plasticity**
Catalog Number: 3209
Florian Engert 4290

***Neurobiology 323L (formerly *Neurobiology 323l). Sensory Transduction in Hair Cells of the Mammalian Inner Ear**
Catalog Number: 17369
Jeffrey Robb Holt (Medical School) 7023

***Neurobiology 324. Research in Neuropeptide Gene Regulation**
Catalog Number: 4057
Joseph A. Majzoub (Medical School) 1875

***Neurobiology 324L. Neuroscience and Genetics of Human Variation in Reward and Self-Control**
Catalog Number: 60914
Joshua William Buckholtz 1653 (on leave spring term)

***Neurobiology 325. Synaptic Transmissions and Dendritic Processing**
Catalog Number: 2065
Wade G. Regehr (Medical School) 1606

***Neurobiology 325L. Genetic dissection of inhibitory modulation in the central nervous system**
Catalog Number: 51945
Uwe Rudolph (Medical School) 7049

***Neurobiology 326. Age-Dependent Mechanisms of Perinatal Brain Injury**
Catalog Number: 2469
Frances E. Jensen (Medical School) 3940

***Neurobiology 326L. Extracellular matrix/neuron/glia interactions in the pathophysiology of schizophrenia and bipolar disorder.**
Catalog Number: 94951
Sabina Berretta (Medical School) 7087

***Neurobiology 327. Rotation Course in Neurosciences**
Catalog Number: 5694

Richard T. Born (Medical School) 1787
Note: Primarily for students in Neuroscience.

***Neurobiology 327R. Lab Rotations in Neurosciences**
Catalog Number: 23382
Richard T. Born (Medical School) 1787

***Neurobiology 328. Mechanisms of Cell Death in Stroke and Trauma**
Catalog Number: 8967
Eng H. Lo (Medical School) 3049

***Neurobiology 328L. Role of Sleep in Memory and Emotional Processing in Healthy Subjects, Schizophrenia, Autism, and PTSD**
Catalog Number: 65645
Robert A. Stickgold (Medical School) 3274

***Neurobiology 329. Molecular Mechanisms of Neurodegeneration in Alzheimer's and Parkinsons Diseases**
Catalog Number: 8816
Dennis J. Selkoe (Medical School) 2857

***Neurobiology 329L. The Genetic and Neural Basis of Sleep in Drosophila**
Catalog Number: 28832
Dragana Rogulja (Medical School) 7133

***Neurobiology 330. Gene Expression in the Brain and Motivated Behavior**
Catalog Number: 6269
William A. Carlezon (Medical School) 3929

***Neurobiology 330L. Translational Genomics of Parkinsons Disease: Cause, Cures, Diagnostics**
Catalog Number: 55087
Clemens Scherzer (Medical School) 7131

***Neurobiology 331. Neural Differentiation, Regeneration and Stem Cell Regulation in the Brain and Eye**
Catalog Number: 9045
Dong Feng Chen (Medical School) 3930

***Neurobiology 331L. Motivational Influences on Cortical Networks Underlying Attention, Learning and Memory of Sensory Cues**
Catalog Number: 73341
Mark Lawrence Andermann (Medical School) 7130

***Neurobiology 332. Ligand-Gated Ion Channels: Structure and Function**
Catalog Number: 1623
Jonathan B. Cohen (Medical School) 1120

***Neurobiology 332L. Biological and computational underpinnings of visual processing**
Catalog Number: 96616
David Cox 7161

***Neurobiology 333. Intercellular Communication**
Catalog Number: 2484
David L. Paul (Medical School) 2318

***Neurobiology 333L. Behavioral and synaptic plasticity in neuropsychiatric disorders; mechanisms of axon guidance and synapse elimination in autism**
Catalog Number: 38811
Christopher William Cowan (Medical School) 7179

***Neurobiology 334. Hair Cells and Afferent Neurons of the Inner Ear**
Catalog Number: 1134
Ruth Anne Eatock (Medical School) 5739

***Neurobiology 334L. Cellular and Molecular Mechanisms of Cortical Circuit Assembly**
Catalog Number: 89186
Corey Harwell (Medical School) 7205

***Neurobiology 335. Physiological Function and the Pathogenetic Actions of Genes Implicated in Neurodegenerative Diseases**
Catalog Number: 84752
Mark William Albers (Medical School) 7202

***Neurobiology 336. Developmental Cognitive Neuroscience, Focusing Primarily on Memory and Face Processing.**
Catalog Number: 2242
Charles A. Nelson (Public Health) 5480

***Neurobiology 337. Neurobiology of the Human Circadian Pacemaker**
Catalog Number: 5322
Charles A. Czeisler (Medical School) 7763

***Neurobiology 338. Neural Circuitry of Primate Visual Cortex**
Catalog Number: 5634
Richard T. Born (Medical School) 1787

***Neurobiology 339. Mechanisms of Central Synaptic Transmission**
Catalog Number: 9322
Vadim Bolshakov (Medical School) 4948

***Neurobiology 341. Cognition and Cognitive Disorders; the Role of Translational Regulation**
Catalog Number: 8790
Raymond J. Kelleher (Medical School) 5740

***Neurobiology 342. Neurophysiology of Visual Cortex and LGN**
Catalog Number: 2778
R. Clay Reid (Medical School) 2957

***Neurobiology 343. Neuronal Metabolism and Excitability; Molecular Physiology of Ion Channels**
Catalog Number: 1887
Gary I. Yellen (Medical School) 3268



***Neurobiology 344. Neurobiology and protein biochemistry underlying Parkinson's disease.**
Catalog Number: 38211
Matthew James Lavoie (Medical School) 2640

***Neurobiology 345. Molecular Basis of Neuron Glia Interactions**
Catalog Number: 4918
Gabriel Corfas (Medical School) 2907

***Neurobiology 346. Visual Processing in Primates**
Catalog Number: 0184
John A. Assad (Medical School) 2985

***Neurobiology 347. Alzheimer's Disease Research**
Catalog Number: 6606
Bradley T. Hyman (Medical School) 2952

***Neurobiology 348. Neural stem cells and cerebrospinal fluid**
Catalog Number: 11112
Maria Kristiina Lehtinen (Medical School) 6465

***Neurobiology 349. Olfactory and Vomeronasal Systems Molecular and Developmental Neurobiology**
Catalog Number: 1416
Catherine Dulac 2801

***Neurobiology 350. Development, degeneration, and circuitry of the vertebrate retina**
Catalog Number: 2038
Constance L. Cepko (Medical School) 1150

***Neurobiology 351. Neurogenetics of Disease**
Catalog Number: 3008
Louis M. Kunkel (Medical School) 1330

***Neurobiology 353. Physiology, with an emphasis on ion channels, signal transduction, and imaging**
Catalog Number: 3689
David E. Clapham (Medical School) 2987

***Neurobiology 354. Structural Biology of Signaling and Transport Through Biological Membranes**
Catalog Number: 9454
Rachelle Gaudet 4413

***Neurobiology 355. A Biophysical Approach to System Function**
Catalog Number: 33133
Michael Tri Hoang Do (Medical School) 6909

***Neurobiology 356. Ion Channels in Neural Cell Membranes**
Catalog Number: 8368
David P. Corey (Medical School) 1345

***Neurobiology 357. Experience-Dependent Neuronal Circuit Maturation and Plasticity**
Catalog Number: 6674
Michela Fagiolini (Medical School) 5751

***Neurobiology 358. Neurogenetics of Human Disease**
Catalog Number: 7616
Xandra O. Breakefield (Medical School) 1428

***Neurobiology 359. Functional Characterization of Neural Circuits**
Catalog Number: 23173
Sandeep Robert Datta (Medical School) 6518

***Neurobiology 360. Neural Signal Processing and Mechanisms of General Anesthesia**
Catalog Number: 8525
Emery N. Brown (Medical School) 1399

***Neurobiology 361. Immunobiology of the Nervous System and its Tumors**
Catalog Number: 7282
Lois A. Lampson (Medical School) 2491

***Neurobiology 362. Optical imaging in Alzheimer's disease**
Catalog Number: 5030
Brian Bacskai (Medical School) 6693

***Neurobiology 363. Axonal Development and Reorganization**
Catalog Number: 7089
Larry I. Benowitz (Medical School) 3150

***Neurobiology 364. hypothalamic circuitry controlling sleep and circadian rhythms**
Catalog Number: 1523
Clifford B. Saper (Medical School) 3394

***Neurobiology 365. Behavioral Pharmacology of Stimulant Drugs and Brain Dopamine Systems**
Catalog Number: 8902
S. Barak Caine (Medical School) 5477

***Neurobiology 366. Functional Organization of the Retina**
Catalog Number: 7391
Richard H. Masland (Medical School) 4923

***Neurobiology 367. Neocortical Development and Regeneration**
Catalog Number: 4252
Jeffrey D. Macklis 3396

***Neurobiology 370. Genetic and Molecular Studies of Neurodegenerative Diseases**
Catalog Number: 8336
Rudolph E. Tanzi (Medical School) 2683



***Neurobiology 371. Sensory Neuron Development and Sleep Using Genetics and Live Imaging in Zebrafish.**
Catalog Number: 7081
Alexander F. Schier 5238 (on leave 2013-14)

***Neurobiology 372. Neurotransmitter Control of Ion Channels**
Catalog Number: 7104
Bruce P. Bean (Medical School) 1148

***Neurobiology 373. Developmental Studies of the Murine Trigeminal Sensory System**
Catalog Number: 7485
Qiufu Ma (Medical School) 3034

***Neurobiology 374. Molecular Basis of Alzheimer's Disease & Parkinson's Disease**
Catalog Number: 9022
Jie Shen (Medical School) 3059

***Neurobiology 375. Mechanisms of Synaptic Transmission & Plasticity**
Catalog Number: 0790
Venkatesh N. Murthy 2424

***Neurobiology 376. Genetics of Neuronal Cell Biology**
Catalog Number: 2911
Thomas L. Schwarz (Medical School) 3923

***Neurobiology 377. Physiological Studies of Phototransduction and Light Adaptation**
Catalog Number: 6897
Clint L. Makino (Medical School) 3946

***Neurobiology 378. Neuronal Mechanisms and Animal Behavior**
Catalog Number: 9659
Naoshige Uchida 5745

***Neurobiology 379. Growth Factor Regulation of Neural Development and Oncogenesis**
Catalog Number: 7751
Scott L. Pomeroy (Medical School) 3947

***Neurobiology 380. Functional Wiring of the Rabbit Retina, Control of Postnatal Development**
Catalog Number: 4965
Elio Raviola (Medical School) 3582

***Neurobiology 381. Glutamate Transporters, Cell Death, Sleep/Wake Regulation**
Catalog Number: 6912
Paul Allen Rosenberg (Medical School) 3949

***Neurobiology 382. Hypothalamus and Melanin Concentrating Hormone in the Regulation of Energy Homeostasis**
Catalog Number: 1457
Eleftheria Maratos-Flier (Medical School) 4327



***Neurobiology 383. Role of the Basal Ganglia in Learning and Motivation**
Catalog Number: 0492
Emad Eskandar (Medical School) 6176

***Neurobiology 384. Neuroscience of human emotions and emotional disorders**
Catalog Number: 89733
Diego Pizzagalli (Medical School) 4425

***Neurobiology 385. Mammalian Gap Junctions, Inhibitory Neuronal Networks, and Corticothalamic Processing**
Catalog Number: 1296
Carole Landisman (Medical School) 5787

***Neurobiology 386. Changes in Sensory Neurons that Contribute to Pain**
Catalog Number: 7609
Clifford Woolf (Medical School) 3956

***Neurobiology 387. Development and Plasticity of Auditory Cortex**
Catalog Number: 20829
Daniel B. Polley (Medical School) 6881

***Neurobiology 389. Molecular Regulation of Neural Tube Development**
Catalog Number: 3914
Mary R. Loeken (Medical School) 3151

***Neurobiology 390. Mechanisms of Synapse Regulation**
Catalog Number: 9202
Bernardo L. Sabatini (Medical School) 4300

Neurobiology 391. The biology and experimental therapeutics of malignant brain tumors - *(New Course)
Catalog Number: 12964
E. Antonio Chiocca (Medical School) 7429

***Neurobiology 392. Synaptic Plasticity in the CNS**
Catalog Number: 6750
Chinfei Chen (Medical School) 4437

***Neurobiology 393. Genetic Disorders of Axon Growth and Guidance**
Catalog Number: 3085
Elizabeth C. Engle (Medical School) 4312

***Neurobiology 394. Human Memory Processing and Brain State**
Catalog Number: 23915
Edwin Malcolm Robertson (Medical School) 6565

***Neurobiology 395. Neuron-Glia Interactions During Development & Disease; Synapse Development & Plasticity; Neuro-Immune Interactions**
Catalog Number: 7993
Beth Stevens (Medical School) 6678

***Neurobiology 396. Critical Period Mechanisms of Experience-Dependent Brain Development**
Catalog Number: 0142
Takao K. Hensch (Medical School) 5813

***Neurobiology 397. Nervous System Construction and Function**
Catalog Number: 0158
Samuel M. Kunes 3486

***Neurobiology 398. HSV Vectors for Cancer Therapy**
Catalog Number: 4438
Samuel D. Rabkin (Medical School) 4772

***Neurobiology 399. Neurocircuits Thought to Regulate Metabolism and Behavior**
Catalog Number: 5626
Bradford Barr Lowell (Medical School) 5741

Quarter Courses for Graduate Students Only

***Neurobiology 300qc. Advanced Topics in Neurobiology**
Catalog Number: 11464
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (7 weeks).
Note: Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

[*Neurobiology 301qc. Gene Therapy and Imaging for Nervous System Disorders]
Catalog Number: 18456 Enrollment: Limited to 12.
Bakhos A. Tannous (Medical School) 6863, Xandra O. Breakefield (Medical School) 1428, Casey A. Maguire (Medical School) 7357, and Luk Hugo Vandenberghe (Medical School) 7356
Quarter course (fall term; repeated spring term). Tu., 3–5.
Introduction to gene therapy, different techniques in molecular imaging to monitor gene transfer and response to therapy. Discuss trends in gene therapy: viral vectors, siRNA and cell-based therapy, clinical trials for central nervous system disorders.
Note: Expected to be given in 2014–15.

[*Neurobiology 303qc. Tools for Statistical Inference in Experimental Science]
Catalog Number: 65564 Enrollment: Limited to 35.
Gary I. Yellen (Medical School) 3268
Quarter course (spring term). M., W., F., 3–5.
Introduction to statistical treatment of experimental data, particular reference to problems in neuroscience. Basic topics in statistics, including probability distributions, sampling, hypothesis testing, Bayes's Theorem, t tests, confidence intervals, and ANOVA and related tests
Note: Expected to be given in 2014–15.

***Neurobiology 304qc. Regeneration and Repair in the Mammalian Nervous System: Cellular and Molecular Mechanisms**
Catalog Number: 41092 Enrollment: Limited to 18.
Zhigang He (Medical School), Larry I. Benowitz (Medical School), Jeffrey D. Macklis, Clifford Woolf (Medical School)

Quarter course (spring term). W., 5:30–7:30 p.m.
Approaches toward mammalian neural regeneration, comparing and contrasting development with adult plasticity/repair. Overview lectures and discussion of primary literature, motivated by motor and sensory circuitry central to spinal cord injury, ALS, and peripheral nerve injury.
Note: Given in alternate years.

***Neurobiology 305qc. Biochemistry and Biology of Neurodegenerative Diseases**
Catalog Number: 22489 Enrollment: Limited to 20.
Dominic M. Walsh (Medical School) 7516 and Michael S. Wolfe (Medical School) 4543
Quarter course (fall term). Tu., 3:30–5:30.
Biochemistry and biology are integrated to provide a broad perspective on major human neurodegenerative diseases. The biochemistry, enzymology, structural biology and pathology of disease-associated proteins and approaches to developing therapeutics will be examined.
Note: Given in alternate years.

***Neurobiology 306qc. Quantitative Methods for Biologists**
Catalog Number: 85319 Enrollment: Limited to 80.
Michael Springer, Richard T. Born (Medical School)
Quarter course (fall term; repeated spring term). Hours to be arranged .
The goals of this course are to introduce students to programming in the MATLAB environment and to begin using this tool for analyzing data and for gaining intuition about the behavior of complex systems through the use of numerical simulations.

[*Neurobiology 307qc. Molecular Causes of Congenital Defects of the CNS]
Catalog Number: 93018 Enrollment: Limited to 12.
Mary R. Loeken (Medical School)
Quarter course (spring term). Tu., 2–5.
Congenital defects can be caused by inheritance of a defective gene, maternal infection, or prenatal exposure to environmental teratogens. Use of mutant mouse strains and genomic sequencing have been particularly useful in the rapid proliferation of our understanding of the cellular and molecular mechanisms by which congenital defects of the brain or nervous system arise, and how they lead to functional consequences that range from biochemical abnormalities to gross structural defects.
Note: Expected to be given in 2014–15. Given every three years.

[*Neurobiology 309qc. The molecular pathology and current therapies for retinal diseases]
Catalog Number: 42626
Dong Feng Chen (Medical School)
Quarter course (fall term). Hours to be arranged.
Note: Offered in alternate years. Expected to be given in 2014–15.

Pharmacology

For courses pertaining to Pharmacology see listings under the Department of Biological Chemistry and Molecular Pharmacology.

Speech and Hearing Bioscience and Technology

Primarily for Graduates

SHBT 200. Acoustics of Speech and Hearing
Catalog Number: 60388 Enrollment: Limited to 20. Must have a minimum of 5 students
John J. Rosowski (Medical School) and Christopher A. Shera (Medical School)
Half course (fall term). W., at 12, Tu., Th., 1–2:30.
Discusses limitations that the speech production and hearing systems impose on the sounds we produce and sense. Focuses on acoustic cues used in sound localization, speech production mechanisms, the mechanics of sound reception and perception.
Note: This course is taught in consort with 6.551J/HST.714J at the Massachusetts Institute of Technology. Classes will be held at MIT.
Prerequisite: Mathematical methods in science (Applied Mathematics 21a or Mathematics 21a) or equivalent. Rigid body mechanics (Physics 11A), or electrical circuits (Engineering Science 154) or permission of the instructor

SHBT 201. Biology of the Inner Ear
Catalog Number: 75495 Enrollment: Limited to 12.
M. Charles Liberman (Medical School) and Stephane Maison (Medical School)
Half course (fall term). Tu., Th., 9–10:30, F. laboratory hours to be arranged. EXAM GROUP: 11, 12
Normal biology, biophysics, physiology and morphology of the inner ear, its sensory innervation and efferent control systems, and the mechanisms underlying sensorineural hearing loss and balance disorders. Material is presented through lectures, laboratory exercises and discussions of the primary literature.
Prerequisite: Introductory neurobiology recommended

SHBT 202. Clinical Aspects of Hearing and Speech
Catalog Number: 69294 Enrollment: Limited to 15. Minimum of 5
Joseph B. Nadol (Medical School and MEEI) and Konstantina Stankovic (Medical School and MEEI)
Half course (spring term). M., W., 5–7. Clinical observations Mon-Fri 8-3.
Clinical approach to speech and hearing disorders as practiced by physicians, audiologists, speech clinicians, rehabilitation specialists, bioengineers. Includes observation of patient care in clinic and operating room, audiology/balance disorders experience, lectures and discussion groups.
Note: Offered jointly with HST 724 at MIT. Classes to be held at the Massachusetts Eye and Ear Infirmary (MEEI)
Prerequisite: Anatomy of Speech and Hearing, Acoustics of Speech and Hearing or permission of the course director

***SHBT 203. Anatomy of Speech and Hearing**
Catalog Number: 17772 Enrollment: Limited to 12.
Barbara C. Fullerton (Medical School), James Tracey Heaton (Medical School), and James Bradley Kobler (Medical School)
Half course (spring term). Lecture: M.-F., 9:30- 10:30., Lab: M.- F., 10:30-1:30.
This course covers anatomy of the head and neck, with cadaver dissection, stressing structures important in speech and hearing. Lecture topics also include basic neuroanatomy, imaging, surgery, and cancer of head and neck.
Note: This an intensive January Course. Offered jointly with MIT as HST 718. Classes to be held at the Harvard Medical School campus (HMS)
Prerequisite: Introductory biology or equivalent and permission of the course director.

SHBT 204. Speech Communication
Catalog Number: 47986 Enrollment: Limited to 20.
Robert E. Hillman (Medical School) and other faculty

Half course (spring term). Tu., Th., 11–12:30.
Survey of human speech communication. Acoustic theory of speech production; physiologic and acoustic descriptions of phonetic features, prosody, voice and speech perception and speech motor control. Applications to recognition, synthesis and speech disorders.
Note: Offered jointly with MIT course HST.710. Classes to be held at MIT.
Prerequisite: Background equivalent to MIT HST.714.

SHBT 205. Neural Coding and Perception of Sound
Catalog Number: 63093 Enrollment: Limited to 20.
Bertrand Delgutte (Medical School), M. Christian Brown (Medical School), Donald Keith Eddington (Medical School), John J. Guinan (Medical School), Jennifer R. Melcher (Medical School), and Daniel B. Polley (Medical School)
Half course (spring term). M., W., 9:30–11:30, Occasional lab on Friday. EXAM GROUP: 2, 3, 4
Neural structures and mechanisms mediating the detection, localization and recognition of sounds. General principles are conveyed by theme discussions of auditory masking, sound localization, musical pitch, cochlear implants, and auditory scene analysis.
Note: Offered jointly with MIT HST.723J. Classes to be held at the Harvard Medical School campus (HMS).
Prerequisite: Neurobiology 200 or Permission of the instructor.

SHBT 206 (formerly Pathology 205). Molecular Biology of the Auditory System
Catalog Number: 0211
Albert Edge (Medical School)
Half course (fall term). Tu., 4–6.
Advances in molecular biology of hearing. Topics: Transcriptional and post-translational regulation of gene expression; cell fate determination during inner ear development; inner ear stem cells and regenerative capacity in various species; use of genomics in investigations of the inner ear; critical genes for generating functional hair cells.
Note: Given in alternate years.
Prerequisite: Introductory courses in neurobiology and molecular biology are recommended.

Graduate Courses of Reading and Research

***SHBT 300. Auditory neural coding laboratory**
Catalog Number: 29629
Bertrand Delgutte (Medical School) 6509
Research projects on the neural coding of sound and the neural basis of auditory perception, with emphasis on the mechanisms for listening in adverse environments comprising reverberation and competing sound sources.

***SHBT 301. Investigates the acoustics and mechanics of the middle ear, with a dual emphasis on comparative physiology of the ear and clinical issues in middle-ear disease and its treatment**
Catalog Number: 54684
John J. Rosowski (Medical School) 6498

***SHBT 302. The mechanics and physiology of the peripheral auditory system, with an emphasis on mechanisms of cochlear amplification, nonlinearity, and otoacoustic emissions.**
Catalog Number: 55476
Christopher A. Shera (Medical School) 6499

***SHBT 303. Sensory coding, and feedback control, in the mammalian cochlea; mechanisms of sensorineural hearing loss.**
Catalog Number: 42465
M. Charles Liberman (Medical School) 3945

***SHBT 305. Degeneration and regeneration of the auditory nerve; biomarkers of sensorineural hearing loss**
Catalog Number: 17641
Konstantina Stankovic (Medical School) 6500

***SHBT 306. Clinical studies of laryngeal voice disorders with an emphasis on the development of improved diagnostic and treatment methods including the application of acoustic, aerodynamic, mechanical and imaging technologies.**
Catalog Number: 16069
Robert E. Hillman (Medical School) 6508

***SHBT 310. Independent Study in Speech and Hearing Sciences**
Catalog Number: 76933
John J. Rosowski (Medical School) 6498 and Bertrand Delgutte (Medical School) 6509
Opportunity for independent study of topics in speech and hearing sciences under regular supervision by an SHBT faculty member.
Note: For SHBT students only

SHBT 311. Clinical work at MGHIHP - *(New Course)
Catalog Number: 85325
John J. Rosowski (Medical School) 6498 (spring term only)
Note: For SHBT students only.

SHBT 330. Dissertation Research - *(New Course)
Catalog Number: 45552
John J. Rosowski (Medical School) 6498 (spring term only)
For SHBT graduate students studying in research labs at MIT only.

***SHBT 333r. Laboratory Rotation in Speech and Hearing Sciences**
Catalog Number: 41383
Bertrand Delgutte (Medical School) 6509
Research on topics in theoretical, experimental, clinical, or translational aspects of Speech and Hearing Sciences arranged on an individual basis with a research supervisor.
Note: For SHBT students only

Quarter Courses for Graduate Students Only

***SHBT 301qc. Speech and Hearing Laboratory Visits**
Catalog Number: 14124
Bertrand Delgutte (Medical School) 6509
Research on topics in theoretical, experimental, clinical, or translational aspects of Speech and Hearing Sciences arranged on an individual basis with a research supervisor.

Virology

Primarily for Graduates

***Virology 200. Introduction to Virology**
Catalog Number: 6075 Enrollment: Limited to 20.
Max L. Nibert (Medical School), Michaela Gack (Medical School), Elliott D. Kieff (Medical School), David M. Knipe (Medical School), Karl Münger (Medical School), and Priscilla Yang (Medical School)
Half course (fall term). M., W., 1:30-3:30.
Introduction to virology. The lecture component reviews the basic principles of virology and introduces the major groups of human viruses. Weekly discussion groups critically analyze selected papers from the literature.
Note: There will be a final project consisting of a proposal based on laboratory rotations (for Virology, BBS, or Immunology Program students) or a final paper based on a topic from the literature. Offered jointly with the Medical School as MG 705.0.

Virology 201. Virology
Catalog Number: 1190
Sean P.J. Whelan (Medical School), James M. Cunningham (Medical School), and Michaela Gack (Medical School)
Half course (spring term). M., W., 2:30–4.
Literature based reading. Proposal writing. Course covers a broad range of topics: viral genetics, structure/replication, pathogenesis, evolution ("emerging viruses"), chronic infection, latency, innate and adaptive immunity, anti-viral drugs and vaccine strategies.
Note: Offered jointly with the Medical School as MG 723.0.
Prerequisite: Graduate standing and permission required.

Virology 202. Proposal Writing
Catalog Number: 6025
Michaela Gack (Medical School), Todd Allen (Medical School), Samuel D. Rabkin (Medical School), and Frederick C. Wang (Medical School)
Half course (fall term). W., 1:30–4:45.
Students will write, present, and evaluate research proposals in the areas of virus replication, viral pathogenesis and treatment and prevention of viral infections.
Note: Offered jointly with the Medical School as MG 724.0.
Prerequisite: General background in biochemistry and virology.

Graduate Courses of Reading and Research

***Virology 300r. Introduction to Research**
Catalog Number: 0530
David M. Knipe (Medical School) 7089

***Virology 301. Herpes Virus Interaction with the Host Cell**
Catalog Number: 7344
David M. Knipe (Medical School) 7089

***Virology 303. AIDS Pathogenesis Research in the Nonhuman Primate Model of SIV Infection with a Focus on Host Immune Responses in Natural Hosts of SIV, AIDS Vaccine Development, and Immunopathogenesis of CMV Infection**
Catalog Number: 6772
Amitinder Kaur (Medical School) 6692



***Virology 304. Molecular Biology of Kaposi's Sarcoma-Associated Herpes Virus**
Catalog Number: 8182
Kenneth M. Kaye (Medical School) 3064

***Virology 305. Entry and Replication of Negative-Strand RNA Viruses**
Catalog Number: 5437
Sean P.J. Whelan (Medical School) 4591

***Virology 307. Genetics and Biochemistry of Prokaryotic Transposable Elements and Yeast Meiotic Chromosome Metabolism**
Catalog Number: 6097
Nancy Kleckner 4697

***Virology 308. Molecular Genetics of Herpes Virus**
Catalog Number: 3000
Donald M. Coen (Medical School) 7617

***Virology 309. Immunology of Pregnancy, Tolerance and Multiple Sclerosis**
Catalog Number: 4011
Jack L. Strominger 1193

***Virology 310. Cellular Transformation by SV40**
Catalog Number: 0221
James A. DeCaprio (Medical School) 1296

***Virology 311. Molecular Biology of Epstein-Barr Infection**
Catalog Number: 0513
Frederick C. Wang (Medical School) 1297

***Virology 312. Molecular Biology of Epstein Barr Virus infection and Transformation of B Lymphocytes**
Catalog Number: 3483
Elliott D. Kieff (Medical School) 1858

***Virology 313. Molecular Basis for Simian Virus Pathogenesis**
Catalog Number: 2528
Ronald C. Desrosiers (Medical School) 1874

***Virology 314. Viral Oncoproteins as Probes to Study the Regulation of Cell Growth and Differentiation**
Catalog Number: 6286
Karl Münger (Medical School) 1586

***Virology 315. Mechanisms of Transcriptional Repression in Eukaryotic Cells**
Catalog Number: 0462
Yang Shi (Medical School) 3169

***Virology 317. Virology and Immunology of Human Retroviruses**
Catalog Number: 0954
Myron Essex (Public Health) 2499

***Virology 318. Persistence and Pathogenesis of Hepatitis C Virus Infection**
Catalog Number: 9144
Raymond Taeyong Chung (Medical School) 6178

***Virology 319. Functional Analysis of Tumor Suppression Genes**
Catalog Number: 5817
David Morse Livingston (Medical School) 4872

***Virology 320. Pathogenesis of Human Retroviruses**
Catalog Number: 1532
Joseph G. Sodroski (Public Health) 1712

***Virology 321. Retroviral DNA Integration**
Catalog Number: 6857
Alan N. Engelman (Medical School) 2196

***Virology 322. HIV Molecular Biology and Pathogenesis**
Catalog Number: 9023
Dana Gabuzda (Medical School) 1581

Virology 323. Immunobiology of Epstein-Barr Virus Receptor; Pathogenesis of EBV and B-cell tumors - *(New Course)
Catalog Number: 69778
Joyce D. Fingeroth (Medical School) 2707

***Virology 324. Leukemogenic Retroviruses**
Catalog Number: 5263
James M. Cunningham (Medical School) 2346

***Virology 325. Retroviral Pathogenesis; AIDS Vaccine Development, and the Nature of Protective Immunity**
Catalog Number: 8029
Ruth M. Ruprecht (Medical School) 2716

***Virology 326. Pathogenesis and Treatment of Human Retrovirus and Herpesvirus Infection**
Catalog Number: 6440
Martin S. Hirsch (Medical School) 2876

***Virology 328. Humoral Response to Retroviral Infections in Humans; Identification of Coding Sequence of Human Retroviruses and their Gene Products**
Catalog Number: 2513
Tun-hou Lee (Public Health) 2769

***Virology 329. Immune control of HIV and implications for vaccine development**
Catalog Number: 5417
Bruce Walker (Medical School) 2847

***Virology 330. Critical Readings in Virology**
Catalog Number: 5966
David Lopes Cardozo (Medical School) 5995

A series of reading and discussion seminars, each running for a half term (seven weeks). Different topics are covered each term.
Note: Two seminars, which can be taken in different terms, are required for credit. Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***Virology 331. Polyomavirus JC, the Etiologic Agent of Progressive Multifocal Eukoencephalopathy (PML)**
Catalog Number: 9476
Igor J. Koralnik (Medical School) 6179

***Virology 332. Protein Phosphorylation and Gene Expression in Normal and Transformed Cells**
Catalog Number: 9093
Raymond L. Erikson 7506

***Virology 333. Antiretroviral Drug Resistance, and Drug Resistant Human Immunodeficiency Virus**
Catalog Number: 5526
Daniel R. Kuritzkes (Medical School) 4773

***Virology 336. Genetic Changes in HIV and Hepatitis C Virus**
Catalog Number: 8685
Todd Allen (Medical School) 6180

***Virology 339. Mechanisms of HIV protein degradation, epitope processing and presentation to virus-specific CD8 T cells**
Catalog Number: 3999
Sylvie Le Gall (Medical School) 6269

***Virology 347. Reovirus Structure, Assembly, and Particle Functions in Entry and RNA Synthesis**
Catalog Number: 4181
Max L. Nibert (Medical School) 3896

***Virology 348. Immunopathogenesis of HIV-1 and the Development of HIV-1 Vaccine Strategies**
Catalog Number: 8409
Dan Hung Barouch (Medical School) 5744

***Virology 349. Imaging Techniques to Study the Behavior of Individual Biological Molecules and Complexes in Vitro and in Live Cells**
Catalog Number: 33202
Xiaowei Zhuang 3991

***Virology 350. Regulation of Host Innate Immunity Against Viral Infection**
Catalog Number: 50408
Michaela Gack (Medical School) 6959

***Virology 351. molecular mechanisms of HIV (human immunodeficiency virus) viral entry**
Catalog Number: 29818
Bing Chen (Medical School) 7013

***Virology 352. Biology and evolution of human adenoviruses.**
Catalog Number: 52819
James Chodosh (Medical School) 7017

Quarter Courses for Graduate Students Only

***Virology 300qc. Advanced Topics in Virology**
Catalog Number: 78093
David Lopes Cardozo (Medical School) 5995
A series of reading and discussion seminars, each running for a half term (7 weeks).
Note: Non-DMS students must get permission from the Division of Medical Sciences before registering for this course. Please contact us at 617-432-0162 or visit the DMS Office at T-MEC 435, 260 Longwood Avenue, Boston.

***Virology 301qc. Advanced Topics in Virology - Viral Oncology**
Catalog Number: 33563
Karl Munger (Medical School) 1586, James DeCaprio (Medical School)
Quarter course (spring term). Tu., Th., 4:30-6:00.
Introduction to viral oncology and critical evaluation of key papers in viral oncology. Requirements include presentations, written critiques and class participation.
Note: Offered in the month of January; class size limited to 10 students

Medieval Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Medieval Studies

Daniel L. Smail, Professor of History *(Chair)*
Daniel G. Donoghue, John P. Marquand Professor of English
Luis M. Girón Negrón, Professor of Romance Languages and Literatures and of Comparative Literature
Virginie Greene, Professor of Romance Languages and Literatures
Jeffrey F. Hamburger, Kuno Francke Professor of German Art and Culture
Ioli Kalavrezou, Dumbarton Oaks Professor of Byzantine Art *(on leave spring term)*
Thomas Forrest Kelly, Morton B. Knafel Professor of Music
Beverly M. Kienzle, John H. Morison Professor of the Practice of Latin and Romance Languages, Lecturer on Medieval Christianity, Director of Language Studies *(Divinity School)*
Kevin J. Madigan, Winn Professor of Ecclesiastical History, Harvard Divinity School *(Divinity School)*
Catherine McKenna, Margaret Brooks Robinson Professor of Celtic Languages and Literatures
Stephen A. Mitchell, Professor of Scandinavian and Folklore
Gülru Necipoglu-Kafadar, Aga Khan Professor of Islamic Art
Tomás Ó Cathasaigh, Henry L. Shattuck Professor of Irish Studies

Katharine Park, Samuel Zemurray, Jr. and Doris Zemurray Stone Radcliffe Professor of the History of Science
Panagiotis Roilos, George Seferis Professor of Modern Greek Studies and of Comparative Literature
Christine Smith, Robert C. and Marian K. Weinberg Professor of Architectural History *(Design School) (fall term)*
Charles Stang, Associate Professor of Early Christian Thought *(Divinity School)*
Hugo van der Velden, Professor of History of Art and Architecture
Nicholas Watson, Professor of English
Jan Ziolkowski, Arthur Kingsley Porter Professor of Medieval Latin

Other Faculty Offering Instruction in Medieval Studies

The Standing Committee on Medieval Studies exists in order to promote and coordinate work on medieval subjects throughout the University, including the Dumbarton Oaks Research Library and Museum in Washington, D.C. As a program committee within the Faculty of Arts and Science, it offers a number of undergraduate and graduate courses each year, and coordinates a secondary field in Medieval Studies for Ph.D. students and a secondary field in Medieval Studies for undergraduates. Although Harvard offers no Ph.D. specifically in Medieval Studies, the committee has the authority to administer interdisciplinary Ph.D.s in liaison with a departmental program. Working in cooperation with a number of Graduate School of Arts and Sciences workshops, the Houghton Library, the Aga Khan Program in Islamic Architecture, and other departments and centers at Harvard, it also sponsors frequent events and activities of interest to medievalists. Among these are the meetings of the Mahindra Humanities Center's Medieval Studies Seminar on Monday afternoons, an occasional series of special seminars and conferences in Medieval Studies, twice-yearly receptions for medievalists throughout the Boston area, and an interdisciplinary graduate student workshop in Medieval Studies. The committee also maintains the Medieval Studies Library in Widener D.

For more information about Medieval Studies programs and events, please visit the Committee's website. Specific questions concerning undergraduate or graduate-level Medieval Studies may be addressed to the Committee's Program Administrator, Sean Gilsdorf, or its co-chairs, Nicholas Watson and Daniel Smail. Please contact us to join the Medieval Studies electronic mailing list.

For Undergraduates and Graduates

[Medieval Studies 107. Authority and Invention: Medieval Art and Architecture]
Catalog Number: 9420
Christine Smith (Design School)
Half course (fall term). M., W., at 12, and an additional section to be arranged. EXAM GROUP: 5
Masterworks of art and architecture in Western Europe from the decline of Rome to the dawn of the Italian Renaissance. Explores the creative tension between the impulse to originality and the authority of classical models in the search for new art forms. Emphasis on representative works considered in their totality (architecture, painting, sculpture, and minor arts) as experiential wholes; and on the plurality of geographical and cultural contexts (Italy, Germany, France, and Spain).
Note: Expected to be given in 2014–15. Offered jointly with the Graduate School of Design as 4358. Meets at the Graduate School of Design, Gund Hall. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[Medieval Studies 117. Constitutional and Legal History of Medieval England]
Catalog Number: 5468
Charles Donahue, Jr. (Law School)
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
A survey of the ideas and events that shaped the structure of English law and governance from the Anglo-Saxon invasions to the Reformation Parliament. Topics include the formation of the kingdom of England, the emergence of institutions of royal governance, the relations between church and state, the development of Parliament, and the various institutional reactions to political conflict and social change.
Note: Expected to be given in 2014–15. Offered concurrently, but with a separate section, at the Law School as Law 42200A-1.

[Medieval Studies 119. Constitutional and Legal History of Medieval Continental Europe]
Catalog Number: 4410
Charles Donahue, Jr. (Law School)
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
A survey of continental European constitutional and legal history from the fall of the Roman Empire to the "Rise of absolutism" at the beginning of the seventeenth century. Focuses on the main expressions of European legal culture over this long period of time. In each period an effort is made to relate the types of law produced to social, political, and religious history.
Note: Expected to be given in 2015–16. Offered concurrently, but with a separate section, at the Law School as Law 42100A-1.

Primarily for Graduates

[Medieval Studies 201. The Auxiliary Disciplines of Medieval History: Proseminar]
Catalog Number: 3759
Michael McCormick
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
Familiarizes scholars in all areas of medieval studies with the research tools and techniques for advanced study of late antique and medieval evidence: Latin palaeography, codicology, hagiography, late Latin philology, late antique studies, numismatics, diplomatic.
Note: Expected to be given in 2014–15.

***Medieval Studies 202. Latin Palaeography and Manuscript Culture: Seminar**
Catalog Number: 7124 Enrollment: Limited to 12.
Beverly M. Kienzle (Divinity School)
Half course (fall term). W., 1–4. EXAM GROUP: 6, 7
Introduction to Latin manuscripts and the historical and cultural context of their production and use. Opportunity to work with actual manuscripts and facsimiles, transcribe previously unedited texts, and discuss problems in textual criticism. Student presentations on research projects. All classes held in Houghton Library.
Note: Offered jointly with the Divinity School as 2223.
Prerequisite: Completion of an intermediate Latin course or the equivalent.

[Medieval Studies 223. Preaching and the Sermon in the Middle Ages]
Catalog Number: 8726 Enrollment: Limited to 12.
Beverly M. Kienzle (Divinity School)
Half course (spring term). W., 1–4. EXAM GROUP: 6, 7, 8
A literary and historical survey of preaching and the sermon from the early to the late Middle Ages, as practiced by bishops, monks, friars, religious women, lay people, and dissident Christians. Readings from

sermons and other primary sources, current research on the history of preaching, and methodological issues. Focus on sermon and sermon-related manuscripts in the Houghton Library collection.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2226.
Prerequisite: Completion of an intermediate Latin course or the equivalent.

[Medieval Studies 227. Hildegard of Bingen and the Gospels: Seminar]
Catalog Number: 7365 Enrollment: Limited to 12.
Beverly M. Kienzle (Divinity School)
Half course (spring term). W., 1–3.
Reading and analysis of Hildegard of Bingen's "Expositiones evangeliorum" with attention to genre, exegetical and homiletic tradition, intertextuality, and questions of gender and authority. Requirements include: secondary readings on Hildegard's works, medieval exegesis, monastic culture, medieval religious women; a research project based on the homilies' sources.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2224.
Prerequisite: Completion of an intermediate Latin course or the equivalent.

Medieval Studies 240. Scrolls in the Middle Ages - *(New Course)*
Catalog Number: 36257 Enrollment: Limited to 12.
Thomas Forrest Kelly and Beverly M. Kienzle (Divinity School)
Half course (spring term). W., 1–4. EXAM GROUP: 6, 7, 8
Medieval scrolls continued to be made far into the era of the codex. They were used for reasons of format or solemnity, and to serve a variety of purposes (archival, legal, musical, and poetical). This seminar will study the phenomenon of the rotulus (scroll) and will prepare an exhibition at the Houghton Library of the fascinating and important scrolls in the Harvard libraries' collections. The course will meet at Houghton Library, with visits to other sites including the Morgan Library and the Beinecke Rare Book and Manuscript Library. Experience with Latin paleography is desirable but not required.
Note: Offered jointly with the Divinity School as 2228.

[*Medieval Studies 250. At Cross Purposes: The Crusades in Material Culture]
Catalog Number: 84714 Enrollment: Limited to 15.
Evridiki Georganteli
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Crusading expeditions in the Holy Land, Spain and Eastern Europe from 1096 until the end of the Middle Ages shaped the political, socio-economic and cultural map of Europe and the Middle East. This course explores the multifaceted encounters between crusaders, Byzantines, Jews, Armenians and Muslims through the material traces they left behind: architecture, Byzantine objects dispersed across Western Europe, coins, sculptures, frescoes, and manuscripts from the East and the West.
Note: Expected to be given in 2014–15.

[*Medieval Studies 280 (formerly *Comparative Literature 280). Literary Theory and Criticism in the Middle Ages: Seminar]
Catalog Number: 2215
Jan Ziolkowski
Half course (spring term). Tu., 2–4.
Examines literary theory and criticism inside curriculum (trivium) and outside (oral culture); manuscripts and commentary tradition; biblical exegesis; arts of poetry, letter-writing, preaching; Platonic and Aristotelian traditions; allegory/allegoresis; sign theory. Includes Augustine, Snorri, Dante, Boccaccio.
Note: Expected to be given in 2014–15. Knowledge of Latin not required. Qualified undergraduates welcome.

Graduate Course

***Medieval Studies 300hf. Medieval Studies Interdisciplinary Workshop**
Catalog Number: 5321
Luis M. Girón Negrón 3060, Daniel L. Smail 5343, and Nicholas Watson 3851
Half course (throughout the year). Hours to be arranged.
Focuses on dissertations in progress and other research topics of mutual concern.
Note: Enrollment is open to all graduate students.

Cross-listed Courses

For courses of additional interest, please see courses taught by members of the Committee at the Graduate School of Design, Harvard Divinity School, and Harvard Law School.

Core Curriculum

Celtic Languages and Literature

Celtic 101. The Hero of Irish Myth and Saga
[Celtic 109. The Finn Cycle]
[Celtic 114. Early Irish Historical Tales]
[Celtic 118. The Gaelic World: 12th Century to 17th Century]
[Celtic 137. Celtic Mythology]
Celtic 138. Mabinogion: Narrative Traditions of Medieval Wales
[Celtic 151. The Literature of Medieval Celtic Christianity: The Hagiographical Tradition]
Celtic 184. The *Táin*
[Celtic 194. Celtic Bards and Their Poems]
Irish 200. Introduction to Old Irish
Irish 201r. Continuing Old Irish
[Irish 204r. Readings in Early Irish Poetry]
[Irish 205r. Readings in Early Irish Prose]
[Welsh 225a. Medieval Welsh Language and Literature]
[Welsh 225b. Medieval Welsh Poetry]
Welsh 226r. Readings in Middle Welsh Prose
Welsh 227. Seminar: Welsh Bardic Poetry

The Classics

Classical Philology 277. Latin Palaeography
Classical Studies 128. Friendship in Byzantium and the West - *(New Course)*
Classical Studies 129. Christianity and Classical Culture - *(New Course)*
Latin Bam. Latin Prose Selections (Late Antique and Medieval)
Latin Bbm. Introduction to Latin Poetry (Late Antique and Medieval)
Medieval Greek 115ar. Introduction to Byzantine Greek
Medieval Greek 275. Court Society and Imperial Representations in Byzantium - *(New Course)
Medieval Latin 105 (formerly Medieval Latin 205). *The Waltharius*
Medieval Latin 206. Latin Biblical Epic - *(New Course)

Comparative Literature

Comparative Literature 211. Mysticism and Literature
[Comparative Literature 251. Literary Criticism and Theory: Antiquity to the Renaissance]
[Comparative Literature 252. The Literatures of Medieval Iberia: Approaches and Debates in their Comparative Study]
Literature 157. From Type to Self in the Middle Ages
[Literature 193. "What's Love Got to Do With It"; Love Poetry of the Middle Ages and Early Modernity]

English

*English 40. Arrivals
*English 42. Arrivals
*English 43. Arrivals: from Beowulf to Milton
*English 90ew. Early Women Writers: Seminar - *(New Course)*
English 102b. Old English: Introduction to Anglo-Saxon Language and Literature - *(New Course)*
English 103d. Old English: Beowulf and Seamus Heaney
[English 115b. Chaucer: *The Canterbury Tales*]
*English 200c. How to Read an Old English Poem: Graduate Seminar - *(New Course)*
*English 215. Poetry and Belief: Graduate Seminar - *(New Course)*
***English 300hf. Old and Middle English: Doctoral Conference**

Folklore and Mythology

Freshman Seminars

*Freshman Seminar 35k. Before Modern Love: Desire, Duty, and Marriage from the Roman Empire to the Renaissance - *(New Course)*
*Freshman Seminar 39w. Rome, Constantinople and Ravenna in the Light of Imperial Rule - *(New Course)*

General Education

[Aesthetic and Interpretive Understanding 16. Openings: The Illuminated Manuscript]
[Aesthetic and Interpretive Understanding 40. Monuments of Islamic Architecture]
[Aesthetic and Interpretive Understanding 49 (formerly Medieval Studies 114). The Medieval Imagination: Visions, Dreams, and Prophecies]
Aesthetic and Interpretive Understanding 51 (formerly Italian 131). The Cosmos of the *Comedy*
[Culture and Belief 20. Reason and Faith in the West]
Culture and Belief 27. Among the Nations: Jewish History in Pagan, Christian and Muslim Context
Culture and Belief 31. Saints, Heretics, and Atheists: An Historical Introduction to the Philosophy of Religion
[Culture and Belief 38 (formerly Literature and Arts C-28). Apocalypse Then! Forging the Culture of Medieval Rus']
Culture and Belief 51. Making the Middle Ages
[Societies of the World 41. Medieval Europe]

Germanic Languages and Literatures

[Scandinavian 150r. The Vikings and the Nordic Heroic Tradition]
[Scandinavian 160a. Old Norse Language, Literature, and Culture: The Viking Legacy]
[Scandinavian 160br. Old Norse Language, Literature, and Culture: Mythology]

Government

Government 1060. Ancient and Medieval Political Philosophy

History

History 60d. Out of Eden: Histories of Expulsion in the Premodern West - *(New Course)
***History 70j. Changing Landscapes in the Eastern Mediterranean: Byzantium between the Crusades and the Islamic World, c.1100-c.1450**
***History 71b. The European Renaissance and Reformation, 1350-1650**
[*History 80f. Carolingian Civilization]
[*History 80g. Travelers to Byzantium]
[*History 81f. Women's Voices in Medieval and Early Modern Europe]
[*History 88b. Medieval History and Cinema]
History 1035. Byzantine Civilization
[History 1055. Vengeance, Hatred, and Law in Premodern Europe]
[History 1144 (formerly Historical Study B-19). The Renaissance in Florence]
[History 1301. Western Intellectual History II: The Prehistory of Modern Thought]
History 1878a. Ottoman State and Society I (1300–1550)
[History 1940. Science and the Global Human Past: Case Studies at the Cutting Edge: Conference Course]
[*History 1977a (formerly *History 1877a). History of the Near East, 600-1055: Conference Course]
***History 1977b (formerly *History 1877b). History of the Near East, 1055-1517: Conference Course**
[*History 2050. Medieval Societies and Cultures: Proseminar]
History 2055 (formerly History 2055hf). Early Medieval History, Archaeology and Archaeoscience: Seminar
[History 2080. Medieval Law]
[*History 2112. Latin Texts of the Italian Renaissance: Proseminar]
History 2884. Topics in Ottoman Social and Cultural History: Seminar
History 2886. Topics in Islamic History: Seminar
***History 3010. Reading and Research**
Societies of the World 53 (formerly History 1040). The Fall of the Roman Empire

History and Literature

***History and Literature 90an. God Save the Queen! Ruling Women from Rome to the Renaissance**
[*History and Literature 90g. Charlemagne in History, Story, and Myth]
***History and Literature 97. Tutorial — Sophomore Year**

History of Art and Architecture

[History of Art and Architecture 120n. Art of the Timurids in Greater Iran and Central Asia]
[History of Art and Architecture 128. Topics in Arabic Art and Culture: The Medieval Mediterranean]
[History of Art and Architecture 141k. Rome, Constantinople, Ravenna in the Light of Imperial Rule : Proseminar]

[History of Art and Architecture 143r. The Art of the Court of Constantinople : Proseminar]
[History of Art and Architecture 145p. Court and Cloister in the Late Middle Ages]
History of Art and Architecture 146s. Bible Stories : Narrative Strategies in High Medieval Art - *(New Course)*
History of Art and Architecture 147m. The Book of Hours : Pictures and Prayer in the Middle Ages - *(New Course)*
History of Art and Architecture 147p. Popular Cults and the Formation of Pilgrimage Sites - *(New Course)*
***History of Art and Architecture 149g. Casts, Construction and Commemoration: German Gothic in America and Abroad**
[*History of Art and Architecture 229p. Word and Image in Persian Painting : Seminar]
[*History of Art and Architecture 240r. Topics in Byzantine Art : Illustrating the Word: manuscripts and their images from the Byzantine religious and secular world]
[*History of Art and Architecture 242. Openings: Issues of Interpretation in Medieval Art : Seminar]
History of Art and Architecture 245x. Jan van Eyck's Renaissance : Seminar

History of Science

[History of Science 101. Knowledge on the Move: Cultures of Science in the Medieval World]
[History of Science 108. Bodies, Sexualities, and Medicine in the Medieval Middle East]
[History of Science 111. Two Scientific Revolutions: From the Classical Age of Islamic Sciences to the Scientific World of Early Modern Europe]
History of Science 112. Magic, Medicine and Miracles: Health and Healing in the Middle Ages and Renaissance
[History of Science 113. Crusades, Plagues and Hospitals: Medicine and Society in the Islamic Middle Ages]
[History of Science 212. The Sciences of Life, Medicine and the Body in Medieval and Renaissance Europe]
[History of Science 215r. Science and Culture in Medieval and Early Modern Europe: Seminar]

Linguistics

[Linguistics 168. Introduction to Germanic Linguistics]
[Linguistics 247. Topics in Germanic Linguistics]
[Linguistics 250. Old Church Slavonic]
[Linguistics 251. Advanced Readings in Church Slavonic Texts]
[Linguistics 252. Comparative Slavic Linguistics]

Music

Music 1a. Introduction to Western Music from the Middle Ages to Mozart
***Music 97a. Music History and Repertory: Medieval to Baroque**
Music 191r. Topics in Medieval and Renaissance Music: Proseminar
[Music 212r. Chant: Seminar]
[Music 213r. Topics in Medieval Polyphony]
[Music 214r. Renaissance Music:]

Near Eastern Languages and Civilizations

Arabic Ba. Intermediate Arabic I
Arabic Bb. Intermediate Arabic II
Arabic 130a. Upper-Level Classical Arabic I
Arabic 130b. Upper-Level Classical Arabic II
[Arabic 160r. Readings in Arabic Historians, Geographers, and Biographers]
[Arabic 246r. Andalus, Sicily, and the Maghrib in Literary and Cultural Texts: Seminar]
Arabic 249r. Arabic Philosophical Texts: Seminar
Arabic 250r. Islamic Theological Texts: Seminar
[Armenian 120. Armenian Magical Texts]
Hebrew 135. Introduction to Rabbinic Hebrew
[Hebrew 217. The Medieval Torah Commentary: A Practical Introduction: Seminar]
[Islamic Civilizations 145a. Introduction to Islamic Philosophy and Theology: The Formative and Classical Periods (8th to 15th centuries)]
[Persian 150r. Readings in Persian Historians, Geographers and Biographers]
Persian 151r. Sufi Traditions in Classical Persian Literature: Rumi's *Masnavi*
Persian 152. Literary and Visual Narrative in the Persian Epic Tradition
[Turkish 140a. Introduction to Ottoman Turkish I]
[Turkish 140b. Introduction to Ottoman Turkish II]

The Study of Religion

[Religion 1401. Early Christian Thought 1: The Greek Tradition]
[Religion 1402. Early Christian Thought 2: The Latin Tradition]
Religion 1420. Early Christian Thought 3: The Syriac Tradition - *(New Course)*
[Religion 1429. Augustine and His Heretics]
[*Religion 1430. Origen, Evagrius, and Cassian]
Religion 1810. Reading the Qur'an
Religion 2431 (formerly Religion 1431). Neoplatonism 1: Plotinus

Romance Languages and Literatures

French 70a. Introduction to French Literature I: From the Middle Ages to Modernity
[French 102. Introduction to Medieval Literature and Old French]
[French 213. In Search of a Medieval Subject]
French 216. The Romance of the Rose
[Romance Studies 79. Romance Languages and Cultures in Comparative Perspective]
[Spanish 70a. Heroes, Rogues, and Significant Others: Voices from Medieval and Early Modern Spain]
Spanish 110. Hispanic Literature: The Middle Ages
[Spanish 201. Historia de la lengua española]

Slavic Languages and Literatures

[Slavic 201. Introduction to East Slavic Languages]
[Slavic 280r. Slavic Culture: Seminar]

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Middle Eastern Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Middle Eastern Studies

William E. Granara, Professor of the Practice of Arabic on the Gordon Gray Endowment, and Director of the Center for Middle Eastern Studies *(Chair)*
Ali S. Asani, Professor of Indo-Muslim and Islamic Religion and Cultures *(on leave fall term)*
Steven C. Caton, Khalid Bin Abdullah Bin Abdulrahman Al Saud Professor of Contemporary Arab Studies *(on leave spring term)*
Khaled El-Rouayheb, Professor of Islamic Intellectual History
Luis M. Girón Negrón, Professor of Romance Languages and Literatures and of Comparative Literature
William Albert Graham, Murray A. Albertson Professor of Middle Eastern Studies, Harvard University Distinguished Service Professor
Michael Herzfeld, Ernest E. Monrad Professor of the Social Sciences *(on leave fall term)*
Baber Johansen, Professor of Islamic Religious Studies *(Divinity School) (spring term)*
Cemal Kafadar, Vehbi Koc Professor of Turkish Studies
Mohsen Mostafavi, Alexander and Victoria Wiley Professor of Design, and Dean of the Graduate School of Design *(Design School)*
Roy Mottahedeh, Gurney Professor of History *(on leave spring term)*
Afsaneh Najmabadi, Francis Lee Higginson Professor of History and Professor of the Studies of Women, Gender, and Sexuality
Gülru Necipoglu-Kafadar, Aga Khan Professor of Islamic Art
David J. Roxburgh, Prince Alwaleed bin Talal Professor of Islamic Art History *(on leave 2013-14)*
A. Hashim Sarkis, Aga Khan Professor of Landscape Architecture and Urbanism in Muslim Societies *(Design School)*
Malika Zeghal, Prince Alwaleed Bin Talal Professor in Contemporary Islamic Thought and Life *(on leave 2013-14)*

Other Faculty Offering Instruction in Middle Eastern Studies

Susan M. Kahn, Lecturer on Near Eastern Languages and Civilizations

The Center for Middle Eastern Studies was established for the purpose of integrating and reinforcing instruction and research in the languages, literatures, history, economics, and cultures of North Africa, the Middle East, and Islamic Central and South Asia, with the emphasis on the modern period. The Committee on Middle Eastern Studies is the degree committee that administers programs offered through the Center. To achieve its goals, the Center cooperates with departments within the Faculty of Arts and Sciences and with other faculties that have Middle Eastern interests, other regional studies centers, and various libraries and museums that hold collections related to Middle Eastern and Islamic studies. The Center's aim is to offer a comprehensive program to provide integrated training for those planning careers in education, government service, or private industry, and to support research on the area.

The following degree programs are offered through the Center: Regional Studies Program—Middle East (AM): The program for this degree requires two years of study, leading to an AM. It seeks to give the

student both a broad background and a special competence in selected fields of Middle Eastern studies. Each student's needs and interests, as well as previous experience and qualifications, are taken into account in planning his or her course of study. This program is comparable to other regional studies programs, such as those for Russia and East Asia.

Joint Programs for the PhD: The Faculty of Arts and Sciences has approved joint programs with other faculty departments for the degree of PhD in Middle Eastern studies and in the fields of anthropology, history, or history of art and architecture. A candidate for a joint PhD degree is usually expected to have completed an AM program in Middle Eastern studies or another relevant field, at Harvard or elsewhere, prior to admission as a doctoral candidate. Joint or concurrent degrees with other departments and faculties are possible on an *ad hoc* basis.

Languages: Competency in one or more of the languages of the Middle East is critical to advanced studies in this field. The Master's program requires all students to attain a reading and speaking competence, at least at the intermediate level, in one of the major modern Middle Eastern languages: Arabic, Hebrew, Persian, or Turkish. Students who already have an adequate knowledge of one such language, and native speakers, will be required to study a second language. The PhD programs vary in their language requirements. In most cases, students must attain a thorough knowledge of a modern Middle Eastern language (see above), as well as a reading knowledge of one of the European languages: German, French, Italian, or Russian. In the History and Middle Eastern Studies Program, a written exam will be required in the language of the candidate's primary research, covering both primary and secondary sources in that language. As in the Master's program, native speakers of Middle Eastern languages will be required to attain competence in a second Middle Eastern language. (For specific details on language requirements and language proficiency examinations, see the degree supplement *Degree Programs in Middle Eastern Studies.* Please note that the departments involved in the joint PhD programs, as well as the Committee on Middle Eastern Studies, at times revise their language requirement policies. Students are expected to keep in touch with their advisors and relevant language instructors at all times so they may be informed of possible changes to those requirements.)

Courses: The Center for Middle Eastern Studies publishes a list of Middle Eastern-related courses on its website. Middle Eastern-related courses are offered in the Department of Near Eastern Languages and Civilizations—courses in Akkadian, Ancient Near East, Arabic, Aramaic, Armenian, Armenian Studies, Early Iranian Civilizations, Ethiopic, Hebrew (Classical and Modern), Hebrew Literature and History, Iranian, Islamic Civilizations, Near Eastern Civilizations, Persian, Postbiblical Jewish Studies, Semitic Philology, Sumerian, and Turkish; and the Department of History—courses in Byzantine, Islamic, Judaic, and modern Middle Eastern history. Other appropriate courses are offered in the departments of Anthropology, Classics, Comparative Literature, the Core Curriculum, Fine Arts, Government, Linguistics, Music, Psychology, Sanskrit and Indian Studies, Slavic Languages and Literatures, Sociology, and the Study of Religion. Middle Eastern-related courses are also taught in the graduate schools of Business, Design, Divinity, Law, and Government. For more information about these programs, please refer to the degree supplement, *Degree Programs in Middle Eastern Studies.*

Middle East Program

***Middle Eastern Studies 299b. Master's Thesis Reading and Research**
Catalog Number: 33251
Susan M. Kahn and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Supervised reading, research and writing of master's thesis. Generally taken by master's students in the final semester of the AM program in Regional Studies - Middle East.

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Mind, Brain, and Behavior

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Mind, Brain, and Behavior

Gennaro Chierchia, Haas Foundations Professor of Linguistics *(Co-Chair)*
Florian Engert, Professor of Molecular and Cellular Biology *(Co-Chair)*
George Angelo Alvarez, John L. Loeb Associate Professor of the Social Sciences *(on leave spring term)*
Paola Arlotta, Morris Kahn Associate Professor of Stem Cell and Regenerative Biology
Matthew Boyle, Professor of Philosophy
Alfonso Caramazza, Daniel and Amy Starch Professor of Psychology
Verne S. Caviness, Jr., Giovanni Armenise - Harvard Distinguished Professor of Neurology *(Medical School)*
David Cox, Assistant Professor of Molecular and Cellular Biology and of Computer Science
Sandeep Robert Datta, Assistant Professor of Neurobiology *(Medical School)*
Benjamin Lovegren de Bivort, Assistant Professor of Organismic and Evolutionary Biology
Bradford Clark Dickerson, Associate Professor of Neurology *(Medical School)*
John E. Dowling, Gordon and Llura Gund Professor of Neurosciences *(on leave 2013-14)*
Kurt W. Fischer, Charles Bigelow Professor of Education *(Faculty of Education)*
Alice Weaver Flaherty, Associate Professor of Neurology *(Medical School)*
Krzysztof Z. Gajos, Associate Professor of Computer Science
Howard E. Gardner, John H. and Elisabeth A. Hobbs Professor of Cognition and Education *(Faculty of Education)*
Daniel T. Gilbert, Edgar Pierce Professor of Psychology
Paul Gompers, Eugene Holman Professor of Business Administration *(Business School)*
Joshua D. Greene, John and Ruth Hazel Associate Professor of the Social Sciences
Güven Güzeldere, Senior Lecturer on Philosophy and Psychology
Katherine J. Hinde, Assistant Professor of Human Evolutionary Biology
Hopi E. Hoekstra, Professor of Organismic and Evolutionary Biology and Molecular and Cellular Biology, and Curator of Mammals in the Museum of Comparative Zoology
Christine Hooker, Associate Professor of Psychology
Steven E. Hyman, Professor of Stem Cell and Regenerative Biology, Harvard University Distinguished Service Professor, Professor of Neurobiology
Sean D. Kelly, Professor of Philosophy
Edward A. Kravitz, George Packer Berry Professor of Neurobiology *(Medical School)*
Gabriel Kreiman, Associate Professor of Ophthalmology *(Medical School)*
David I. Laibson, Robert I. Goldman Professor of Economics *(spring term) (on leave fall term)*
Douglas Lavin, John L. Loeb Associate Professor of the Humanities
Jeff W. Lichtman, Jeremy R. Knowles Professor of Molecular and Cellular Biology
Margaret S. Livingstone, Professor of Neurobiology *(Medical School)*
Jeffrey D. Macklis, Professor of Stem Cell and Regenerative Biology and Professor of Surgery and

Neurology, Harvard Medical School
L. Mahadevan, Lola England de Valpine Professor of Applied Mathematics, of Organismic and Evolutionary Biology, and of Physics
Richard J. McNally, Professor of Psychology *(on leave spring term)*
Jason P. Mitchell, Professor of Psychology
Sendhil Mullainathan, Professor of Economics
Venkatesh N. Murthy, Professor of Molecular and Cellular Biology
Charles A. Nelson, Professor of Psychology in the Department of Psychiatry *(Medical School)*, Professor of Pediatrics, *(Medical School)*, Professor in the Department of Social and Behavioral Sciences *(Public Health)*
Bence P. Olveczky, John L. Loeb Associate Professor of the Natural Sciences
Naomi E. Pierce, Sidney A. and John H. Hessel Professor of Biology and Curator of Lepidoptera
Maria Polinsky, Professor of Linguistics
Sarah S. Richardson, Assistant Professor of the History of Science and of Studies of Women, Gender, and Sexuality
Stephen P. Rosen, Beton Michael Kaneb Professor of National Security and Military Affairs
Aravinthan D. T. Samuel, Professor of Physics *(on leave spring term)*
Joshua R. Sanes, Jeff C. Tarr Professor of Molecular and Cellular Biology
Stuart M. Shieber, James O. Welch, Jr. and Virginia B. Welch Professor of Computer Science *(on leave 2013-14)*
Susanna Siegel, Edgar Pierce Professor of Philosophy
Alison Simmons, Samuel H. Wolcott Professor of Philosophy, Harvard College Professor
Maurice A. Smith, Thomas D. Cabot Associate Professor of Bioengineering
Jesse Snedeker, Professor of Psychology
Elizabeth S. Spelke, Marshall L. Berkman Professor of Psychology *(on leave fall term)*
Robert A. Stickgold, Associate Professor of Psychiatry *(Medical School)*
Tomasz Strzalecki, John L. Loeb Associate Professor of the Social Sciences
Naoshige Uchida, Professor of Molecular and Cellular Biology
Leslie G. Valiant, T. Jefferson Coolidge Professor of Computer Science and Applied Mathematics
Felix Warneken, Associate Professor of Psychology
Richard W. Wrangham, Ruth Moore Professor of Biological Anthropology
Yun Zhang, Associate Professor of Organismic and Evolutionary Biology

Other Faculty Offering Instruction in Mind, Brain, and Behavior

Richard T. Born, Professor of Neurobiology *(Medical School)*
Peter Anthony Cariani, Clinical Instructor in Otology and Laryngology *(Medical School)*
Nancy Lee Etcoff, Assistant Professor of Psychology in the Department of Psychiatry *(Medical School)*
Gene M. Heyman, Lecturer on Psychology in the Department of Psychiatry *(Medical School)*
William P. Milberg, Professor of Psychology in the Department of Psychiatry *(Medical School)*
Erin Wamsley, Instructor in Psychiatry *(Medical School)*

The Committee on Mind, Brain, and Behavior is an interdisciplinary group of scholars appointed to coordinate the teaching of neuroscience and related fields among Harvard's departments. Working closely with the University's Mind/Brain/Behavior Interfaculty Initiative, the Committee is designed to advance knowledge of neuroscience at multiple levels of analysis ranging from the molecular events within individual neurons to the behavior of organisms (including humans) in a wider environmental and social context. The Committee coordinates the wide and varied course offerings that address methods, findings, and theory in neuroscience; helps students learn of opportunities within the various fields allied with neuroscience; and promotes interdisciplinary interaction among members of these fields.

For undergraduate students wishing to specialize in an area related to the neurosciences, specialized tracks are currently available in seven concentrations: Computer Science, History and Science, Human Evolutionary Biology, Linguistics, Neurobiology, Philosophy, and Psychology. MBB also offers a secondary field. For specific track and secondary field requirements, consult http://mbb.harvard.edu.

Foundation courses are required or recommended in all tracks so that all MBB students can interact. The foundation courses include Science of Living Systems 20, Psychological Science; MCB 80, Neurobiology of Behavior; and one of several designated interdisciplinary seminars listed below. The track program, which results in a Certificate in Mind/Brain/Behavior, also includes a junior symposium and senior thesis workshops.

Primarily for Undergraduates: Foundation Courses

Science of Living Systems 20. Psychological Science
MCB 80. Neurobiology of Behavior

Primarily for Undergraduates

***Mind, Brain, and Behavior 90r. Supervised Research: Topics in Mind/Brain/Behavior**
Catalog Number: 8784
Florian Engert and MBB Faculty
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised individual research leading to a tutorial paper.
Note: Application required; consult MBB website.

Primarily for Undergraduates: Interdisciplinary Seminars

Students in the Neurobiology and Psychology Mind/Brain/Behavior tracks must consult with their concentration regarding which seminars will count.
***Mind, Brain, and Behavior 980a (formerly *Mind, Brain, and Behavior 93). Conscious States: Waking, Sleeping, and Dreaming**
Catalog Number: 5017 Enrollment: Limited to 15. Preference to juniors in MBB tracks or MBB secondary field.
Robert A. Stickgold (Medical School) and Erin Wamsley (Medical School)
Half course (fall term). Tu., 3–5. EXAM GROUP: 17, 18
Focuses on waking, sleeping, and dreaming as examples of conscious states in both humans and animals. Original papers and books by Allan Hobson (The Dreaming Brain) and Antonio Damasio (The Feeling of What Happens) form the background for discussions of waking, sleeping, and dreaming from the perspectives of neurology, physiology, psychology, and cognitive neurosciences. Discusses various approaches to understanding the functions of sleep and wake (consciousness) and reviews several theories on the topic.

***Mind, Brain, and Behavior 980b (formerly *Mind, Brain, and Behavior 908b). Addiction, Choice, and Motivation**
Catalog Number: 4890 Enrollment: Limited to 15. Preference to juniors in MBB tracks or MBB secondary field.
Gene M. Heyman (Medical School)
Half course (fall term). Th., 4–6. EXAM GROUP: 18
Seeks a comprehensive understanding of addiction and why it has been such a contentious topic. Readings and discussion address (1) the characteristics of addiction as revealed in biographies,

epidemiological studies, clinical research, experiments, and historical "natural experiments"; (2) how drugs work; (3) the functional significance of drug-induced neural changes; (4) genetic influences on alcohol use in the context of gene expression (4) a behavioral economic analysis of impulsivity and addiction.

***Mind, Brain, and Behavior 980c (formerly *Mind, Brain, and Behavior 96). The Science of Happiness**
Catalog Number: 2517 Enrollment: Limited to 15. Preference to juniors in MBB tracks or MBB secondary field.
Nancy Lee Etcoff (Medical School)
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
Focuses on the science of happiness, integrating findings from positive psychology, psychiatry, behavioral genetics, neuroscience, and behavioral economics. Begins with a brief history of ideas on happiness from Aristotle to Kahneman. Considers the genetics of happiness including the notion of a biologically determined hedonic set point, the brain's pleasure circuitry, and the mind's power to frame events positively, a tool used in cognitive therapies. Questions whether pleasure and happiness are our purpose.

***Mind, Brain, and Behavior 980d (formerly *Mind, Brain, and Behavior 92). A Systems Neuroscience Approach to Conscious Perceptual Experience**
Catalog Number: 7390 Enrollment: Limited to 15. Preference to juniors in MBB tracks or MBB secondary field.
Florian Engert and members of the Committee
Half course (fall term). M., 1–3. EXAM GROUP: 7
Renowned neuroscientists from Harvard and elsewhere will lead highly interactive seminars addressing core problems underlying the emergence of conscious visual experience. Topics include the requisite neuronal representations of the content of visual images, their localization within extrapersonal space and the sense of ownership of such images by an attentive self. Related topics include selective attention, the binding problem, recursive neuronal networks and the distinction between phenomenal and access consciousness. Finally, also explores both the commonalities and differences between visual perception and visual imagery so as to achieve a greater understanding of the bases for the emergence of both entities.

***Mind, Brain, and Behavior 980e (formerly *Mind, Brain, and Behavior 91z). Music, Mind, and Brain**
Catalog Number: 91901 Enrollment: Limited to 15. Preference to juniors in MBB tracks or MBB secondary field.
Peter Anthony Cariani (Medical School)
Half course (spring term). M., 3–5.
Survey of neuropsychology of music. Examines psychological and neural substrates of music perception and cognition (pitch and consonance, melody and harmony, timbre, rhythm and meter, Gestaltist grouping processes). Then considers affective psychology (emotion, meaning, pleasure), music therapy, music and language, and developmental, comparative, and evolutionary perspectives.

***Mind, Brain, and Behavior 980f (formerly *Mind, Brain, and Behavior 99z). Creativity Research: Madmen, Geniuses, and Harvard Students**
Catalog Number: 40379 Enrollment: Limited to 15. Preference to juniors in MBB tracks or MBB secondary field.
Florian Engert and Members of the Committee
Half course (fall term). Tu., 1–3.

Examines human creativity from three perspectives: a) empirical research sources, b) case studies of eminent creative achievers, and c) ourselves as creative subjects. Topics include the definition and measurement of creativity, the creative process, the neuroscience of creativity, the creative personality, the role of family life and culture in creativity, the relationship of creativity to IQ, gender differences, and the relationship of creativity to psychopathology.

Mind, Brain, and Behavior 980g. The Origins and Evolution of Cognition: A Comparative Study of Human and Nonhuman Abilities - *(New Course)
Catalog Number: 59755 Enrollment: Limited to 15. Preference to juniors in MBB tracks or MBB secondary field.
Güven Güzeldere and Members of the Committee
Half course (spring term). Tu., 2–4.
Most scientists agree cognition is widespread in nature and involves an organism processing information to solve problems (like avoiding predators, finding prey, attracting a mate, achieving shelter), and in humans higher-level reasoning and conceptualizing. Less clear are the origins and evolutionary basis of cognition-what evolutionary pressures were exerted that selected for such processing? Explores possible ways to answer this question with research in anthropology, neurobiology, philosophy, psychology, genetics, sociality, and other disciplines. Faculty from a variety of departments attend discussions in their areas of expertise and assist students in coming to their own conclusions.

Mind, Brain, and Behavior 980h. What Disease Teaches about Cognition - *(New Course)
Catalog Number: 20291 Enrollment: Limited to 15. Preference to juniors in MBB tracks or MBB secondary field.
William P. Milberg (Medical School) and Michael Alexander (Medical School)
Half course (spring term). Tu., 5–7 p.m. EXAM GROUP: 18
Seeks to reconcile the complicated and messy problems of patients with brain disease with the concise analysis of precisely defined cognitive functions in normal subjects. Students will learn to overlap cognitive functions on to the brain in disease - at the gross dissection and imaging levels - and to understand some of the complex interactions of individual cognitive operations in disease. Includes dissection of a human brain, mapping on to imaging, dissection of multi-dimensional clinical disorders into their component functional parts.

Mind, Brain, and Behavior 980ir. Topics in the Mind/Brain Sciences: How the Mind/Brain Represents the World - *(New Course)
Catalog Number: 21066 Enrollment: Limited to 15. Preference to juniors in MBB tracks or MBB secondary field.
Richard T. Born (Medical School), Alfonso Caramazza, and Güven Güzeldere
Half course (fall term). M., 3:30–5:30.
Many questions in the contemporary cognitive sciences seem to benefit from a multi-disciplinary approach, and require a converging multi-layered explanation. MBB faculty in neurobiology, psychology, and philosophy explore topics that can be examined by research methods of the respective fields of study, presenting and discussing common questions from multiple perspectives. Ultimate goals are to (1) give a genuine sense of the difficult but rewarding nature of interdisciplinary work and (2) make progress on difficult questions in the mind-brain sciences through such collaboration. This year, seminar attempts to understand how the mind and brain represent the world.

Additional Interdisciplinary Seminars

***History of Science 171. Narrative and Neurology**
History of Science 173v. Emotions: Science and History - *(New Course)*

History of Science 179v. The Freudian Century - *(New Course)*
[*Human Evolutionary Biology 1312. Human Sexuality: Research and Presentation Seminar]
*Human Evolutionary Biology 1313. Stress: Research and Presentation Seminar
Human Evolutionary Biology 1366. Mating Strategies
Human Evolutionary Biology 1416. The Neurobiology of Sociality: Seminar
[Human Evolutionary Biology 1500. Building Babies: Developmental Trajectories from Conception to Weaning]
[Human Evolutionary Biology 1565. Theories of Sexual Coercion]
[*Neurobiology 101hfa (formerly *Neurobiology 95hfd). Novel Therapeutics in the Central Nervous System]
*Neurobiology 101hfb (formerly *Neurobiology 95hfh). Dopamine
[*Neurobiology 101hfc (formerly *Neurobiology 95hfp). Designer Neurons: How Cell Types are Generated in the Nervous System and the Lab]
[*Neurobiology 101hfd (formerly *Neurobiology 95hfu). Building a Brain]
*Neurobiology 101hfe (formerly *Neurobiology 95hfw). Working Memory: From Behavior to Dopamine and Back Again.
*Neurobiology 101hff (formerly *Neurobiology 95hfy). Seeing Time in the Brain
*Neurobiology 101hfg. Synapses: Molecules, Networks, and Behavior - *(New Course)*
*Neurobiology 101hfh. More than Glue: Glial Cells in Health and Neurological Disease - *(New Course)*
*Neurobiology 101hfi. The Neurobiology of Drug Addiction - *(New Course)*
*Neurobiology 101hfj. Brain Rhythms in Cognition, Mental Health & Epilepsy - *(New Course)*
*Philosophy 160. Classics of Philosophical Psychology: Proseminar - *(New Course)*
[*Psychology 1357. Puzzles of the Mind: Humans, Animals, Robots: Seminar]
[Psychology 1453. Consciousness Explored]

Additional Recommended Courses

[Culture and Belief 34 (formerly Historical Study A-87). Madness and Medicine: Themes in the History of Psychiatry]
[Empirical and Mathematical Reasoning 11. Making Sense: Language, Logic, and Communication]
Neurobiology 209. Neurobiology of Disease
Science of Living Systems 15 (formerly Science B-60). Developmental Psychology: Origins of Knowledge

Additional Courses

*BCMP 213. Behavioral Pharmacology
BCMP 230. Principles and Practice of Drug Development
Biomedical Engineering 110 (formerly Engineering Sciences 145). Physiological Systems Analysis
[Biomedical Engineering 130 (formerly Engineering Sciences 149). Neural Control of Movement]
Computer Science 181. Machine Learning
Computer Science 182. Intelligent Machines: Reasoning, Actions, and Plans
Computer Science 186. Economics and Computation
[Computer Science 187. Computational Linguistics]
*Computer Science 189r. Autonomous Multi-Robot Systems
Computer Science 228. Computational Learning Theory
Computer Science 229r. Topics in the Theory of Computation
*Computer Science 279 (formerly *Computer Science 279r). Research Topics in Human-Computer Interaction

Computer Science 280r. Advanced Topics in Artificial Intelligence
Computer Science 281. Advanced Machine Learning
Computer Science 283. Computer Vision
Computer Science 284r. Topics on Computation in Networks and Crowds - *(New Course)*
Computer Science 285. Multi-Agent Systems
Computer Science 286r. Topics at the Interface between Computer Science and Economics
[Computer Science 287r. Natural Language Processing]
*Computer Science 289 (formerly *Computer Science 266). Biologically-inspired Multi-agent Systems
[Culture and Belief 11. Medicine and the Body in East Asia and in Europe]
Culture and Belief 47 (formerly Historical Study B-45). The Darwinian Revolution
Culture and Belief 58. Case Studies in the Medical Humanities: Interdisciplinary Perspectives on the Experience of Illness and Healing - *(New Course)*
Economics 1030. Psychology and Economics
Economics 1052. Game Theory and Economic Applications
Empirical and Mathematical Reasoning 17 (formerly Quantitative Reasoning 22). Deductive Logic
Engineering Sciences 53. Quantitative Physiology as a Basis for Bioengineering
[Engineering Sciences 226r. Special Topics in Neural Engineering: Learning and Memory in Neural Systems]
[Engineering Sciences 249. Advanced Neural Control of Movement]
*Freshman Seminar 22t. Why We Animals Sing (the ways we do)
*Freshman Seminar 23s. The Seven Sins of Memory
*Freshman Seminar 24k. The Surprising Science of Happiness
*Freshman Seminar 24p. Getting to Know Charles Darwin
*Freshman Seminar 24u. "How Did I Get Here?"--Appreciating "Normal" Child Development
*Freshman Seminar 25e. Autism
*Freshman Seminar 25n. Understanding Psychological Development, Disorder and Treatment: Learning through Literature and Research
*Freshman Seminar 25p. Neurotoxicology: Biological Effects of Environmental Poisons
*Freshman Seminar 25q. Understanding Emotions
*Freshman Seminar 25w. Responsibility, the Brain, and Behavior
*Freshman Seminar 25x. Human Brain in Health and Disease: A Neurologist's Perspective
*Freshman Seminar 25z. Stress and Disease (Biobehavioral Aspects of Health and Disease)
*Freshman Seminar 26f. Dreams: Our Mind by Night
*Freshman Seminar 26u. What is Mental Illness?
*Freshman Seminar 31k. Dreams and Literature from Antiquity to Modernity - *(New Course)*
*Freshman Seminar 33p. The Self: Who am I, What am I, and When am I No Longer?
*Freshman Seminar 43g. Human Nature and Evolution of Peace and Violence
*Freshman Seminar 43m. Psychology of Religion
*Freshman Seminar 44w. The Masquerade of Common Scents: An Exploration of Ephemeral Knowledge - *(New Course)*
*Freshman Seminar 48e. Health and Mental Health in Everyday Life
*Freshman Seminar 49n. Measurements of the Mind: The Creation and Critique of the Psychological Test
Government 1093. Ethics, Biotechnology, and the Future of Human Nature
History of Science 138. Sex, Gender, and Evolution
[History of Science 139. The Postgenomic Moment]
[History of Science 150. History of the Human Sciences]
History of Science 172v. Self and Society: A Cultural History of Psychology - *(New Course)*
[History of Science 174. Critical Experiments in the Human Sciences]
[History of Science 176. Brainwashing and Modern Techniques of Mind Control]

History of Science 237. Postgenomics - *(New Course)*
History of Science 238. Rethinking the Darwinian Revolution: Seminar
[History of Science 245. The Changing Concept of Race in Science and Medicine in the United States: From Jefferson to Genomics]
[*History of Science 246. History and Anthropology of Medicine and Biology]
History of Science 247. Current Issues in the History of Medicine: Seminar
[*History of Science 253. Bioethics, Law, and the Life Sciences]
[History of Science 270. Sciences of the Self]
[History of Science 271. Self as Data]
[*History of Science 274v. Topics in the History of Psychoanalysis]
History of Science 279v. Freud and His Legacies: Readings in the History of Psychoanalysis - *(New Course)*
History of Science 289. Entangled Objects: Or the Stuff of Science, Culture, and Society
Human Evolutionary Biology 1310. Hormones and Behavior
Human Evolutionary Biology 1329. Sex, Love and War: The Evolution of Human Behavior
Human Evolutionary Biology 1330. Primate Social Behavior
Human Evolutionary Biology 1335. Behavioral Ecology of Chimpanzees
*Human Evolutionary Biology 1418. Endocrinology and Behavior: Research Seminar
Human Evolutionary Biology 1435r. Primate Ecology and Evolution
[*Human Evolutionary Biology 1463. Molecular Evolution of the Primates]
[Human Evolutionary Biology 1490r. Primate Evolution]
*Human Evolutionary Biology 2312. Current Topics in Human Evolutionary Genetics
[Human Evolutionary Biology 2430. Behavioral Biology Seminar]
Life Sciences 60. Ethics, Biotechnology, and the Future of Human Nature
Linguistics 83. Language, Structure, and Cognition
Linguistics 101. The Science of Language: An Introduction
Linguistics 102. Sentence Structure
[Linguistics 104. Word Structure]
Linguistics 105. Sounds of Language
Linguistics 106. Knowledge of Meaning
Linguistics 112. Syntactic Theory I
Linguistics 115. Phonological Theory I
Linguistics 116 (formerly Linguistics 116r). Semantic Theory I
[Linguistics 130. Psycholinguistics: Seminar]
[Linguistics 132. Psychosemantics]
[Linguistics 146. Syntax and Processing]
[Linguistics 148. Language Universals]
Linguistics 205r. The Syntax-Semantics Interface
Linguistics 207r. Topics in Semantics
Linguistics 212. Syntactic Theory II
Linguistics 216. Semantic Theory II
Mathematics 153. Mathematical Biology-Evolutionary Dynamics
MCB 105. Systems Neuroscience
MCB 115. Cellular Basis of Neuronal Function
*MCB 129. The Brain: Development, Plasticity and Decline
[MCB 131. Computational Neuroscience]
MCB 141. Molecular and Cellular Biology of the Senses and their Disorders
*MCB 145. Neurobiology of Perception and Decision Making
*MCB 146. Experience-Based Brain Development: Causes and Consequences
MCB 170. Brain Invaders: Building and Breaking Barriers in the Nervous System - *(New Course)*
MCB 186. Circadian Biology: From Cellular Oscillators to Sleep Regulation

[MCB 206. Introduction to Connectomics]
MCB 292. Cellular Biology, Neurobiology and Developmental Biology
Microbiology 213. Social Issues in Biology
Neurobiology 200. Neurobiology
Neurobiology 204. Neurophysiology of Central Circuits
Neurobiology 207. Developmental Neurobiology
***Neurobiology 220. Cellular Neurophysiology**
Neurobiology 221. Molecular Neurobiology
Neurobiology 230. Visual Object Recognition
OEB 53. Evolutionary Biology
OEB 57. Animal Behavior
OEB 105 (formerly OEB 205). Neurobiology of Motor Control
OEB 131. Neuroethology - *(New Course)*
OEB 145. Genes and Behavior
OEB 223. Topics in Neurogenetics
Philosophy 3. Introduction to the Problems of Philosophy
Philosophy 8. Introduction to Early Modern Philosophy
Philosophy 22. Introduction to Philosophy of Psychology
Philosophy 144. Logic and Philosophy
Philosophy 147. Philosophy of Language
Philosophy 156. Philosophy of Mind
Philosophy 163. Rationality and Irrationality
Philosophy 257. Other Minds: Seminar - *(New Course)
[Physics 136. Physics of Medical Imaging]
[Physics 141. The Physics of Sensory Systems in Biology]
[Psychology 13. Cognitive Psychology]
Psychology 14. Cognitive Neuroscience
Psychology 15. Social Psychology
Psychology 18. Abnormal Psychology
***Psychology 950. Psychology Live**
[Psychology 1005. Health Psychology]
***Psychology 1052. The application of fMRI in cognitive neuroscience research**
Psychology 1201. Your Brain on Drugs: Psychopharmacology
***Psychology 1303. The Human Brain Then and Now**
Psychology 1304. Brain Damage as a Window into the Mind: Cognitive Neuropsychology
[Psychology 1307. Brain Genomics]
[*Psychology 1352. Foundations of Cognitive Neuroscience Research]
[*Psychology 1354. Classic Papers on Memory (and the Ones that Got Away!)]
[*Psychology 1358. Is there more to thought than muscle twitches? Cognitive and neural aspects of object and action knowledge]
[Psychology 1430. Human Memory and Amnesia]
***Psychology 1452. The Human Face**
***Psychology 1502. Cultural Psychology**
***Psychology 1503. Psychology of Close Relationships**
[*Psychology 1505. Social Cognition: The Psychology of Thinking about Other People]
Psychology 1509. Self and Identity - *(New Course)*
Psychology 1512. Changing Minds: Persuasion and Communication
***Psychology 1514. Us and Them: Challenges and Possibilities in Intergroup Relations**
***Psychology 1552. Styles of Thought**
***Psychology 1556r. Research Seminar in Implicit Social Cognition**
[Psychology 1601. Developmental Disabilities]

Psychology 1604. Social Development
Psychology 1605. Psychology of Language - *(New Course)*
*Psychology 1607a. Cognitive Development, Education, and the Brain: Theory and Practice
*Psychology 1651r. Language Development: Undergraduate Laboratory Course: Research Seminar
*Psychology 1652r. Laboratory in Early Cognitive Development
*Psychology 1655r. Conceptual Development: Undergraduate Laboratory Course
Psychology 1702. The Emotional Mind
Psychology 1703. Human Sexuality
*Psychology 1750 (formerly *Psychology 2751). Free Will, Responsibility, and Law
[Psychology 1801. Anxiety Disorders]
Psychology 1803. Vulnerability, Stress, and Mental Health
Psychology 1804. Personality Disorders
[*Psychology 1851. Clinical Psychology: Science and Practice]
[*Psychology 1853. Self-Destructive Behaviors]
[Psychology 1854. Schizophrenia: Seminar]
*Psychology 1861. Developmental Psychopathology
[*Psychology 2050. History of Psychology: Seminar]
[*Psychology 2060. Reward and Self Control]
[*Psychology 2110. Emotional Development: Biology, Relationships, Culture]
[*Psychology 2145. Developmental Cognitive Neuroscience]
*Psychology 2150r. Social Cognitive Development: Research Seminar
*Psychology 2160r. Laboratory for Affective and Developmental Neuroscience
[*Psychology 2170. Developmental Proseminar]
*Psychology 2190. Topics in Language Acquisition
*Psychology 2310. Brain Mystery: What is so Special about the Primate Frontal Cortex
*Psychology 2335r. Concepts, Actions, Objects (CAOs): Research Seminar
*Psychology 2352r. Laboratory for Social Cognitive Neuroscience
[*Psychology 2353. Case Studies of Cognitive and Neural Models]
*Psychology 2354r. Advanced Laboratory in Cognitive Neuroscience
*Psychology 2356r. Visual Cognition: Research Seminar
*Psychology 2358r. Memory: Research Seminar
[*Psychology 2400. Cognitive Psychology and Emotional Disorders]
Psychology 2410r. Laboratory Research on Emotional Disorders
*Psychology 2436r. Social Neuroscience and Psychopathology Laboratory
*Psychology 2445. Psychological Treatment Research
Psychology 2446r. Clinical Research Laboratory
*Psychology 2450. Affective and Social Neuroscience
[*Psychology 2451. Psychology of Racism, Prejudice, and Discrimination]
Psychology 2461r. Laboratory for Clinical and Developmental Research
*Psychology 2464r. Research Methods in Child & Adolescent Clinical Psychology
[*Psychology 2475r. Laboratory for the Systems Neuroscience of Psychopathology]
*Psychology 2480. Human Neuropsychology/Neuroanatomy: Laboratory
*Psychology 2553r. Behavioral Insights Group Research Seminar
*Psychology 2554r. Moral Cognition: Research Seminar
*Psychology 2570r. Intergroup Relations: Research Seminar
*Psychology 2580r. Affective Forecasting: Research Seminar
*Psychology 2640r. The Understand Seminar
*Psychology 2650. Behavioral Approaches to Decision Making and Negotiation
*Psychology 2651. Social Cognition from a Developmental and Evolutionary Perspective
[Psychology 2652. The Psychology of Cooperation]

[*Psychology 2660r. Research Seminar in Mindfulness Theory](#)
[*Psychology 2670a. Decision Making and the Psychology of Possibility](#)
[*Psychology 2670b. Decision Making and the Psychology of Possibility II]
[Science of Living Systems 12. Understanding Darwinism]
[Science of Living Systems 16. Human Evolution and Human Health](#)
[SCRB 180. Regeneration and Repair in the Mammalian Brain](#)
[*SCRB 187. Brains, Identity, and Moral Agency](#)
[SHBT 200. Acoustics of Speech and Hearing](#)
[SHBT 201. Biology of the Inner Ear](#)
[*SHBT 203. Anatomy of Speech and Hearing](#)
[SHBT 204. Speech Communication](#)
[SHBT 205. Neural Coding and Perception of Sound](#)
[SHBT 206 (formerly Pathology 205). Molecular Biology of the Auditory System](#)

Molecular and Cellular Biology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Molecular and Cellular Biology

Richard M. Losick, Maria Moors Cabot Professor of Biology *(Chair)*
Howard C. Berg, Herchel Smith Professor of Physics and Professor of Molecular and Cellular Biology *(on leave spring term)*
Tamara J. Brenner, Lecturer on Molecular and Cellular Biology, Associate Director of Life Sciences Education
Briana Burton, Associate Professor of Molecular and Cellular Biology
Philippe Cluzel, Professor of Molecular and Cellular Biology and Gordon McKay Professor of Applied Physics
David Cox, Assistant Professor of Molecular and Cellular Biology and of Computer Science
Victoria M. D'Souza, Associate Professor of Molecular and Cellular Biology
Vladimir Denic, Associate Professor of Molecular and Cellular Biology
John E. Dowling, Gordon and Llura Gund Professor of Neurosciences *(on leave 2013-14)*
Ryan Wesley Draft, Lecturer on Molecular and Cellular Biology
Catherine Dulac, Higgins Professor of Molecular and Cellular Biology *(Director of Graduate Studies)*
Florian Engert, Professor of Molecular and Cellular Biology
Raymond L. Erikson, American Cancer Society Professor of Cellular and Developmental Biology
Ethan Garner, Assistant Professor of Molecular and Cellular Biology
Rachelle Gaudet, Professor of Molecular and Cellular Biology *(Head Tutor)*
William M. Gelbart, Professor of Molecular and Cellular Biology
Karine A. Gibbs, Assistant Professor of Molecular and Cellular Biology
Guido Guidotti, Higgins Professor of Biochemistry *(on leave 2013-14)*

Takao K. Hensch, Professor of Molecular and Cellular Biology *(FAS)* and Professor of Neurology *(Medical School)*
Hopi E. Hoekstra, Professor of Organismic and Evolutionary Biology and Molecular and Cellular Biology, and Curator of Mammals in the Museum of Comparative Zoology
Craig P. Hunter, Professor of Molecular and Cellular Biology
Quincey A. Justman, Lecturer on Molecular and Cellular Biology
Nancy Kleckner, Herchel Smith Professor of Molecular Biology
Samuel M. Kunes, Professor of Molecular and Cellular Biology
Andres Leschziner, Associate Professor of Molecular and Cellular Biology
Jeff W. Lichtman, Jeremy R. Knowles Professor of Molecular and Cellular Biology
Robert A. Lue, Professor of the Practice of Molecular and Cellular Biology
Laura M. Magnotti, Preceptor in Molecular and Cellular Biology
Susan Mango, Professor of Molecular and Cellular Biology *(on leave fall term)*
Markus Meister, Visiting Professor of Molecular and Cellular Biology
Matthew Meselson, Thomas Dudley Cabot Professor of the Natural Sciences *(on leave spring term)*
Lynne Marie Mullen, Preceptor in Molecular and Cellular Biology
Andrew W. Murray, Herchel Smith Professor of Molecular Genetics
Venkatesh N. Murthy, Professor of Molecular and Cellular Biology
Daniel Joseph Needleman, Associate Professor of Applied Physics and of Molecular and Cellular Biology
David R. Nelson, Arthur K. Solomon Professor of Biophysics and Professor of Physics and Applied Physics *(on leave fall term)*
Erin K. O'Shea, Paul C. Mangelsdorf Professor of Molecular and Cellular Biology and of Chemistry and Chemical Biology
Jill Penn, Preceptor in Molecular and Cellular Biology
Sharad Ramanathan, Professor of Molecular and Cellular Biology and Gordon McKay Professor of Applied Physics
Julie Anne Roden, Preceptor in Molecular and Cellular Biology
Casey Jean Roehrig, Preceptor in Molecular and Cellular Biology
Martin A. Samuels, Preceptor in Molecular and Cellular Biology
Joshua R. Sanes, Jeff C. Tarr Professor of Molecular and Cellular Biology
Vicki L. Sato, Professor of the Practice of Molecular and Cellular Biology
Alexander F. Schier, Leo Erikson Life Sciences Professor of Molecular and Cellular Biology *(on leave 2013-14)*
Haim I. Sompolinsky, Visiting Professor of Molecular and Cellular Biology *(Hebrew University)*
Bodo M. Stern, Lecturer on Molecular and Cellular Biology
A. Thomas Torello, Lecturer on Molecular and Cellular Biology
Naoshige Uchida, Professor of Molecular and Cellular Biology
Cheryl Denise Vaughan, Lecturer on Molecular and Cellular Biology
Rosa A. Veguilla, Preceptor in Molecular and Cellular Biology
Alain Viel, Senior Lecturer on Molecular and Cellular Biology

Other Faculty Offering Instruction in Molecular and Cellular Biology

Arkhat Abzhanov, Associate Professor of Organismic and Evolutionary Biology *(on leave 2013-14)*
Emily Patricia Balskus, Assistant Professor of Chemistry and Chemical Biology
Colleen M. Cavanaugh, Edward C. Jeffrey Professor of Biology
Adam E. Cohen, Professor of Chemistry and Chemical Biology and of Physics *(on leave fall term)*
Charles A. Czeisler, Frank Baldino, Jr., Ph.D. Professor of Sleep Medicine *(Medical School)*
Michael Manish Desai, Assistant Professor of Organismic and Evolutionary Biology and of Physics
Scott V. Edwards, Professor of Organismic and Evolutionary Biology, Alexander Agassiz Professor of Zoology in the Museum of Comparative Zoology, and Curator of Ornithology

Kevin C. Eggan, Professor of Stem Cell and Regenerative Biology
Cassandra G. Extavour, Associate Professor of Organismic and Evolutionary Biology
Peter R. Girguis, Professor of Organismic and Evolutionary Biology
Michael E. Greenberg, Nathan Marsh Pusey Professor of Neurobiology *(Medical School)*
Daniel L. Hartl, Higgins Professor of Biology *(FAS)* and Professor in the Department of Immunology and Infectious Diseases *(Public Health)*
J. Woodland Hastings, Paul C. Mangelsdorf Professor of Natural Sciences, Emeritus
Daniel E. Kahne, Professor of Chemistry and Chemical Biology, Harvard College Professor
Elena M. Kramer, Bussey Professor of Organismic and Evolutionary Biology
David R. Liu, Professor of Chemistry and Chemical Biology, Harvard College Professor
Xiaole Shirley Liu, Associate Professor of Biostatistics *(Public Health)*
Christopher Marx, Associate Professor of Organismic and Evolutionary Biology, Visiting Professor of Organismic and Evolutionary Biology, Visiting Associate Professor of Organismic and Evolutionary Biology
Alexander Meissner, Associate Professor of Stem Cell & Regenerative Biology
Douglas A. Melton, Xander University Professor of Stem Cell and Regenerative Biology
Thomas Michel, Professor of Medicine *(Medical School)*
Bence P. Olveczky, John L. Loeb Associate Professor of the Natural Sciences
Hongkun Park, Professor of Chemistry and Chemical Biology and of Physics *(on leave spring term)*
Shiv S. Pillai, Associate Professor of Health Sciences and Technology *(Medical School)*
Mara Prentiss, Mallinckrodt Professor of Physics
Anne E. Pringle, Associate Professor of Organismic and Evolutionary Biology
John L. Rinn, Alvin and Esta Star Associate Professor of Stem Cell and Regenerative Biology
Pardis Sabeti, Associate Professor of Organismic and Evolutionary Biology
Alan Saghatelian, Associate Professor of Chemistry and Chemical Biology
Stuart L. Schreiber, Morris Loeb Professor of Chemistry *(on leave 2013-14)*
Matthew D. Shair, Professor of Chemistry and Chemical Biology
Eugene I. Shakhnovich, Professor of Chemistry and Chemical Biology
Gregory L. Verdine, Erving Professor of Chemistry in the Departments of Stem Cell and Regenerative Biology and of Chemistry and Chemical Biology *(on leave 2013-14)*
John Wakeley, Professor of Organismic and Evolutionary Biology
Xiaoliang Sunney Xie, Mallinckrodt Professor of Chemistry and Chemical Biology
Yun Zhang, Associate Professor of Organismic and Evolutionary Biology
Xiaowei Zhuang, Professor of Chemistry and Chemical Biology and of Physics

The Department of Molecular and Cellular Biology offers courses to students interested in understanding biological processes based on the study of molecules and their interactions in the context of cells, tissues and whole organisms. Molecular and Cellular Biology encompasses fundamental principles of modern biology at the hub of nearly all life science sub-disciplines, and integrates many different methodologies ranging from chemistry and genetics to computer science and engineering, as well as fundamental concepts in physics and mathematics.

The MCB Department administers the Molecular and Cellular Biology (MCB) concentration, and co-administers the concentrations in Chemical and Physical Biology (CPB) and Neurobiology. Undergraduate and graduate students interested in Molecular and Cellular Biology are encouraged to consult their respective advising team regarding courses and requirements. Students may also consider, in consultation with their advisors, complementary courses offered within the Division of Sciences, the School of Engineering and Applied Sciences, and Harvard Medical School.

Primarily for Undergraduates

MCB 52. Molecular Biology
Catalog Number: 1938
Briana Burton and A. Thomas Torello
Half course (fall term). M., W., F., at 10, and one laboratory/discussion session weekly. EXAM GROUP: 3
An integrated and quantitative introduction to the principles of molecular biology with an emphasis on the experimental underpinning of key concepts. This course covers the biochemistry and structure of DNA; the Central Dogma of molecular biology (DNA replication and repair, transcription and RNA processing, and translation); and an overview of gene regulation and systems biology. The weekly section combines an investigative, discovery-based laboratory research project with a discussion emphasizing problem solving and the scientific method.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of Living Systems or the Core area requirement for Science B.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; or by permission of the instructor; Life Sciences 1b recommended.

MCB 54. Cell Biology
Catalog Number: 0801
Robert A. Lue and Vladimir Denic
Half course (spring term). M., W., F., at 10, and one laboratory/discussion session weekly. EXAM GROUP: 3
An integrated introduction to the structure, function, and interactions of cells. Topics covered include: membrane structure and transport, receptors and channels, protein targeting, cytoskeleton, cell cycle, signal transduction, cell migration, cell growth and death, cell adhesion, cell polarity, embryogenesis, organogenesis, and stem cells.
Note: Laboratory and discussion sessions focus on problem solving and evaluation of data. A series of linked laboratory exercises provides exposure to several techniques commonly used in cell biology and developmental biology. This course, when taken for a letter grade, meets the General Education requirement for Science of Living Systems or the Core area requirement for Science B.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b recommended.

MCB 56. Physical Biochemistry: Understanding Macromolecular Machines
Catalog Number: 5424
Rachelle Gaudet and Andres Leschziner
Half course (spring term). M., W., F., at 10, and a weekly laboratory/discussion section. EXAM GROUP: 3
The course aims to develop fundamental concepts of biochemistry as they apply to macromolecules, including protein and nucleic acid structure, thermodynamics and kinetics, ligand interactions and chemical equilibria. The course will also emphasize how these concepts are used in studies of the structure and function of biological molecules, including examples from metabolism. In the weekly section, students will undertake a discovery-based laboratory research project in which they will apply these concepts toward understanding the structure and function of the ATPase domain from the ABC transporter associated with antigen processing (TAP).
Prerequisite: LPSA or LS1a, Chemistry 20/30 or Chemistry 17/27 (Chemistry 27 may be concurrent), Math 1b. A solid foundation in molecular and cellular biology (which could be provided by MCB 52 or MCB 54, for example) and/or physics (e.g. PS2) is recommended.

MCB 68. Cell Biology Through the Microscope - *(New Course)*
Catalog Number: 11556 Enrollment: Limited to 20.
Ethan Garner and Jeff W. Lichtman

Half course (spring term). Tu., Th., 1:00 - 2:30, and a one hour lab section per week. EXAM GROUP: 15, 16
MCB 68 explores three fundamental fields of eukaryotic cell biology: chromosome segregation, cell motility, and neuroscience. Each topic is approached from a historic and technical perspective. Students will discover these systems as the scientific field did, learning how each successive advance in microscopy revealed new biological details. Students will come away with a theoretical and hands-on understanding of microscopy as well as a grasp of the biological findings each technology revealed.
Prerequisite: MCB 52, or MCB 80, or permission of the instructors.

MCB 80. Neurobiology of Behavior
Catalog Number: 6052
Joshua R. Sanes, David Cox, and Jeff W. Lichtman
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
An introduction to the ways in which the brain controls mental activities. The course covers the cells and signals that process and transmit information, and the ways in which neurons form circuits that change with experience. Topics include the neurobiology of perception, learning, memory, language, emotion, and mental illness.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of Living Systems or the Core area requirement for Science B. The course is open to students with little formal training in biology.

Cross-listed Courses

[Empirical and Mathematical Reasoning 18. What are the odds?]
Life and Physical Sciences A. Foundational Chemistry and Biology
Life Sciences 1a. An Integrated Introduction to the Life Sciences: Chemistry, Molecular Biology, and Cell Biology
Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
***Life Sciences 100r. Experimental Research in the Life Sciences**
[*Visual and Environmental Studies 54s. Animating Science]

Molecular and Cellular Biology Supervised Reading and Research Courses

***MCB 91r. Introduction to Research**
Catalog Number: 0282
A. Thomas Torello and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Laboratory research in topics related to the Molecular and Cellular Biology Concentration under the direction of, or approved by, members of the Board of Tutors.
Note: Limited to Molecular and Cellular Biology concentrators; written permission of both the tutor and laboratory sponsor must be submitted to the MCB Student Affairs Office prior to enrolling in the course. This introductory research course is intended to prepare students for MCB 99 and may ordinarily be repeated no more than once. Ordinarily may not be taken as a fifth course. A final paper must be submitted to the laboratory sponsor and to the MCB Student Affairs Office for review by the instructor and members of the Board of Tutors.

***MCB 99. Laboratory Research for Honors Thesis**
Catalog Number: 2987
A. Thomas Torello and members of the Department

Full course (indivisible). Hours to be arranged.
For honors candidates writing a thesis in Molecular and Cellular Biology.
Note: Ordinarily may not be taken as a fifth course. Indivisible for students enrolling in the fall term. Students intending to enroll in the fall are required to submit a written proposal to the instructor. Students may enter the course at midyear only with the permission of the instructor. The thesis proposal must be approved by the instructor and Head Tutor prior to enrolling in MCB 99.

For Undergraduates and Graduates

MCB 105. Systems Neuroscience
Catalog Number: 0998
Florian Engert
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
The neuronal basis of sensory processing and animal behavior will be explored in many different model systems as diverse as honeybees, weakly electric fish, and humans. Special emphasis is placed on the role of activity dependent modulation of neuronal connections in the context of learning, memory, and development of the nervous system.
Prerequisite: MCB 80.

MCB 111. Mathematics in Biology
Catalog Number: 6444
Sharad Ramanathan and Michael Manish Desai
Half course (spring term). M., W., 10–11:30. EXAM GROUP: 3, 4
Develops the mathematics needed for quantitative understanding of biological phenomena including data analysis, simple models, and framing quantitative questions. Topics include probability, transforms and linear algebra, and dynamical systems, each motivated by current biological research.
Prerequisite: Mathematics 19 or higher.

MCB 115. Cellular Basis of Neuronal Function
Catalog Number: 8703
Venkatesh N. Murthy
Half course (fall term). M., W., F., at 2. EXAM GROUP: 7
The essential function of a neuron is to processes complex signals derived from the external world. To accomplish this function, neurons employ diverse mechanisms that respond to chemical and electrical signals with incredible sensitivity and plasticity. In this course, we will study these electrical, molecular, and cellular processes using biophysical and biological approaches. Specifically, we will explore topics on excitable membranes, neurotransmission, ion channels, dendritic integration, intracellular signaling, and synaptic plasticity in the context of various model circuits in the brain.

MCB 121. The Microbes
Catalog Number: 19325
Karine A. Gibbs
Half course (fall term). Tu., Th., 2:30–4.
This general microbiology course will focus on the genetics, cell biology, and physiology of microorganisms. The goal of this course is to give the students a broad overview of microbial physiology in the context of disease and environmental applications. The course will primarily consist of lectures with problem sets; we will also incorporate current and classical literature.

***MCB 129. The Brain: Development, Plasticity and Decline**
Catalog Number: 8956 Enrollment: Limited to 20.

Samuel M. Kunes
Half course (fall term). M., W., 10–11:30.
This course will deal with how the brain develops, adapts to its environment and declines with aging. Topics include cell birth and death, neural differentiation and cell identity, axon guidance and synaptic specificity, adult neurogenesis, memory and age-related cognitive decline. Assignments emphasize critical evaluation of the primary literature, experimental design and scientific writing.
Prerequisite: Permission of the instructor.

[MCB 131. Computational Neuroscience]
Catalog Number: 9868
Haim I. Sompolinsky (Hebrew University)
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Follows trends in modern brain theory, focusing on local neuronal circuits as basic computational modules. Explores the relation between network architecture, dynamics, and function. Introduces tools from information theory, statistical inference, and the learning theory for the study of experience-dependent neural codes. Specific topics: computational principles of early sensory systems; adaptation and gain control in vision, dynamics of recurrent networks; feature selectivity in cortical circuits; memory; learning and synaptic plasticity; noise and chaos in neuronal systems.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Science B.
Prerequisite: Basic knowledge of multivariate calculus, differential equations, linear algebra, and elementary probability theory.

MCB 141. Molecular and Cellular Biology of the Senses and their Disorders
Catalog Number: 5205
Catherine Dulac
Half course (spring term). Tu., Th., 1:30–3. EXAM GROUP: 15, 16
"The great art of life is sensation, to feel that we exist, even in pain." Lord Byron. Molecular basis of normal and pathological sensory perception, formation and modulation of sensory circuits during development and in the adult brain. Topics will include the mechanisms of sensory detection and discrimination, the discovery of key genes, cellular pathways and neural circuits affected in human disorders, molecular and genetic strategies for restoring normal sensation, coding of sensory information by the brain, establishment of appropriate connections in the developing brain, epigenetic influences on sensory function. Molecular, genetic and epigenetic approaches to normal and pathological sensing and associated behavior will be discussed.
Prerequisite: Prerequisite: LS 1a and LS 1b. Recommended: MCB 80 and a cell or molecular biology course such as MCB 52, MCB 54, or MCB 115.

[*MCB 142. Major Advances in Classical and Molecular Genetics]
Catalog Number: 7948 Enrollment: Limited to 20.
Matthew Meselson
Half course (spring term). Tu., Th., 2–3:30.
MCB 142 aims to develop an understanding of the conceptual development of classical and molecular genetics, starting with Mendel and Darwin. Course work includes critical reading of selected papers on the chromosomal and molecular basis of heredity, student presentations, group discussion, and submission of written answers to problem sets. Participation in class discussion of readings is essential. A substantial essay on a mutually agreed topic is due at end of reading period.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Science B.
Prerequisite: Life Sciences 1b or equivalent and permission of the instructor.

[*MCB 144. The Power and Pitfalls of Genetical Thinking]
Catalog Number: 25555 Enrollment: Limited to 12.
Nancy Kleckner and David A. Haig
Half course (spring term). M., W., 12–1:30. EXAM GROUP: 5, 6
An advanced treatment of heredity, including genetic, epigenetic and evolutionary aspects, as manifested in organisms from bacteria to man. Emphasis will be placed on how analytical genetic thinking and approaches can be applied to fundamental biological questions. Course format will include lectures, reading of the primary literature, student group projects and a final paper. Suitable for students in either the physical or biological sciences.
Note: Expected to be given in 2014–15.

***MCB 145. Neurobiology of Perception and Decision Making**
Catalog Number: 6972
Naoshige Uchida
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
One of the current goals of neuroscience is to understand neuronal circuits underlying perception and behavior. Recent advances in neuroscience have allowed us to glimpse neuronal processes that link perception and decision making. How is sensory information processed in the brain? How does an animal choose its action? How does an animal learn from ever-changing environments and adjust their behavior? The course will examine neurophysiological studies in perception and decision-making.
Prerequisite: MCB 80 and permission of the instructor.

***MCB 146. Experience-Based Brain Development: Causes and Consequences**
Catalog Number: 5390
Takao K. Hensch (Medical School)
Half course (spring term). Tu., Th., 2–3:30. EXAM GROUP: 16, 17
At no time in life does the surrounding environment so potently shape brain function as in infancy and early childhood. This course integrates molecular/cellular biology with systems neuroscience to explore biological mechanisms underlying critical periods in brain development. Understanding how neuronal circuits are sculpted by experience will motivate further consideration of the social impact on therapy, education, policy, and ethics.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a, MCB 80, and permission of the instructor.

[MCB 151. From the Gene to the Phenotype: A Genomics Perspective]
Catalog Number: 5799
William M. Gelbart
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course will explore how the information encoded in our genomes leads to both the shared phenotypic characteristics of a species as well as individual variation. Both the classical literature and the current state of the art will be discussed.
Note: Expected to be given in 2014–15.
Prerequisite: Life Sciences 1b, or permission of the instructor.

[*MCB 153. The Practice of Experimental Science: a Genetics Laboratory Course]
Catalog Number: 16796 Enrollment: Limited to 12.
Craig P. Hunter
Half course (spring term). M., 1–4. EXAM GROUP: 6, 7, 8
Students will be exposed to theoretical and practical concepts in classical and modern genetic analysis through direct laboratory experience using the model genetic organism C. elegans. This will be

accompanied by journal clubs, student presentations, and lecture.
Note: Expected to be given in 2014–15.
Prerequisite: Life Sciences 1a, Life Sciences 1b; can be taken concurrently with MCB 52 , MCB 54.

[MCB 154. Advanced Cell and Developmental Biology]
Catalog Number: 83425
Susan Mango
Half course (spring term). Tu., Th., 3–4:30. EXAM GROUP: 17, 18
This course will survey primary research papers describing topics in molecular and cellular biology. We will focus on areas of disagreement, reading pairs of papers that come to antithetical conclusions. Which is correct? Can both points of view be right? What experiments or controls would bolster the hypotheses of one or the other paper? Topics will focus on seminal findings in cell and developmental biology. Each week a different area will be covered through a combination of paper discussions, an introductory lecture and a quiz.
Note: Expected to be given in 2014–15. Intended for advanced undergraduates who have taken MCB 52 and MCB 54.

[MCB 156. Structural and Biophysical Analysis of Macromolecules]
Catalog Number: 8543
Victoria M. D'Souza
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course presents a detailed examination of macromolecular structure and function based on insights obtained from using modern biophysical techniques. To demonstrate concepts, the course will follow the interplay between the human immunodeficiency virus and its host cell as the virus attempts to complete an infectious cycle.
Note: Expected to be given in 2014–15.
Prerequisite: MCB 52 and Physics at the level of PS 2/3.

MCB 157. Developmental Genetics and Genomics
Catalog Number: 20809
Craig P. Hunter
Half course (fall term). M., W., 12–1:30. EXAM GROUP: 5, 6
Our goal is for students to gain a fundamental understanding of the genetic control of development in four genetically accessible animal models; the nematode C. elegans, the fruit fly Drosophila melanogaster, the zebra fish Danio rio, and the mouse Mus musculus. A focus of the course is to compare and contrast genetic analysis of and the genetic control of developmental processes and mechanisms in these four organisms. The course consists of lectures, student presentations, and written assignments.
Prerequisite: LS 1b

[*MCB 162. Major Advances in Understanding Heredity and Evolution]
Catalog Number: 90518 Enrollment: Limited to 20.
Matthew Meselson and James Mallet
Half course (spring term). Tu., Th., 2–3:30. EXAM GROUP: 16, 17
MCB 162 aims to develop an understanding of the major conceptual and experimental advances to our present understanding of heredity and evolution, connecting today's science with its history and some of the personalities involved. Course work includes critical reading of original literature, student presentations, group discussion, and submission of written answers to weekly problem sets. Participation in class discussion of readings is essential. A substantial essay on a mutually agreed topic is due at the end of reading period.

Note: Expected to be given in 2014–15.
Prerequisite: Life Sciences 1b or equivalent and permission of the instructor.

MCB 169. Molecular and Cellular Immunology
Catalog Number: 2518
Shiv S. Pillai (Medical School)
Half course (fall term). Tu., Th., 10-11:30, and a 90-minute section to be arranged. EXAM GROUP: 12, 13
The immune system is frontier at which molecular biology, cell biology, and genetics intersect with the pathogenesis of disease. The course examines in depth the cellular and molecular mechanisms involved in the development and function of the immune system and also analyzes the immunological basis of human disease including AIDS and other infectious diseases, autoimmune disorders, allergic disorders, primary immunodeficiency syndromes, transplantation, and cancer.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a or equivalent. Genetics and cell biology strongly recommended.

MCB 170. Brain Invaders: Building and Breaking Barriers in the Nervous System - *(New Course)*
Catalog Number: 43947
Laura M. Magnotti
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
The brain has evolved a unique but very effective system to protect itself from invaders. In this course, we will explore the specific defenses that the nervous system uses to protect itself. We will also examine how some pathogens evade or breach those defenses and the impact of those invasions. Finally, we will explore how scientists have been able to translate their understanding of these pathogenic mechanisms into technologies for research and therapeutic applications.
Prerequisite: LPSA/LS1a and either MCB 80 or MCB 54

[MCB 176. Biochemistry of Membranes]
Catalog Number: 3186
Guido Guidotti
Half course (fall term). M., W., 2–4, M., at 4. EXAM GROUP: 7, 8, 9
A course on the properties of biological membranes, essential elements for cell individuality, communication between cells, and energy transduction. Topics include: membrane structure; membrane protein synthesis, insertion in the bilayer and targeting; transporters, pumps and channels; electron transport, H+ gradients and ATP synthesis; membrane receptors, G proteins and signal transduction; membrane fusion.
Note: Expected to be given in 2014–15.
Prerequisite: MCB 52 and MCB 54 are recommended but not required.

[MCB 178. Biochemistry of Protein Complexes]
Catalog Number: 63269
Guido Guidotti
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
A course on the properties of protein complexes that serve as supports, machines and motors. Topics include : hemoglobin, actin filaments, myosin function, microtubules, kinesin, metabolon, photosynthesis, rotary motors, nuclear pores and transport, proteasome. Lecture on Monday is followed by student presentations on Wednesday. The course involves reading two research papers per week, and writing a research proposal.
Note: Expected to be given in 2014–15.
Prerequisite: Chemistry 27 and MCB 54 are recommended, but not required.

MCB 186. Circadian Biology: From Cellular Oscillators to Sleep Regulation
Catalog Number: 2854
Charles A. Czeisler (Medical School)
Half course (fall term). W., 2-5, and a weekly section to be arranged. EXAM GROUP: 7, 8, 9
Properties, mechanisms, and functional roles of circadian (daily) rhythms in organisms ranging from unicells to mammals. Cellular and molecular components, regulation of gene expression and physiological functions, genetic and biochemical analyses of circadian rhythms, and neurobiology of the mammalian circadian pacemaker. Mathematics and modeling of oscillatory systems and applications to circadian rhythms. Experimental studies of human rhythms, including the sleep-wake cycle and hormone rhythms, with applications to sleep disorders.
Prerequisite: Life Sciences 1b or equivalent, MCB 80 desirable.

MCB 188. Chromosomes
Catalog Number: 8561
Nancy Kleckner
Half course (spring term). Tu., Th., 2–4. EXAM GROUP: 16, 17
Chromosome morphogenesis in prokaryotic and eukaryotic organisms. Topics will include chromosome structure, interactions between chromosomes (sisters and homologs), DNA recombination and repair, topoisomerases, transposable elements and site-specific recombination, epigenetic inheritance. Genetic, cytological, and biochemical approaches will be integrated. Lecture, reading, and discussion of classical and current literature and consideration of future experimental directions.
Prerequisite: Life Sciences 1b or equivalent, MCB 52, and MCB 54.

[MCB 192. Principles of Drug Discovery and Development]
Catalog Number: 2188 Enrollment: Limited to 40.
Vicki L. Sato and Gregory L. Verdine
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This interdisciplinary course will examine the process of drug discovery and development through disease-driven examples. Topics include: the efficacy/toxicity balance, the differences between drugs and inhibitors, and the translation of cellular biochemistry to useful medicine.
Note: Expected to be given in 2014–15. May not be taken concurrently with SCRB 192. May not be taken for credit if SCRB 192 has already been taken.
Prerequisite: MCB 52 and one year of organic chemistry. MCB 54 is recommended.

MCB 195. Foundations of Systems Biology and Biological Engineering
Catalog Number: 9112
Philippe Cluzel
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course builds an understanding of design principles in biology. We will ask why biological circuits are built the way they are and answer using mathematical models. Topics: elementary circuits in biological networks, robustness, pattern-formation in embryos, error-correction, and evolutionary optimization.
Note: Students from physics, engineering and other disciplines are also welcome.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a, Life Sciences 1b and Mathematics 1a/1b and molecular cell biology at the level of MCB 52 and MCB 54. Familiarity with mathematics at the level of 19/20 is strongly recommended.

[MCB 198. Advanced Mathematical Techniques for Modern Biology]
Catalog Number: 62117 Enrollment: Limited to 20.
Sharad Ramanathan and L. Mahadevan

Half course (spring term). Tu., Th., 10-11:30, and a one-hour section meeting weekly. EXAM GROUP: 12, 13
How do we find biologically meaningful patterns in a large amount of data? How do animals learn to use patterns in the environment to infer information despite the ignorance of the underlying laws? The course will introduce Bayesian analysis, maximum entropy principles, hidden markov models and pattern theory in order to study DNA sequence, gene expression and neural spike train data. The relevant biological background will be covered in depth.
Note: Expected to be given in 2014–15.
Prerequisite: A strong background in calculus, linear algebra, fourier analysis, complex analysis at the advanced undergraduate level and an introductory knowledge of probability theory is required. Knowledge of statistical mechanics and comfort with programming will be useful.

[MCB 199. Statistical Thermodynamics and Quantitative Biology]
Catalog Number: 9072
David R. Nelson
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Course seeks to develop an understanding of thermodynamics and statistical mechanics, with applications to quantitative problems in biology such as configurations of biopolymers, equilibrium states of matter, chemical reactions and protein transport, using the concepts of entropy, free energy, adsorption, chemical kinetics and molecular diffusion.
Note: Expected to be given in 2014–15.
Prerequisite: Two terms of college calculus, a calculus-based physics course, and some exposure to molecular and cellular biology. Experience with statistics and differential equations not essential, but helpful.

Cross-listed Courses

Applied Mathematics 126. Statistics and Inference in Biology - *(New Course)*
Life Sciences 120. Global Health Threats

Primarily for Graduates

[MCB 206. Introduction to Connectomics]
Catalog Number: 2303
Jeff W. Lichtman and R. Clay Reid (Medical School)
Half course (spring term). Tu., 3:30–6:30. EXAM GROUP: 17, 18
Focuses on how the tools of connectomics (nanoscale imaging, nanoscale and microscale cutting, fluorescent and electron-dense staining, image analysis algorithms) generate data about neural connectivity. Case studies: C. elegans, neuromuscular junction, retina, cortex.
Note: Expected to be given in 2014–15. This course will be taught by Harvard and MIT faculty, alternating meeting locations on both the Harvard and MIT campuses.

***MCB 208. Talking about Science**
Catalog Number: 3605 Enrollment: Limited to 30.
Jeff W. Lichtman and Michael E. Greenberg (Medical School)
Half course (fall term). W., 5–7:30 p.m. EXAM GROUP: 9
Teaches advanced students how to give a good research talk while exposing them to seminal scientific discoveries. Emphasis will be on speaking style, lecture organization, and use of video projection tools.
Note: In addition to lecture material from the instructor, students will present experiments from Nobel

Prize-winning work. The presentations will be critiqued in class by the participants. Open to second year graduate students or with permission of the instructor.

[MCB 212. Topics in Biophysics]
Catalog Number: 3351
Howard C. Berg
Half course (spring term). F., 2:30–4. EXAM GROUP: 7, 8
Motility and sensory transduction; chemotaxis in bacteria; flagellar motility; prokaryotic and eukaryotic motor molecules.
Note: Expected to be given in 2014–15. Offered in alternate years. A term paper and seminar are required.

MCB 234. Cellular Metabolism and Human Disease
Catalog Number: 0870
Thomas Michel (Medical School) and Cheryl Denise Vaughan
Half course (spring term). M., W., F., 9–10:30. EXAM GROUP: 2, 3
Cellular and organismal metabolism, with focus on interrelationships between key metabolic pathways and human disease states. Genetic and acquired metabolic diseases and functional consequences for specific organ systems. Lectures and conferences are integrated with clinical encounters with patients.
Note: Students may attend lectures in either Cambridge or Boston since they will be transmitted live from HMS to Harvard College and vice-versa; the inter-campus link will allow real-time interactions between students and faculty at each site. May not be taken concurrently with BCMP 234. May not be taken for credit if BCMP 234 has already been taken.
Prerequisite: Knowledge of introductory biochemistry, genetics, and cell biology required (MCB 52 and MCB 54 or equivalent); one year of organic chemistry.

MCB 290hfr. Current Topics in Molecular, Cellular and Organismal Biology
Catalog Number: 31903
Vladimir Denic, and members of the Department
Half course (throughout the year). F., at 3:30. EXAM GROUP: 8, 9
This class teaches students how to publicly present scientific papers to a diverse audience with emphasis on contextualizing the scientific problem under discussion, critically presenting the essential data, and using an engaging presentation style.
Note: Required for all first and second year graduate students in the Molecules, Cells and Organisms (MCO) Training Program. This course must be taken Sat/Unsat.

MCB 291. Genetics, Genomics and Evolutionary Biology
Catalog Number: 2833
Cassandra G. Extavour and Andrew W. Murray
Half course (fall term). M., W., 10:30-12, and a weekly section on F., 10-12. EXAM GROUP: 3, 4
This course covers the fundamentals of classical genetics, molecular genetics, macro- and microevolution, phylogenetics, and developmental evolution. The emphasis is on major concepts and terminology, reading landmark primary literature, and acquainting students with research techniques.
Note: Required for first year graduate students in the Molecules, Cells and Organisms (MCO) Training Program.

MCB 292. Cellular Biology, Neurobiology and Developmental Biology
Catalog Number: 4288 Enrollment: Limited to 30.
John E. Dowling, Ethan Garner, and Quincey A. Justman
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The biology of the individual cell lies at the heart of multi-cellular phenomena such as development and

neural function. This course will emphasize critical evaluation of the primary literature, experimental design and scientific writing.
Note: Required for first year graduate students in the Molecules, Cells and Organisms (MCO) Training Program.

MCB 293. Biochemistry, Chemical and Structural Biology
Catalog Number: 2706
Andres Leschziner and Rachelle Gaudet
Half course (fall term). M., W., 2–4. EXAM GROUP: 7, 8
This course will introduce basic principles in general, organic and physical chemistry, including kinetics and thermodynamics, as well as macromolecular structure. Concepts will be illustrated with examples taken from the visual system.
Note: Required for first year graduate students in the Molecules, Cells and Organisms (MCO) Training Program.

MCB 294 (formerly MCB 225). Interesting Questions in Engineering and Physical Biology
Catalog Number: 7646
Nancy Kleckner and Mara Prentiss
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Physical biology can be defined as a discipline that seeks to understand biological processes through the lens of physics and engineering. Faculty and students will unite to review current research with the aim of identifying and pondering interesting emerging questions in this area. Combination of lecture and discussion format. Comprises a series of two-week modules, most of which are given by a one or a pair of faculty drawn from MCB, Physics and SEAS.
Note: Intended primarily for first year graduate students in the EPB PhD track of the MCO program but available to other graduate students and advanced undergraduates as space permits.

Cross-listed Courses

Engineering Sciences 224. Laboratory in Engineering and Physical Biology
[Physics 269r. Topics in Statistical Physics and Physical Biology]

Graduate Courses of Reading and Research

***MCB 300. Introduction to Research**
Catalog Number: 4816
Catherine Dulac 2801 and members of the Department

***MCB 301. Synapse Formation**
Catalog Number: 3935
Joshua R. Sanes 5094

***MCB 304. Experimental Biological Physics and Quantitative Cell Biology**
Catalog Number: 5730
Daniel Joseph Needleman 6151

***MCB 305. Signaling Processing and Systems Biology**
Catalog Number: 1443
Sharad Ramanathan 6015

***MCB 306. Biophysics and Physiology of Neurons**
Catalog Number: 1695
Venkatesh N. Murthy 2424

***MCB 307. Developmental Genetics and Neurobiology**
Catalog Number: 8554
Alexander F. Schier 5238 (on leave 2013-14)

***MCB 308. Quantitative Analysis of Regulatory Networks**
Catalog Number: 2226
Erin K. O'Shea 5239

MCB 309. Sensory Processing in Visual Cortical Circuits - *(New Course)
Catalog Number: 92836
David Cox 7161

MCB 310. Optical Approaches to Understanding Prokaryotic Cellular Organization - *(New Course)
Catalog Number: 17979
Ethan Garner 6700

***MCB 312. Military and Arms Control Applications of Biology and Chemistry**
Catalog Number: 2063
Matthew Meselson 1319 (on leave spring term)

***MCB 315. Structural Biology of Signaling and Transport Through Biological Membranes**
Catalog Number: 9560
Rachelle Gaudet 4413

***MCB 316. Structural Biology of Retroviral Replication**
Catalog Number: 8769
Victoria M. D'Souza 5584

***MCB 322. Genetics and Development**
Catalog Number: 7290
Craig P. Hunter 2803

***MCB 326. Biochemical Virology**
Catalog Number: 0243
Raymond L. Erikson 7506

***MCB 328. Neuronal Circuit Development**
Catalog Number: 5728
Takao K. Hensch 5813

***MCB 329. Structural Biology of ATP-Dependent Chromatin Remodeling**
Catalog Number: 6060
Andres Leschziner 5928



***MCB 330. Mechanisms of DNA Transport Across Membranes**
Catalog Number: 7228
Briana Burton 6214

***MCB 331. Single-Cell Analysis of Transcriptional and Signaling Networks in Bacteria**
Catalog Number: 4064
Philippe Cluzel 6215

***MCB 332. Mechanisms of Membrane-Based Cell Biological Processes**
Catalog Number: 9806
Vladimir Denic 6216

***MCB 344. Molecular and Developmental Neurobiology**
Catalog Number: 2292
Catherine Dulac 2801

***MCB 359. Chromosomes**
Catalog Number: 6278
Nancy Kleckner 4697

***MCB 363. Invertebrate Development and Transcriptional Circuitry**
Catalog Number: 15771
Susan Mango 6386 (on leave fall term)

***MCB 365. Neurobiology**
Catalog Number: 8349
John E. Dowling 3545 (on leave 2013-14)

***MCB 366. Synaptic Plasticity and Neuronal Networks**
Catalog Number: 1085
Florian Engert 4290

***MCB 367. Structural Studies of Synapses**
Catalog Number: 1850
Jeff W. Lichtman 5163

***MCB 368. Neural Circuits for Sensation and Behavior**
Catalog Number: 30878
Naoshige Uchida 5745

***MCB 373. Cellular Biochemistry and Physiology**
Catalog Number: 8053
J. Woodland Hastings 1311

***MCB 374. Developmental Neurobiology**
Catalog Number: 6167
Samuel M. Kunes 3486

***MCB 377. Genetics and Development**
Catalog Number: 5598
William M. Gelbart 4774

***MCB 378. Motile Behavior of Bacteria**
Catalog Number: 5729
Howard C. Berg 1377 (on leave spring term)

***MCB 379. Social Behaviors and Genetics of Bacteria**
Catalog Number: 10595
Karine A. Gibbs 6592

***MCB 381. Microbial Development**
Catalog Number: 4994
Richard M. Losick 3561

***MCB 386. Molecular Evolution**
Catalog Number: 0763
Matthew Meselson 1319 (on leave spring term)

***MCB 390. Function of Neuronal Circuits**
Catalog Number: 8883
Markus Meister 3007

***MCB 391. Biochemistry**
Catalog Number: 4888
Guido Guidotti 1203 (on leave 2013-14)

***MCB 396. Regulation of Mitosis**
Catalog Number: 5706
Andrew W. Murray 3765

Music

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Music

Alexander Rehding, Fanny Peabody Professor of Music *(Chair)*
Carolyn Abbate, Professor of Music, Paul and Catherine Buttenwieser University Professor
Richard Beaudoin, Preceptor in Music
Richard Burkhardt, Lecturer on Music

Andrew Gregory Clark, Senior Lecturer on Music and Director of Choral Activities
Suzannah Clark, Professor of Music
Federico Cortese, Senior Lecturer on Music
Chaya Czernowin, Walter Bigelow Rosen Professor of Music
Scott L. Edwards, College Fellow in the Department of Music
Aaron Michael Einbond, Lecturer on Music
Herbert J. Hancock, Charles Eliot Norton Professor of Poetry
Christopher Hasty, Walter W. Naumburg Professor of Music *(on leave spring term)*
Daniel Artie Henderson, Lecturer on Music
Vijay Iyer, Franklin D. and Florence Rosenblatt Professor of the Arts
Evan A. Johnson, Lecturer on Music
Jill Johnson, Senior Lecturer on Music and Director of Dance
Peter M. Kaminsky, Visiting Professor of Music
Thomas Forrest Kelly, Morton B. Knafel Professor of Music *(Head Tutor)*
Robert D. Levin, Dwight P. Robinson, Jr. Professor of Music *(on leave 2013-14)*
Ingrid Monson, Quincy Jones Professor of African-American Music, Supported by the Time Warner Endowment
Osnat Netzer, Preceptor in Music
Carol J. Oja, William Powell Mason Professor of Music
Sindhumathi Revuluri, Associate Professor of Music
Kay Kaufman Shelemay, G. Gordon Watts Professor of Music and Professor of African and African American Studies *(Director of Graduate Studies)*
Anne C. Shreffler, James Edward Ditson Professor of Music
Daniel Stepner, Preceptor in Music
Hans Tutschku, Fanny P. Mason Professor of Music *(on leave 2013-14)*
Kate van Orden, Professor of Music
Richard K. Wolf, Professor of Music

Other Faculty Offering Instruction in Music

Undergraduates considering a concentration in Music should meet with the Head Tutor to discuss the program. Prospective concentrators in Music and encouraged to take Music 51 in their freshman year. Music 97 courses may be taken in any order and may also be taken in the freshman year.Depending on your interests and level of preparation, other courses in composition and/or performance may also be chosen as entry points to the study of Music at Harvard. Students not intending to concentrate in Music are warmly welcomed to take courses in music history, ethnomusicology, theory, composition, and performance.

Primarily for Undergraduates

Music 1a. Introduction to Western Music from the Middle Ages to Mozart
Catalog Number: 8071
Scott L. Edwards
Half course (fall term). Tu., Th., at 10. EXAM GROUP: 12
Exploring about 1000 years of western music history (c.800-1800), this course will consider the musical styles of particular periods and specific composers including Machaut, Du Fay, Josquin, Palestrina, Monteverdi, Handel, Bach, and Mozart.
Note: Music 1a can be taken independently of Music 1b. No prior knowledge of music is presumed. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts B. This course fulfills the

requirement that one of the eight General Education courses also engage substantially with Study of the Past. May not be taken for concentration credit.

Music 1b. Introduction to Western Music from Beethoven to the Present
Catalog Number: 4952
Scott L. Edwards
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
Continues the survey started in Music 1a, beginning with the transition from the Classical to the Romantic period. Explores the history of music in its stylistic and cultural contexts, including aspects of form, composition, social significance, and politics. Composers studied include Beethoven, Schubert, Robert and Clara Schumann, Liszt, Berlioz, Brahms, Wagner, Verdi, Mahler, Schoenberg, Berg, Stravinsky, Debussy and later 20th c. figures.
Note: Music 1b can be taken independently of Music 1a. No prior knowledge of music presumed. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. May not be taken for concentration credit.

Music 2. Foundations of Tonal Music I
Catalog Number: 0645 Enrollment: Limited to 100.
Osnat Netzer
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Seeks to develop a greater understanding of music, musical analysis, and critical listening. We will study some of the organizing principles of musical works (from a range of styles) by means of composition projects, score analysis, and aural skills. While reading knowledge of simple musical notation is helpful, there will be at least one section for students with no previous experience.
Note: Open to all students. May not be counted for concentration credit. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts B.

[Music 3. Foundations of Tonal Music II]
Catalog Number: 5805 Enrollment: Limited to 16.
Instructor to be determined
Half course (spring term). Hours to be arranged.
The first part of the course concentrates on increasing understanding and fluency in writing within the musical language of "common practice tonality". The second part of the course looks at 20th-century techniques for composing music. The final project is a short composition that will be performed during reading period. Teaching takes place in groups of 10-12, divided according to background, with full group lectures every week.
Note: Expected to be given in 2014–15. May not be counted for concentration credit.
Prerequisite: Music 2 or permission of the instructor.

Music 4. Introduction to Composition
Catalog Number: 2239 Enrollment: Limited to 16.
Osnat Netzer
Half course (fall term). Th., 3–5.
Open to students with little or no prior experience in composition. Explores ways of thinking about and organizing basic compositional elements such as melody, harmony, rhythm and instrumental color, as well as developing skills of score preparation and analytical listening. The primary focus of the course is a series of short compositional exercises, culminating in a somewhat longer final project. Workshop

performances of students' music take place throughout the term.
Note: May not be counted for concentration credit.
Prerequisite: Some prior experience in music theory or permission of the instructor.

[Music 6. Harmony in Electronic Dance Music]
Catalog Number: 96549
Instructor to be determined
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2015–16. To acquire permission, consult the iSite for further details.

Music 10hfr. Harvard-Radcliffe Orchestra - *(New Course)*
Catalog Number: 77319 Enrollment: By audition prior to first class meeting of the year.
Federico Cortese
Half course (throughout the year). M., Th., 7–9:30 p.m. EXAM GROUP: 9, 18
This is an experiential learning course. The ensemble gives several concerts each year, sometimes joining with the chorus to perform large-scale works. Students are required to attend all rehearsals and certain special Saturday "retreats" announced in advance. Students are expected to practice the music outside the rehearsal time. Grades are based on attendance and participation.
Note: This course may be taken repeatedly, but to receive credit the course must be taken in the Fall and Spring semesters consecutively. A maximum of four semesters (two years) may be counted as credit towards the degree.

Music 12hfr. The Harvard Dance Project - *(New Course)*
Catalog Number: 56909 Enrollment: Students choosen by workshop audition held at the start of the fall semester.
Jill Johnson
Half course (throughout the year). Fall: Tu., Th., 3–6.
The Harvard Dance Project cultivates invention. This new faculty-led, student performance company gives students the opportunity to be original cast members and collaborators in two or more diverse dance works created by professional choreographers, including a new installation by Dance Director, Jill Johnson in the fall term of 2013. The project focuses on performance research, collaboration, choreographic composition, and links choreographic thinking to other fields. This studio based course includes at least six performances at major venues on campus. No written assignments.
Note: The course is graded SAT/UNSAT based on attendance and participation. Auditors welcome. This course may be taken repeatedly, but to receive credit the course must be taken in the Fall and Spring semesters consecutively. A maximum of four semesters (two years) may be counted as credit towards the degree.

[Music 14hfr. Harvard-Radcliffe Collegium Musicum] - *(New Course)*
Catalog Number: 37923 Enrollment: By audition prior to first class meeting.
Andrew Gregory Clark
Half course (throughout the year). Hours to be arranged.
Note: Expected to be given in 2014–15. This course may be taken repeatedly, but to receive credit the course must be taken in the Fall and Spring semesters consecutively. A maximum of four semesters (two years) may be counted as credit towards the degree.

[Music 15hfr. Harvard Glee Club] - *(New Course)*
Catalog Number: 38516 Enrollment: By audition prior to first class meeting.
Andrew Gregory Clark
Half course (throughout the year). Hours to be arranged.

Note: Expected to be given in 2014–15. This course may be taken repeatedly, but to receive credit the course must be taken in the Fall and Spring semesters consecutively. A maximum of four semesters (two years) may be counted as credit towards the degree.

[Music 16hfr. Radcliffe Choral Society] - *(New Course)*
Catalog Number: 61787 Enrollment: By audition prior to first class meeting.
Andrew Gregory Clark
Half course (throughout the year). Hours to be arranged.
Note: Expected to be given in 2014–15. This course may be taken repeatedly, but to receive credit the course must be taken in the Fall and Spring semesters consecutively. A maximum of four semesters (two years) may be counted as credit towards the degree.

***Music 51a. Theory Ia**
Catalog Number: 2261
Richard Beaudoin
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Course unfolds the foundations of tonal music, including line, harmony, counterpoint, rhythm, timbre, and form. Includes regular practical exercises in model composition, analysis, ear-training, keyboard skills and musicianship.
Note: For this course a placement exam is required, which is offered the week before classes begin. Please contact the Music Department for further information. Music 51a or its equivalent is required of all concentrators. Students planning to concentrate in Music are encouraged to take the course in their freshman year. Concentrators should plan to meet this requirement by no later than the end of the sophomore year. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding.
Prerequisite: Basic theory and ear training skills. Basic keyboard skills are useful.

***Music 51b. Theory Ib**
Catalog Number: 9585
Richard Beaudoin
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Continuation of the principles in Music 51a. Course engages advanced topics in harmony, counterpoint, rhythm, timbre and form. Includes regular practical exercises in model composition, analysis, ear-training, keyboard skills and musicianship.
Note: Music 51b or its equivalent is required of all concentrators. Students planning to concentrate in Music are encouraged to take the course in their freshman year. Concentrators should plan to meet this requirement by no later than the end of the sophomore year. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding.
Prerequisite: Music 51a.

***Music 91r. Supervised Reading and Research**
Catalog Number: 1298
Thomas F. Kelly and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Open to students wishing to pursue supervised study in an area not covered by the courses currently offered. Students must submit a study proposal to the faculty member with whom they wish to study and a signed proposal to the Head Tutor. May be counted for concentration *only* with the prior approval of the Department.

***Music 97a. Music History and Repertory: Medieval to Baroque**
Catalog Number: 0113
Thomas Forrest Kelly
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
An intensive survey of Western music from the middle ages to ca. 1750, providing methods of further study of music in historical and cultural contexts as well as knowledge of repertory.
Note: Music 97 is required of all concentrators, preferably taken in the sophomore year, or earlier by permission. Each third of the course culminates in an examination testing students' knowledge of a large listening repertory. These examinations must be passed in order to receive credit for the course.
Prerequisite: Music 51 may be taken concurrently.

***Music 97b. Music History & Repertory: Classical to Contemporary**
Catalog Number: 71121
Anne C. Shreffler
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
A survey of Western classical music from the 18th to the 21st centuries, continuing from Music 97a. The course emphasizes listening, analysis, and historical context. Two semesters of Music 97 are required of all concentrators, preferably taken in the sophomore year, or earlier by permission.
Note: Music 97 is required of all concentrators, preferably taken in the sophomore year, or earlier by permission. Each third of the course culminates in an examination testing students' knowledge of a large listening repertory. These examinations must be passed in order to receive credit for the course.
Prerequisite: Music 51 may be taken concurrently.

[*Music 97c. Music History and Repertory: Music in Cross-Cultural Perspective]
Catalog Number: 36288
Instructor to be determined
Half course (spring term). M., W., F., at 10.
Note: Expected to be given in 2014–15. Music 97 is required of all concentrators, preferably taken in the sophomore year, or earlier by permission. Each third of the course culminates in an examination testing students' knowledge of a large listening repertory. These examinations must be passed in order to receive credit for the course.
Prerequisite: Music 51 may be taken concurrently.

***Music 98r. Tutorial — Junior Year**
Catalog Number: 5601
Thomas Forrest Kelly and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Open to junior candidates for honors in Music who have written permission to enroll from the instructor with whom they wish to work, and also from the Head Tutor in Music.
Note: With permission, may be taken for a second term.

***Music 99r. Tutorial — Senior Year**
Catalog Number: 1765
Thomas Forrest Kelly and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Open to senior candidates for honors in Music who have written permission to enroll from the instructor with whom they wish to work, and also from the Head Tutor in Music. May be counted toward concentration credit only by honors candidates.

For Undergraduates and Graduates

[Music 101r. Dance Collaboration]
Catalog Number: 71843
Instructor to be determined
Half course (fall term). Hours to be arranged.
Note: Expected to be given in 2014–15. No art or dance background required.

***Music 103r. Masterwork: The Choreographic Process of William Forsythe**
Catalog Number: 52654 Enrollment: Limited to 15.
Jill Johnson
Half course (spring term). W., F., 3–6. EXAM GROUP: 8, 9
A comprehensive study of a William Forsythe work with one of his closest collaborators. Students will watch rare rehearsal and performance footage, and examine all aspects of the choreographic process from the first movement sketches to compositional modalities, lighting, music, and dramaturgical design. A unique, rigorous and interdisciplinary course of study which will include a collaborative process to create an original dance work for performance, and expose students to all aspects of a master work by a preeminent American dance innovator.
Note: Enrollment determined by interview during the first week of class.
Prerequisite: Previous dance experience required.

***Music 105r. Fundaments of Improvisation & Composition, Dance**
Catalog Number: 58855 Enrollment: Limited to 15.
Jill Johnson
Half course (fall term). W., F., 3–5. EXAM GROUP: 8, 9
Fundaments of Improvisation & Composition, Dance. Students will investigate fundamental skills of improvisation and composition. The course will employ a series of specific physical tasks and systems, taught through intensive exercises and guided improvisations which generate and modify movement and link the mind and body to innovation.
Note: Enrollment determined by interview during the first week of class.
Prerequisite: Previous dance experience required.

Music 121a. Choral Conducting
Catalog Number: 1550 Enrollment: Limited to 8.
Andrew Gregory Clark
Half course (fall term). Th., 1–4.
Students conduct the class/choir to gain experience building and refining conducting technique. Through repertoire of various eras, students develop score reading and analysis skills, explore rehearsal methods, and consider the application of vocal pedagogy in ensemble singing.
Note: Individual sections will be scheduled.
Prerequisite: Music 51 or permission of instructor. Choral or ensemble experience; ear training, keyboard, and theory background helpful.

***Music 123r. Choral Literature of the 20th & 21st Century**
Catalog Number: 26522 Enrollment: Limited to 20.
Andrew Gregory Clark
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
In the America of the 1940s, concert music attained an unprecedented cultural relevance and ubiquity that is hard to imagine today. During the Second World War, choral music in particular was called upon to fulfill a cultural desire for fervent public expressions of patriotism and national chauvinism. Music was politicized and harnessed for numerous war-related tasks, including propaganda, cultural diplomacy, therapeutic recuperation, and social uplift. One could argue that American musical identity itself was

forged during this time of crisis. This course will trace the historical currents and themes of American choral music from 1940-1950 through the study of representative choral works. Using various archives at Harvard, students will also examine the choral scene at the University during World War II, including the repertoire, activities, and the membership profile of the Harvard Glee Club, Radcliffe Choral Society, and the University Choir. An extensive background in music theory and choral music repertoire is not required, but a familiarity with Western music notation will be assumed.

[*Music 125a. Beginning Orchestration and Conducting]
Catalog Number: 8397
Federico Cortese
Half course (spring term). M., 1–4. EXAM GROUP: 6, 7, 8
Studies in basic conducting skills related to exercises in 17th- and 18th-century orchestration. Demonstration of stringed instruments.
Note: Expected to be given in 2014–15. May not be counted for concentration credit. May be taken by students from other departments with permission of instructor.
Prerequisite: Music 51 or permission of instructor.

***Music 127r. Advanced Conducting**
Catalog Number: 68953 Enrollment: Limited to 6. By audition only.
Federico Cortese
Half course (spring term). M., 1–4. EXAM GROUP: 6, 7, 8
The course focuses on parallel development of the symphonic and quartet style in Beethoven. Conductors will learn the basic technique and rehearsal skills while conducting the works with two pianos and a string group. String players will perform the selected Beethoven quartets and also serve as a string group for the conductors. A moderate amount of analysis and historical background of the pieces will be discussed.
Note: At the first class meeting appropriate skills levels will be evaluated.

[*Music 128r. Workshop on Opera]
Catalog Number: 12841 Enrollment: Limited to 12.
Federico Cortese
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Expected to be given in 2014–15. Open to singers and conductors

Music 150a. Theory IIa
Catalog Number: 4771
Suzannah Clark
Half course (fall term). Tu., 1–3.
Continues the work of Music 51. The fall term focuses on the Classical style (Haydn, Mozart, Beethoven and their contemporaries). Topics include harmony, phrase structure, and musical forms. Concepts are developed through written & aural analysis, model composition, keyboard harmony and ear-training exercises.
Note: Required of all concentrators.
Prerequisite: Music 51 or equivalent.

Music 150b. Music Theory IIb
Catalog Number: 36063
Richard Beaudoin
Half course (spring term). Tu., 2–4. EXAM GROUP: 16
Explores chromatic harmony in 19th-century instrumental and vocal forms. Concepts are developed through analysis, model composition, keyboard harmony and ear-training exercises.

Note: Required of all concentrators.
Prerequisite: Music 150a.

Music 151 (formerly Music 157x). Tonal Analysis
Catalog Number: 6830
Suzannah Clark
Half course (spring term). W., 2–4.
Intensive study of tonal theory and methods of analysis through a detailed examination of music from the late eighteenth and nineteenth centuries. Students are introduced to the history of music theory, as well as numerous modern theoretical and analytical techniques.
Note: Open to graduate students.
Prerequisite: Music 150a.

[Music 152 (formerly Music 157y). Post-Tonal Analysis]
Catalog Number: 4397
Christopher Hasty
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
Intensive survey of compositional styles and techniques of the last 100 years. Traditional pitch-centered analysis, including set theory, as well as approaches focusing on rhythm, timbre, gesture, and other elements.
Note: Expected to be given in 2014–15.
Prerequisite: Music 150 or permission of instructor.

Music 153. Jazz Harmony
Catalog Number: 10693
Daniel Artie Henderson
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Intensive survey of jazz harmony, from Tin Pan Alley and blues-based music of Jazz's Golden era to modern jazz styles.
Note: Strongly recommended for those planning to take Music 186r. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

Music 155. Modal Counterpoint
Catalog Number: 7710
Christopher Hasty
Half course (fall term). W., 2–4.
Study of representative styles and genres of 16th-century polyphony. Detailed analytic work will be combined with compositional exercises.
Prerequisite: Music 150 or permission of instructor.

[Music 156. Tonal Counterpoint: Seminar]
Catalog Number: 3930
Suzannah Clark
Half course (fall term). M., 2–4.
Counterpoint in the style of Bach. Concepts are developed through written analyses, graphic analyses, and model composition.
Note: Expected to be given in 2014–15.
Prerequisite: Music 150 or permission of instructor.

[Music 157r. Theories of World Music]
Catalog Number: 41629
Richard K. Wolf
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15. Open to concentrators or with permission of instructor.

[Music 158r. Interpreting Musical Performance]
Catalog Number: 9813
Christopher Hasty
Half course (fall term). Hours to be arranged.
Analyzing Performance. Analysis of pieces aimed at discovering and evaluating possibilities for execution and perception. Repertory includes fully notated music and music that has no tradition of notation. Questions addressed are those of perception, notation, and adequacy of conventional analytic categories.
Note: Expected to be given in 2014–15. Open to graduate students.
Prerequisite: Music 150 or permission of instructor.

Music 159r. Analysis: Repertory
Catalog Number: 38768
Ingrid Monson
Half course (spring term). M., 2–4.
Herbie Hancock's Musical Worlds. This is a special course timed to correspond with Herbie Hancock's Norton Lectures in the spring of 2014. The course examines Herbie Hancock's achievements in multiple musical worlds: jazz, funk and r&b, world music, and popular music.
Prerequisite: Two semesters of theory or permission of the instructor.

***Music 160r. Composition: Proseminar**
Catalog Number: 8026 Enrollment: Limited to 12.
Richard Beaudoin
Half course (fall term). Tu., 3–5.
Open to students prepared for individual work in composition. Focus on the string quartet, including contemporary repertoire survey, short exercises, and a final project of modest dimensions. Incorporates readings and final performance of students' work
Prerequisite: One course in theory/composition or permission of the instructor.

***Music 161r. Advanced Composition**
Catalog Number: 6714
Chaya Czernowin
Half course (spring term). M., 2–4.
Advanced course in musical composition. Consists of a mixture of one-on-one and group meetings.
Prerequisite: One course in theory/composition or permission of the instructor.

***Music 167r. Introduction to Electroacoustic Music**
Catalog Number: 3806 Enrollment: Limited to 10.
Aaron Michael Einbond
Half course (spring term). Tu., 2–4.
Composition and performance with analogue and digital electronic media. Projects realized using recording gear and computers; study of relevant aspects of acoustic and electronic theory; repertoire since 1948 of musique concrète, acousmatic, and live-electronic music; synthesis, sampling, digital recording, and live performance techniques. Hands-on work will culminate in a final performance of individual

projects.
Prerequisite: One course in theory/composition or permission of instructor.

Music 173r. Creative Music: Critical Practice Studio - *(New Course)*
Catalog Number: 66684 Enrollment: Limited to 20. Open by submission of recordings; details below in Note.
Vijay Iyer
Half course (spring term). Tu., 7–9 p.m.
Creative Music: Critical Practice Studio. This course is an intensive, research-oriented workshop environment for advanced improviser-composers. Through critical listening, readings, term papers, and collaborative musical projects, students will engage with a range of contemporary musical perspectives and practices.
Note: Between December 21 and January 13, each student should submit a recording, up to fifteen minutes in length, of your performance, solo or with a group, of your own compositions or those of others, and featuring solo or group improvisation. Please provide details about the music -- instrumentation, repertoire, personnel, date of recording, and any other relevant descriptive information. Audio should be submitted via sharing links to YouTube, Soundcloud, Dropbox, or similar. Submit links to nshafman@fas.harvard.edu. Please do not email files. No applications will be accepted earlier than December 21 or later than January 13.

Music 175r. Special Topics
Catalog Number: 32166
Federico Cortese
Half course (fall term). Th., 1–4.
From Debussy to Stravinsky: Paris at the Beginning of the Century. Course will focus on the artistic and musical scene of Paris at the beginning of the century - from Pelléas and Mélisande to the Rite of Spring.
Note: There is a performance component but the course is open to performers and non-performers. May be taken by students from other departments with permission of instructor. First required meeting for this course is Tuesday, September 3. Class does not meet on Thursday, September 5 but subsequent meetings will be on Thursdays.

***Music 180r. Performance and Analysis: Seminar**
Catalog Number: 2294
Daniel Stepner & Guest Artists
Half course (fall term; repeated spring term). Tu., 7-10 pm.
Weekly master classes and intermittent private coachings. Preceptor Daniel Stepner will be joined by visiting Blodgett Artists-in-Residence, Jeremy Denk, Pamela Frank, Yo-Yo Ma, and Menahem Pressler. Representative chamber music of the past and present is prepared for performance in class sessions and private coachings. Intensive class analysis as the basis of musical expression and interpretation.
Note: Open to singers and instrumentalists. By audition only, prior to the first meeting.

***Music 181r. Performance and Interpretation: Renaissance Music**
Catalog Number: 70749 Enrollment: Limited to 9. Open to concentrators and non-concentrators.
Kate van Orden
Half course (fall term). W., 2–5.
Performance and Interpretation: Renaissance Music. In this course, you become an amateur musician in Renaissance England and learn to play the viola da gamba in a consort. Through this combination of research and hands-on learning, we investigate repertory, culture and musical life circa 1600.
Note: May be taken by students from other departments with permission of instructor.

[*Music 182r. 17th- and 18th-Century Performance Practice]
Catalog Number: 1460
Instructor to be determined
Half course (spring term). Hours to be arranged.
Articulation, ornamentation, improvisation, and other stylistic domains are considered from the perspectives of historical evidence and modern performance.
Note: Expected to be given in 2015–16.

[Music 183r. 19th-Century and 20th-Century Performance Practice]
Catalog Number: 0117
Instructor to be determined
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2015–16.

[*Music 185r. Classical Improvisation]
Catalog Number: 72478 Enrollment: Limited to 12.
Instructor to be determined
Half course (spring term). Hours to be arranged.
Course will identify the contexts and theoretical concepts of 18th and early 19th century improvisation in vocal and instrumental music. Authentic written-out embellishments and cadenzas by composers and their contemporaries will be studied and used as a basis for both written and improvised work, to include decoration, cadenzas, preludes, modulating preludes, and free fantasies.
Note: Expected to be given in 2015–16. By audition only, prior to the first class.

Music 186. Jazz Improvisation
Catalog Number: 40907
Daniel Artie Henderson
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Building upon Music 153, this course emphasizes rhythm, timbre, texture, signifying, blues aesthetics and other culturally valued aspects of jazz performances. Students will explore jazz's solo and group dynamics by improvising together.
Note: By audition only, prior to the first class.
Prerequisite: Music 153 or permission of instructor.

***Music 187rg. Chamber Music Performance**
Catalog Number: 17431 Enrollment: Limited to 60. By audition prior to first class.
Federico Cortese
Half course (fall term; repeated spring term). Hours to be arranged.
Instrumental chamber music is prepared in private coachings. This course is only offered for a letter grade when students are involved in one or more of the following: music concentrator; enrolled in a music department course in the same semester; a member of a faculty-led ensemble.
Note: This course must be taken for letter grade.

***Music 187rs. Chamber Music Performance**
Catalog Number: 72614 Enrollment: Limited to 60. By audition prior to first class.
Federico Cortese
Half course (fall term; repeated spring term). Hours to be arranged.
Instrumental chamber music is prepared in private coachings.
Note: This course must be taken Sat/Unsat. Music 187rg may be taken for a letter grade.

[Music 190gw (formerly Music 190rs). South Indian Music]
Catalog Number: 7577
Richard K. Wolf
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15. By permission of instructor. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts B. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

Music 190r. Topics in World Music: Proseminar
Catalog Number: 1312
Richard K. Wolf
Half course (spring term). W., 1–3.
Music in Central Asia and its Neighbors. Focuses on musical traditions of Tajikistan, Uzbekistan and Kyrgyzstan, and the historical, cultural, and musical links between these countries and Iran, Afghanistan, Pakistan and India. Six weeks of the course will be devoted to intensive interaction with visiting artist from Tajikistan, Sirojiddin Juraev, a master of the dutor and tambur. Final projects may include a performance component if students so choose. All students interested in the music of this Silk Road region are potentially eligible to enroll, regardless of prior musical training.
Note: Students from other departments are warmly invited.

Music 191r. Topics in Medieval and Renaissance Music: Proseminar
Catalog Number: 2524
Thomas Forrest Kelly
Half course (spring term). Th., 2–4.
Sound in Space: Introduction to Musical Notation. A practical study of the development of Western musical notation. Working from Medieval and Renaissance original sources and facsimiles, students will learn to read and transcribe early musical notations; members of Blue Heron, the renaissance choir, will be in residence to perform. Students from other departments with some knowledge of modern notation are welcome.
Note: May be taken by students from other departments with permission of instructor.

[Music 191rs. Topics in Medieval and Renaissance Music]
Catalog Number: 2871
Instructor to be determined
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15.

[Music 191rtkc. Chant] - *(New Course)*
Catalog Number: 44691
Thomas Forrest Kelly
Half course (spring term). Hours to be arranged.
Gregorian Chant
Note: Expected to be given in 2014–15. For music concentrators or with permission of instructor.

[Music 192r. Topics in Music from 1600–1800: Proseminar]
Catalog Number: 6726
Kate van Orden
Half course (fall term). W., 2–4.
Note: Expected to be given in 2014–15. For music concentrators or with permission of instructor.

[Music 193r. Topics in Music from 1800 to the Present: Proseminar]
Catalog Number: 3741
Anne C. Shreffler
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Music since 1945. Survey of concert music since WW II. The main emphasis will be on listening and thinking about selected works. Readings from composers' writings and interviews, music analyses and music history texts.
Note: Expected to be given in 2014–15. For music concentrators or with permission of instructor.

Music 193rca (formerly Music 193rs). Topics in Music from 1800 - Present
Catalog Number: 5935
Carolyn Abbate
Half course (fall term). M., 2–4.
19th Century Opera. The nineteenth-century saw a revolution in the aesthetics and cultural politics of opera. We will look at a series of works from Rossini to Debussy, with attention to libretti and their relationship to literature, musical design, and orchestration. In addition, we'll be considering present-day stagings of classic nineteenth-century works, especially those of Verdi and Wagner, and stage directors' interpretive interventions.
Note: May be taken by students from other departments with permission of instructor.

Music 193rco. American Musical Theater - *(New Course)*
Catalog Number: 41958
Carol J. Oja
Half course (spring term). W., 12–2. EXAM GROUP: 5, 6
This course will explore recent Broadway musicals (In the Heights and The Last Five Years) alongside classic shows (West Side Story and A Chorus Line). Students will discuss the creative process and experience the intense collaborations involved in mounting a show. This seminar is tied to the campus residency of composer Jason Robert Brown, who will be Blodgett Artist-in-Residence, and it will also connect with a new production of A.R.T.
Note: May be taken by students from other departments with permission of instructor.

[Music 193rvo. Topics in Music from 1800 to the Present: Proseminar]
Catalog Number: 41913
Kate van Orden
Half course (spring term). Hours to be arranged.
California in the 60s. This seminar examines American youth culture in the "long" 1960s through the lens of music in California. Both "popular" and "art" music will be considered, including the early minimalists, L.A. and the Laurel Canyon crowd, and San Francisco psychedelia. In addition to understanding musical forms, performance styles, and the effects of technology (radio, recording, electric instruments), the class will delve into the politics of race, gender, and the draft.
Note: Expected to be given in 2014–15.

[Music 194gs. Special Topics: Proseminar]
Catalog Number: 2846
Instructor to be determined
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15.

Music 194r. Special Topics
Catalog Number: 98795

Kay Kaufman Shelemay and Kate van Orden
Half course (spring term). Tu., 1–3.
Music and Migration. This course will theorize the topic of migration through case studies of musicians in diaspora. The goal is to understand how communities articulate their cultural and ethnic identities through musical transmission and performance. Settings range from the early modern period to the present. A research project on music and migration as a locus of identity formation is required.
Note: May be taken by students from other departments.

Music 194rs. Special Topics: Proseminar
Catalog Number: 8586
Sindhumathi Revuluri
Half course (fall term). W., 1–3.
Global Pop Music. Exploration of current trends and issues in popular music production from around the world, including fusion, sampling and local and global scenes, through consideration of a broad range of contemporary examples.
Note: May be taken by students from other departments.

[Music 195r. Topics in Music from 1900 - Present]
Catalog Number: 68347
Instructor to be determined
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15. For music concentrators or with permission of instructor.

Cross-listed Courses

Aesthetic and Interpretive Understanding 24. First Nights: Five Performance Premieres
[Aesthetic and Interpretive Understanding 31. American Musicals and American Culture]
[African and African American Studies 179 (formerly Literature and Arts B-82). Jazz, Freedom, and Culture]
African and African American Studies 182. From R & B to Neo Soul: Black Popular Music and Cultural Transformation
East Asian Film and Media Studies 115. Sound and Image: The Politics and Practices of Experimental Arts in Japan after 1945 - *(New Course)*
[German 182. Music and German National Identity]

Primarily for Graduates

Music Bhf. Exercises in Tonal Writing and Analysis
Catalog Number: 3045
Osnat Netzer
Half course (throughout the year). Hours to be arranged.
Includes theory (level of Music 150) as well as keyboard and ear training.
Note: Required of all graduate students. This requirement must be met before admission to the General Examination.

Music 201a. Current Methods in Historical Musicology
Catalog Number: 4975
Sindhumathi Revuluri
Half course (spring term). W., 10–12.
Introduction to musicological scholarship drawing upon theoretical frameworks, and working methods of

historical musicology. Includes aspects of the history of the discipline of musicology, as well as newer methodologies. Students will read relevant theoretical texts from other disciplines and consider the possibilities of interdisciplinary projects within musicology.
Note: Graduate students only. May be taken independently by students from other departments with permission of instructor.

Music 201b. Current Methods in Ethnomusicology
Catalog Number: 3995
Kay Kaufman Shelemay
Half course (fall term). Tu., 10–12.
Focuses on introduction to scholarly study of music with emphasis on the history and methodologies of ethnomusicology. Theories of music in culture, field methods, analytical and notational strategies, and critical tools for scholarship.
Note: May be taken by students from other departments with permission of instructor.

[Music 205r. Medieval Notation]
Catalog Number: 64011
Instructor to be determined
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15. Open to undergraduates with permission of instructor.

[Music 206r. Research Methods in Ethnomusicology: Musical Ethnography]
Catalog Number: 6891
Kay Kaufman Shelemay
Half course (spring term). W., 10–12. EXAM GROUP: 3, 4
An introduction to the theories and methods of ethnomusicological fieldwork, including changing conceptions of the research site, ethical concerns, interview techniques, the ethnography of musical performance, and data analysis and interpretation.
Note: Expected to be given in 2014–15. Individual research project required. Open to undergraduates with permission of instructor.

Music 207r. Ethnomusicology: Seminar
Catalog Number: 2149
Richard K. Wolf
Half course (fall term). M., 10–12.
Music and Language. Methods of phonetics, social linguistics and ethnomusicology are combined to examine music and speech, including epic storytelling and laments, instrumental speech surrogates and poetry. Materials potentially drawn from any period or location.
Note: Open to undergraduates with permission of instructor. May be taken by students from other departments by permission of instructor.

[Music 207rs. Ethnomusicology: Seminar]
Catalog Number: 8999
Instructor to be determined
Half course (spring term). M., 9–11.
Note: Expected to be given in 2014–15.

[Music 208r. Ethnomusicology: Seminar]
Catalog Number: 2232

Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15. Open to undergraduates with permission of instructor.

[Music 208rs. Ethnomusicology: Seminar]
Catalog Number: 44783
Instructor to be determined
Half course (fall term). Hours to be arranged.
Note: Expected to be given in 2014–15.

Music 209r. Ethnomusicology: Seminar
Catalog Number: 4022
Ingrid Monson
Half course (spring term). Tu., 10–12.
The Sensory Turn. This course examines the senory turn in musical scholarship with particular attention to relationship of embodiment and musical perception.
Note: Open to undergraduates with permission of instructor.

[Music 212r. Chant: Seminar]
Catalog Number: 4984
Thomas Forrest Kelly
Half course (fall term). Hours to be arranged.
Chant. Transcribing the Beneventan Chant. In preparation for a new edition, the seminar will consider the sources and the music of one of the earliest repertories of Western music, native to southern Italy.
Note: Expected to be given in 2014–15. Open to undergraduates with permission of instructor.

[Music 213r. Topics in Medieval Polyphony]
Catalog Number: 8384
Instructor to be determined
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15.

[Music 214r. Renaissance Music:]
Catalog Number: 7825
Instructor to be determined
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15. Open to undergraduates with permission of instructor.

[Music 214rvo. Baroque: Seminar]
Catalog Number: 6817
Kate van Orden
Half course (fall term). Hours to be arranged.
Words & Music in the Renaissance. Text-music relations from Josquin to Monteverdi. Motets, madrigals and chansons read through against cultural paradigms defining the age. Will also problematize the "words & music" analytical approach, questioning its overwhelming importance in the historiography of Renaissance music.
Note: Expected to be given in 2014–15. Open to undergraduates with permission of instructor.

Music 216r. 18th-Century Music: Seminar
Catalog Number: 1802
Scott L. Edwards

Half course (spring term). F., 2–4.
Comedy in Early Modern Music. This class will explore a variety of genres linking music and the comic in the sixteenth, seventeenth, and eighteenth centuries. We will begin by investigating the origins and European-wide expansion of the Italian commedia dell'arte through printed songbooks, madrigals and monody, and theatrical libretti. Consideration of the seventeenth-century development of Italian vernacular song and opera, the rise of the opéra-comique, and manifestations of the comic in seventeenth-century instrumental music will then set the stage for an investigation into the "comic style" in eighteenth-century opera buffa and instrumental music, culminating in Mozart's Don Giovanni.
Note: Open to undergraduates with permission of instructor.

[Music 217r. 19th-Century Music: Seminar]
Catalog Number: 9814
Instructor to be determined
Half course (spring term). Hours to be arranged.
Wagner's *Tristan und Isolde* from medieval epic, to 1857-59, through 2012. The seminar aims for deep knowledge: we read Gottfried's Tristan poem in its entirety, and each act of the opera is the focus of a weekly meeting. This is the starting point for larger aesthetic issues, including the opera's role in philosophy; issues of performance and unperformability; music theory's obsession with Tristan; the opera in film, film music, and postmodern theater. Logistics permitting, the seminar will have one meeting in Toronto to attend The Tristan Project (Bill Viola, Peter Sellars, Canadian Opera Company) in late February.
Note: Expected to be given in 2014–15. Open to undergraduates with permission of instructor.

Music 218r. 20th-Century Music: Seminar
Catalog Number: 0774
Anne C. Shreffler
Half course (fall term). F., 2–4. EXAM GROUP: 7, 8
Hanns Eisler and the Twentieth Century. Eisler inhabited many worlds. We will consider Eisler's prolific and varied musical output in the context of his different lives in Vienna, Berlin, Moscow, Prague, Los Angeles, and the German Democratic Republic. Special emphasis on connections with Schoenberg, Brecht, Adorno, Joris Ivens, and others.
Note: Open to undergraduates with permission of instructor.

Music 218rs. 20th-Century Music: Seminar
Catalog Number: 0301
Carolyn Abbate
Half course (spring term). M., 1:30–3:30. EXAM GROUP: 6, 7, 8
Film Sound/Film Music: Aesthetics and Technology. This seminar explores film music and film sound in American and European cinema, from the transition to sound in the late 1920s, to a period in the 1960s when film music reached its first developmental endpoint. Topics include sound technology, differing approaches to the relation between music and image, the affinity between operatic aesthetics and film music aesthetics. Readings cover a range: from contemporary source documents, to modern film theory (Chion, Elsaesser, etc.).
Note: Graduate students only.

Music 219r. 19th- and 20th-Century Music
Catalog Number: 2275
Carol J. Oja
Half course (fall term). Tu., 2–4.
Classic Texts and Current Trends in American Music. Explores scholarship in the history of American

music, with emphasis on recent developments. Topics to be discussed embrace diverse genres and time periods. Seminar will coordinate with the Massey Lectures in American Studies, to be given by the rock critic Greil Marcus. Class projects will focus on local resources.
Note: Open to undergraduates with permission of instructor.

[Music 219rs. 19th and 20th Century Music]
Catalog Number: 1518
Sindhumathi Revuluri
Half course (spring term). Hours to be arranged.
Music and the Moving Image. The relationship between music and film over time, in national contexts, and its effect on other musical productions. Course considers how music functions alongside other moving images (dance, animation, sound art).
Note: Expected to be given in 2014–15. Open to undergraduates with permission of instructor.

[Music 220r. History of Music Theory]
Catalog Number: 20956
Instructor to be determined
Half course (fall term). Hours to be arranged.
Note: Expected to be given in 2014–15. Open to undergraduates with permission of instructor.

Music 221r. Current Issues in Music Theory
Catalog Number: 5926
Christopher Hasty
Half course (fall term). Th., 10–12.
Rhythm and Temporality. In conjunction with a review of theories of time and rhythm the seminar will develop new conceptual and analytical strategies for the study of rhythm in a broad range of repertories.

[Music 222r. Schenkerian Analysis I]
Catalog Number: 4055
Suzannah Clark
Half course (spring term). Hours to be arranged.
Introduction to the theories and graphing techniques of Heinrich Schenker and his followers through the analysis of selected works.
Note: Expected to be given in 2014–15. Open to undergraduates with permission of instructor.

Music 223r. Neo-Riemannian Analysis
Catalog Number: 6696
Suzannah Clark
Half course (spring term). Th., 9–11. EXAM GROUP: 11, 12
Neo-Riemannian Analysis. Explores the new body of transformational analytical techniques usually grouped as "Neo-Riemannian Theory." Analysis of pertinent musical passages, discussion of key texts (Riemann, Lewin, Hyer, Cohn, Kopp), context and limits of these ideas.
Note: Open to undergraduates with permission of instructor.

Music 230r. Topics in Music Theory
Catalog Number: 5712
Alexander Rehding
Half course (spring term). W., 3–5.
Hearing Modernity. Discusses the critical literature of the recent interdisciplinary field of Sound studies, focusing on work by the speakers of the Sawyer seminar. Term projects will work toward sound-rich

multimedia essays.
Note: Open to undergraduates with permission of instructor.

Music 230rs. Ravel–Music, Structures, Context - *(New Course)*
Catalog Number: 89653
Peter M. Kaminsky
Half course (fall term). M., 2–4.
Ravel - Music, Structures, Contexts. Exploring both current and historical scholarship, a primary goal for the course will be to break through conventional disciplinary separations between interpretation and analysis, examining for example the "poetics" of form-structural organization and the possible analytical ramifications of particular hermeneutic perspectives. Representative works from Ravel's principal genres will be studied.
Note: Open to undergraduates with permission of instructor.

Music 250hf. Colloquium on Teaching Pedagogy
Catalog Number: 92429
Carolyn Abbate
Half course (throughout the year). Tu., 9–11.
The Craft of Teaching. Devoted to the craft of teaching, the course considers all major facets of academic teaching practices (lectures, tutorials, discussion, syllabi, advising, grading, etc.).
Note: Required of all third year music department graduate students. This course must be taken Sat/Unsat.

Music 261r. Composition: Seminar
Catalog Number: 3326
Richard Burkhardt (spring term) and Chaya Czernowin (fall term)
Half course (fall term; repeated spring term). Hours to be arranged.
For first and second year graduate students prepared for work in original composition.

Music 262r. Composition: Seminar
Catalog Number: 4457
Chaya Czernowin
Half course (fall term; repeated spring term). Hours to be arranged.
For second year and advanced graduate students prepared for work in original composition.

[Music 263r. Intimate Sound Installations]
Catalog Number: 92848
Hans Tutschku
Half course (fall term). Tu., 1–4. EXAM GROUP: 15, 16, 17
Intimate Sound Installations. The course is designed for Music and VES students to explore sound installations as intimate and private listening experiences. Students will build and compose their works and change the Sert Gallery Cafe at the Carpenter Center into an acoustic search-space.
Note: Expected to be given in 2014–15.

Music 264r. Electronic Music Composition: Seminar
Catalog Number: 1939
Aaron Michael Einbond
Half course (spring term). M., 2–4.
Timbre and Technology. Electronic composition focusing on analysis and control of timbre in live and recorded sound. Student projects could include live interaction with MaxMSP for instrument(s) and electronics, or fixed electronics, or computer-assisted composition, to be performed at the end of the term

if appropriate.
Prerequisite: Previous knowledge of MaxMSP or permission of the instructor.

[Music 264rs. Electronic Music: Composition]
Catalog Number: 3357
Instructor to be determined
Half course (spring term). Tu., 2–4.
Note: Expected to be given in 2014–15.

[Music 265r. Orchestration]
Catalog Number: 2379 Enrollment: Limited to 8.
Instructor to be determined
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
Note: Expected to be given in 2014–15. Open to composition graduate students or with permission of instructor.

Music 270r. Special Topics
Catalog Number: 3727
Instructor to be determined
Half course (fall term). W., 10–12.
Critical analysis. This course analyzes selected postwar and contemporary compositions -- sometimes in dialogue with earlier works -- focusing on topics including duration, repetition and canon; historical and stylistic referentiality; questions of performability; and the limits of analysis itself.

[Music 271r. Fromm Seminar in Composition]
Catalog Number: 1311
Instructor to be determined
Half course (fall term). Hours to be arranged.
Note: Expected to be given in 2014–15.

[Music 272r. Special Topics]
Catalog Number: 2059
Chaya Czernowin
Half course (spring term). M., 10–12. EXAM GROUP: 3, 4
Critical Analysis.
Note: Expected to be given in 2014–15.

Music 295r. California in the ’60s (Graduate Seminar in General Education)
Catalog Number: 77487
Kate van Orden
Half course (fall term). Th., 1–3.
California in the ’60s This seminar will design and prep an undergraduate course for non-concentrators on music in California during the "long" sixties, from 1964-71. Principal themes will include youth, culture and the counter-culture politics of black power, women’s liberation, and psychedelia; music includes surf rock, folk rock, acid rock, and singer-songwriters; artists include the Beach Boys, The Doors, Jefferson Airplane, Sly Stone, The Byrds and Joni Mitchell.
Note: The seminar will design and develop a General Education course on these themes for undergraduates.

Graduate Courses of Reading and Research

***Music 300. Reading and Research for Advanced Students**
Catalog Number: 2504
Carolyn Abbate 5304, Richard Beaudoin 6255, Suzannah Clark 5718, Chaya Czernowin 6714, Christopher Hasty 4445 (on leave spring term), Jill Johnson 2033, Thomas Forrest Kelly 1324, Robert D. Levin 3482 (on leave 2013-14), Ingrid Monson 1591, Carol J. Oja 4599, Alexander Rehding 4651, Sindhumathi Revuluri 5846, Kay Kaufman Shelemay 3483, Anne C. Shreffler 4656, Hans Tutschku 5147 (on leave 2013-14) (fall term only), Richard K. Wolf 1386, and Kate van Orden 7120
Individual work on specific topics not included in the announced course offerings.

***Music 301. Reading and Research**
Catalog Number: 6543
Carolyn Abbate 5304, Suzannah Clark 5718, Christopher Hasty 4445 (on leave spring term), Thomas Forrest Kelly 1324, Ingrid Monson 1591, Carol J. Oja 4599, Alexander Rehding 4651, Sindhumathi Revuluri 5846, Kay Kaufman Shelemay 3483, Anne C. Shreffler 4656, Hans Tutschku 5147 (on leave 2013-14), Richard K. Wolf 1386, and Kate van Orden 7120
Individual work in preparation for the General Examination for the PhD degree.
Note: May not be counted toward course requirements for the PhD degree.

***Music 309. Doctoral Colloquium**
Catalog Number: 2260
Richard K. Wolf 1386
Half course (spring term). Hours to be arranged.

***Music 310. Direction of Doctoral Dissertations**
Catalog Number: 1819
Carolyn Abbate 5304, Suzannah Clark 5718, Chaya Czernowin 6714, Christopher Hasty 4445 (on leave spring term), Thomas Forrest Kelly 1324, Robert D. Levin 3482 (on leave 2013-14), Ingrid Monson 1591, Carol J. Oja 4599, Alexander Rehding 4651, Sindhumathi Revuluri 5846, Kay Kaufman Shelemay 3483, Anne C. Shreffler 4656, Hans Tutschku 5147 (on leave 2013-14), Richard K. Wolf 1386, and Kate van Orden 7120
Note: May not be counted toward course requirements for the PhD degree.

Near Eastern Languages and Civilizations

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Near Eastern Languages and Civilizations

Shaye J.D. Cohen, Nathan Littauer Professor of Hebrew Literature and Philosophy *(Chair)*
Dalia Abo Haggar, Preceptor in Arabic
Irit Aharony, Senior Preceptor in Modern Hebrew
M. Shahab Ahmed, Associate Professor of Islamic Studies

Sami Mohmoud Alkyam, Preceptor in Arabic
Ali S. Asani, Professor of Indo-Muslim and Islamic Religion and Cultures *(on leave fall term)*
Gojko Barjamovic, Lecturer on Near Eastern Languages and Civilizations
Nour Barmada abida, Preceptor in Arabic
Khaled El-Rouayheb, Professor of Islamic Intellectual History *(Director of Undergraduate Studies)*
John L. Ellison, Lecturer on Near Eastern Languages and Civilizations
R. Michael Feener, Prince Alwaleed bin Talal Visiting Associate Professor of Islamic Studies
William Albert Graham, Murray A. Albertson Professor of Middle Eastern Studies, Harvard University Distinguished Service Professor
William E. Granara, Professor of the Practice of Arabic on the Gordon Gray Endowment, and Director of the Center for Middle Eastern Studies
Rachel L. Greenblatt, Associate Professor of Near Eastern Languages and Civilizations
Jay M. Harris, Harry Austryn Wolfson Professor of Jewish Studies and Dean of Undergraduate Education
Wolfhart P. Heinrichs, James Richard Jewett Professor of Arabic
Feryal Hijazi, Preceptor in Arabic
Susan M. Kahn, Lecturer on Near Eastern Languages and Civilizations
Ousmane Kane, Professor of Near Eastern Languages and Civilizations *(FAS)*, Prince Alwaleed Bin Talal Professor of Contemporary Islamic Religion and Society *(Divinity School)*
Eitan Lev Kensky, Preceptor in Yiddish, Lecturer on Near Eastern Languages and Civilizations
Chad Kia, Lecturer on Persian Literature and Culture
Nevenka Korica, Senior Preceptor in Arabic
Luke Anthony Leafgren, Lecturer on Near Eastern Languages and Civilizations
Peter Machinist, Hancock Professor of Hebrew and Other Oriental Languages *(on leave 2013-14)*
Hisham Mahmoud, Preceptor in Modern Arabic
Peter Der Manuelian, Philip J. King Professor of Egyptology *(on leave spring term)*
Daniel Reza Rafinejad, Preceptor in Persian
James R. Russell, Mashtots Professor of Armenian Studies
Richard J. Saley, Lecturer on Near Eastern Languages and Civilizations
P. Oktor Skjaervo, Aga Khan Professor of Iranian *(on leave spring term)*
Piotr Steinkeller, Professor of Assyriology *(Director of Graduate Studies)*
Himmet Taskomur, Preceptor in Ottoman and Modern Turkish
Ruth R. Wisse, Martin Peretz Professor of Yiddish Literature and Professor of Comparative Literature
Malika Zeghal, Prince Alwaleed Bin Talal Professor in Contemporary Islamic Thought and Life *(on leave 2013-14)*

Other Faculty Offering Instruction in the Department of Near Eastern Languages and Civilizations

Michael D. Coogan, Visiting Lecturer on Old Testament/Hebrew Bible *(Divinity School)*
Baber Johansen, Professor of Islamic Religious Studies *(Divinity School)*
Cemal Kafadar, Vehbi Koc Professor of Turkish Studies
Jon D. Levenson, Albert A. List Professor of Jewish Studies *(Divinity School)*
Roy Mottahedeh, Gurney Professor of History *(on leave spring term)*
Bernd Ulrich Schipper, Visiting Fellow *(Divinity School)*
D. Andrew Teeter, Associate Professor of Hebrew Bible/Old Testament *(Divinity School)*
Jacquelyn Williamson, Visiting Lecturer on Women's Studies and Near Eastern Studies *(Divinity School)*

Affiliates of the Department of Near Eastern Languages and Civilizations

The Department of Near Eastern Languages and Civilizations introduces students to the ancient and modern peoples, languages, cultures, and societies of the Near and Middle East. Loosely defined as

stretching from Morocco in the west to Iran and Afghanistan in the east, the region is home of the world's great religions and civilizations. Historically, the influence of its languages, literatures and cultures has extended to Central, East and Southeast Asia, sub-saharan Africa, Europe and North America. Thus, the study of the Near and Middle East is an important area of academic inquiry on account of its political, economic and cultural significance on the international stage.

Given the diversity of the course offerings, the catalog chapter is organized in the following categories, but many courses touch on more than one area. For example, one will find courses about the Bible under 'The Middle East in Antiquity', 'Jewish Studies', and also 'Hebrew Literature and History'. The chapter categories are as follows:

Near Eastern Civilizations - tutorials for undergraduates, and directed study for graduate students
The Middle East in Antiquity - Ancient Near Eastern and Biblical Studies; Armenian Studies
Histories and Cultures of Muslim Societies - Islamic Civilizations
Jewish Studies
Modern Middle Eastern Studies - The Modern Middle East
Languages and Literatures - Akkadian; Arabic; Aramaic; Armenian; Egyptian; Hebrew Language (Classical and Modern); Hebrew Literature and History; Iranian; Persian; Semitic Philology; Sumerian; Turkish; Yiddish

Near and Middle Eastern Civilizations

Near Eastern Civilizations

Primarily for Undergraduates

***Near Eastern Civilizations 91r. Supervised Reading and Research**
Catalog Number: 1132
Khaled El-Rouayheb and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Tutorial supervision of research in subjects not treated in regular courses.

***Near Eastern Civilizations 97r. Group Tutorial—Sophomore Year**
Catalog Number: 0167
James R. Russell and members of the Department
Half course (spring term). M., 3:30–5:30.
An introduction to the cultures and literatures of the Near East in ancient, classical, and modern times, emphasizing major themes and problems that cut across individual cultures and historical periods.

***Near Eastern Civilizations 98r. Tutorial — Junior Year**
Catalog Number: 2612
Khaled El-Rouayheb and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Designed for juniors concentrating in Near Eastern Languages and Civilizations.

***Near Eastern Civilizations 99r. Tutorial — Senior Year**
Catalog Number: 6623
Khaled El-Rouayheb and members of the Department
Full course. Hours to be arranged.
Note: Designed for seniors concentrating in Near Eastern Languages and Civilizations.

Cross-listed courses

Aesthetic and Interpretive Understanding 54 (formerly Culture and Belief 12). For the Love of God and His Prophet: Religion, Literature, and the Arts in Muslim Cultures

Graduate Courses of Reading and Research

***Near Eastern Civilizations 300. Direction of Master's Thesis**
Catalog Number: 2448
Ali S. Asani 7739 (on leave fall term), William E. Granara 1054, Susan M. Kahn 4833, Chad Kia 2852, Jon D. Levenson (Divinity School) 2264, Peter Der Manuelian 4279 (on leave spring term), Roy Mottahedeh 1454 (on leave spring term), James R. Russell 3411, and Malika Zeghal 6744 (on leave 2013-14)

***Near Eastern Civilizations 390. Direction of Doctoral Dissertations**
Catalog Number: 3041
Ali S. Asani 7739 (on leave fall term), Shaye J.D. Cohen 4180, William Albert Graham 4156, William E. Granara 1054, Jay M. Harris 2266, Jon D. Levenson (Divinity School) 2264, Peter Machinist 2812 (on leave 2013-14), Peter Der Manuelian 4279 (on leave spring term), James R. Russell 3411, P. Oktor Skjaervo 2869 (on leave spring term), Piotr Steinkeller 7337, Ruth R. Wisse 3177, and Malika Zeghal 6744 (on leave 2013-14)

The Middle East in Antiquity

Ancient Near Eastern and Biblical Studies

See also below under Akkadian and Sumerian, Aramaic, Hebrew, and Semitic Philology.

Primarily for Undergraduates

Cross-listed Courses

[Culture and Belief 13. The Contested Bible: The Sacred-Secular Dance]
Culture and Belief 23 (formerly Literature and Arts C-70). From the Hebrew Bible to Judaism, From the Old Testament to Christianity
[Culture and Belief 48 (formerly Literature and Arts A-70). God, Justice, and the Book of Job]
[Societies of the World 38. Pyramid Schemes: The Archaeological History of Ancient Egypt]

For Undergraduates and Graduates

[Ancient Near East 100. History of the Ancient Near East]
Catalog Number: 0702
Gojko Barjamovic
Half course (fall term). M., W., at 2. EXAM GROUP: 7
This course provides an overview of the history of the ancient Near East, with a focus on ancient Mesopotamia. It begins with the advent of writing in the late fourth millennium BCE and ends with the fall of Babylon to Cyrus the Great, in 539 BCE. The course combines archaeological, art historical, and textual data to explore the extraordinarily rich history of this region.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1115.

[Ancient Near East 102. Introduction to Mesopotamian Religion]
Catalog Number: 0486
Piotr Steinkeller
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
A survey of the history and major concerns of ancient Mesopotamian religion from prehistoric times down to the reign of Alexander the Great. Among the topics treated are the key figures of the Sumero-Babylonian pantheon, the major mythological compositions (read in translation), personal religion, cosmogonies and theogonies, magic and divination, Mesopotamian temples, and cult and ritual. The course makes rich use of ancient iconography.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3661.

Ancient Near East 103. Ancient Lives - *(New Course)*
Catalog Number: 65695
Gojko Barjamovic
Half course (spring term). Tu., Th., at 11, plus one hour to be arranged. EXAM GROUP: 13
This course will present and question a number of fundamental elements of human society, using themes from ancient history to explore ways of thinking about civilization and culture. Our focus is the earliest human 'civilization' - Mesopotamia c. 3400-100 BC - which corresponds to parts of modern-day Iraq, Iran, Turkey and Syria. Particular to the study of this early period of human history is the fact that writing was first developed here in the form of cuneiform inscriptions on clay. Because clay survives well in the ground, ancient Mesopotamia is one of the most densely documented historical periods prior to early modern times. Also, unlike, say, Greek and Roman manuscripts, which mostly exist as copies that have been passed down through tradition, virtually all of sources for the ancient Near East survive directly as documentary records that have remained in the ground since their time of use. This includes peoples' private letters, grocery lists, medical bills, philosophical treaties, school essays, proverbs, and virtually any other imaginable textual genre. The wealth, scope and incredible chronological extent of the Mesopotamian sources allow us to raise a number of fundamental questions about what it means to be human. What is nature and what is culture? What are the roots of economy and the concept of private ownership? Why do we need belief systems (religion, philosophy, etc.) and how do these develop? Is the concept of love universal? How about childhood? Race? Gender? - What is universal and what is context-specific? How is our current situation a product of the past? How did ancient societies perceive themselves and the world that surrounded them? What are the key foundations for our current condition, and what can we learn from ancient societies?

[Ancient Near East 111. Law in the World of the Bible]
Catalog Number: 6397
Peter Machinist
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
An examination of what law was and how it operated in ancient Israel through its primary expression in the Hebrew Bible. Attention to the wider contexts of law in the ancient Near East, especially Mesopotamia, in which biblical law originated, and to the legacy of biblical law in the subsequent traditions of early Judaism.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1129.

Ancient Near East 120a. Introduction to the Hebrew Bible/Old Testament 1: Pentateuch and Former Prophets
Catalog Number: 6544
D. Andrew Teeter (Divinity School)
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
A critical introduction to the literature and theology of the Hebrew Bible, considered in light of the

historical contexts of its formation and the interpretive contexts of its reception within Judaism and Christianity. The course, the first part of a divisible, year-long sequence, will focus on the major biblical narrative traditions, the Pentateuch and Former Prophets.
Note: Offered jointly with the Divinity School as 1102.

Ancient Near East 120b. Introduction to the Hebrew Bible/Old Testament 2: Latter Prophets and Writings
Catalog Number: 22968
D. Andrew Teeter (Divinity School)
Half course (spring term). Tu., Th., at 10-11:30, and a section to be arranged. EXAM GROUP: 12, 13
A critical introduction to the literature and theology of the Hebrew Bible, considered in light of the historical contexts of its formation and the interpretive contexts of its reception within Judaism and Christianity. The course, the second part of a divisible, year-long sequence, will focus on the Latter Prophets and the Writings.
Note: Offered jointly with the Divinity School as 1103.

Ancient Near East 121. 'Wisdom and Torah' in the Book of Proverbs: An Interpretation of Proverbs 1-9 and 28-31 - *(New Course)
Catalog Number: 57085 Enrollment: Limited to 15.
Bernd Ulrich Schipper (Divinity School)
Half course (spring term). M., 12–2. EXAM GROUP: 5, 6
In the past, scholars have declared Israelite wisdom to be something "alien" within the Hebrew Bible. The book of Proverbs seemed to have little connection to the main theological traditions of Biblical Israel. This course presents a new approach to the book of Proverbs, with special attention to the interplay between 'Wisdom' and 'Torah.' On the basis of a detailed exegesis of (the Hebrew text of) Proverbs 1-9 and 28-31 the relationship of Proverbs to the 'Torah'-tradition, especially to the book of Deuteronomy, will be investigated, with consideration as well for its consequences for the composition of the book of Proverbs.
Note: Offered jointly with the Divinity School as 1454.
Prerequisite: Introductory Hebrew.

[Ancient Near East 126. History of the Religion of Ancient Israel]
Catalog Number: 1672
Peter Machinist
Half course (spring term). Hours to be arranged.
The study of ancient Israelite religion and culture in comparative historical context. Topics examined include conceptions of divinity, prophecy, law, kingship, and cult. Through such topics the aim is to see how Israel related to other cultures of the ancient Near East and, thus, of what value the study of the other cultures has in understanding the character of Israelite religion itself.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1110.

Ancient Near East 128. Ancient Egypt and the Hebrew Bible/Old Testament - *(New Course)*
Catalog Number: 28008
Bernd Schipper (Divinity School)
Half course (fall term). Tu., 12–2. EXAM GROUP: 14, 15
The quest for the cultural influence of Pharaonic Egypt on the Hebrew Bible is as old as scholarly interest in the Bible itself. Starting with ancient historians such as Herodotus or Diodorus, and extending from the Renaissance era up to the present, scholars have been searching for traces of Egypt in the literature of the Hebrew Bible. This lecture course begins with a brief overview of cultural contacts, investigating the connections between various pieces of literature such as Psalm 104 and the Egyptian Hymn to Aten,

Proverbs 22-24 and the Instruction of Amenemope, as well as less well-known literature like Psalm 20 and an Aramaic-Demotic Papyri from Ptolemaic Egypt, or the 'Apocalyptic' Prophecy of the Potter and the Oracle on Egypt in Isaiah 19.
Note: Offered jointly with the Divinity School as 1122.

Ancient Near East 131. Readings in the Septuagint
Catalog Number: 3661
Richard J. Saley
Half course (fall term). Tu., Th., at 12. EXAM GROUP: 14
This course aims to increase facility with Septuagint Greek by reading representative prose portions of the Septuagint and studying the peculiarities of the grammar inductively. The basics of Hellenistic Greek will be reviewed as necessary.
Note: Offered jointly with the Divinity School as 4215.
Prerequisite: One year of Greek.

[Ancient Near East 132. Ancient Jewish Wisdom Literature]
Catalog Number: 9522
Jon D. Levenson (Divinity School)
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
A close critical reading and interpretation of works thought to derive from the Wisdom tradition of ancient Israel, through the Second Temple period. The workings of the world and the ways of God as they appear in works such as Proverbs, Job, Qohelet, Ben Sira, some Psalms, the Wisdom of Solomon, Fourth Maccabees, and Pseudo-Phocylides as well as narratives such as the Joseph story, Esther, and Daniel. Egyptian and Mesopotamian antecedents and parallels briefly considered. Emphasis on matters of worldview and literary form.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1416.
Prerequisite: Ancient Near East 120 or an equivalent introduction to the historical-critical study of the Hebrew Bible.

[Ancient Near East 134. Genesis: Narrative Artistry and Theological Meanings]
Catalog Number: 3291
Jon D. Levenson (Divinity School)
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
A close critical reading in English of the book of Genesis with an eye both to the storytellers' techniques and to the moral and theological dimensions of the text. Emphasis will be given to literary and religious rather than historical and editorial issues.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1417.
Prerequisite: Ancient Near East 120 or an equivalent introduction to the historical-critical study of the Hebrew Bible.

[Ancient Near East 155r. Ancient Mesopotamia: Archaeology and Texts]
Catalog Number: 11874
Piotr Steinkeller and Jason A. Ur
Half course (spring term). Hours to be arranged.
Ancient Mesopotamia was the world's first literate urban civilization. This class will examine the origins and evolution of cities, temples, and government from two complementary perspectives: the archaeological record and cuneiform inscriptions in translation. Activities will include visits to museum collections (Peabody, Semitic Museum, Boston MFA), hands-on experience with creating cuneiform tablets, and virtual tours of southern Iraq using satellite imagery.
Note: Expected to be given in 2014–15.

[Ancient Near East 165. The Chosen People]
Catalog Number: 16825
Michael D. Coogan (Divinity School)
Half course (fall term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
A consideration of the concept of the biblical motif of divine choice of individuals and groups, with close reading of representative texts in the Hebrew Bible/Old Testament. Knowledge of Hebrew not required.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1120.
Prerequisite: Introduction to Hebrew Bible/Old Testament or the equivalent.

Cross-listed Courses

Primarily for Graduates

[Ancient Near East 210. Textual Criticism of the Hebrew Bible: Seminar]
Catalog Number: 5492
Richard J. Saley
Half course (fall term). Tu., 3–6. EXAM GROUP: 17, 18
This course focuses on the art of recovering the text of the Hebrew Bible using Hebrew and Greek manuscripts as well as other early textual witnesses.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1819.
Prerequisite: At least two years of Hebrew and one year of Greek; some knowledge of Aramaic, Latin, and Syriac is helpful but not required.

[Ancient Near East 225. The Greek Bible in History and Theology: Seminar]
Catalog Number: 2475
D. Andrew Teeter (Divinity School)
Half course (spring term). Tu., 4–6. EXAM GROUP: 18
An exploration of social, historical, interpretive, and theological issues associated with the so-called Septuagint and its complex relationship to early Judaism and Christianity. Emphases include origins, eschatology, messianism, halakhah, New Testament backgrounds, and biblical theology.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1301.
Prerequisite: Basic reading knowledge of Greek and Hebrew.

Graduate Courses of Reading and Research

***Ancient Near East 310. Reading and Research in Ancient Near Eastern Archaeology**
Catalog Number: 4264
Members of the Department

***Ancient Near East 320. Reading and Research in Ancient Mesopotamian Civilization**
Catalog Number: 5678
Peter Machinist 2812 (on leave 2013-14) and Piotr Steinkeller 7337

***Ancient Near East 330. Reading and Research in Biblical Studies**
Catalog Number: 1524
Jon D. Levenson (Divinity School) 2264, Peter Machinist 2812 (on leave 2013-14), and D. Andrew Teeter (Divinity School) 6111

Armenian Studies

See also below under Armenian.

For Undergraduates and Graduates

[Armenian Studies 100. Armenian Epic]
Catalog Number: 2576
James R. Russell
Half course (spring term). Hours to be arranged.
Reading in translation of *The Wild Men of Sasun,* with analysis of native historical and mythological sources, and thematic comparison to epic poetry of the neighboring Iranians (Ossetic *Narts,* Persian *Shah-nameh,* Kurdish epic songs), Turks (*Dede Korkut*), and Greeks (*Digenes Akrites*).
Note: Expected to be given in 2014–15.

Armenian Studies 102. Introduction to Armenian Civilization
Catalog Number: 50965
James R. Russell
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
A survey of the history and culture of the Armenian people from earliest times to the Genocide and Soviet era.
Note: This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

Armenian Studies 105. Survey of 19th and 20th Century Armenian Poetry: From Romantics to Revolutionaries
Catalog Number: 3496
James R. Russell
Half course (fall term). W., 3:30–5:30. EXAM GROUP: 8, 9
A survey of the great innovators and visionaries: Bedros Tourian, Misak Medzarents, Yeghia Demirjibashian, Daniel Varouzhan, Siamanto, Vahan Teryan, Yeghishe Charents, and their English, Russian, and French colleagues and translators. The course spans the fateful epoch from the mid-19th century to the aftermath of the Russian Revolution.
Note: Knowledge of Armenian preferred but not required.

Graduate Courses of Reading and Research

***Armenian Studies 300. Reading and Research in Armenian Studies**
Catalog Number: 1740
James R. Russell 3411

Early Iranian Civilizations

For Undergraduates and Graduates

See also below under Arabic, Aramaic, and Iranian.

Primarily for Graduates

Iranian 282a. Ancient Iranian Religions: Zoroastrianism - *(New Course)*
Catalog Number: 22326
James R. Russell
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9

An introduction to the teachings of the Prophet Zarathushtra and the beliefs and practices of his followers, from the Achaemenid Persians, Parthian Arsacids, and Persian Sasanians to the Parsis of India, based on translated primary sources and secondary researches.

Histories and Cultures of Muslim Societies

See also below under Arabic, Persian, and Turkish. Refer also to the Urdu section of the Department of South Asian Studies.

Islamic Civilizations

Primarily for Undergraduates

Cross-listed Courses

Aesthetic and Interpretive Understanding 54 (formerly Culture and Belief 12). For the Love of God and His Prophet: Religion, Literature, and the Arts in Muslim Cultures
[Culture and Belief 19 (formerly Foreign Cultures 70). Understanding Islam and Contemporary Muslim Societies]
[Culture and Belief 41 (formerly Historical Study A-67). Gender, Islam, and Nation in the Middle East and North Africa]
Religion 13. Scriptures and Classics - *(New Course)*
***Religion 20. Ethnographies of Religion, Texts and Contexts**
Religion 1806. The Vocabulary of Islam

For Undergraduates and Graduates

Islamic Civilizations 100. Supervised Reading and Research in Islamic Studies
Catalog Number: 94225
Khaled El-Rouayheb (fall term) and Ali S. Asani (spring term) and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
A course of supervised research in subjects related to the study of Islam and Muslim societies not treated in regular courses.

[Islamic Civilizations 103. Orientalism: Old and New Perspectives]
Catalog Number: 13124
Malika Zeghal
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
This course will look at the texts that inspired Said's perspective in his 1978 book "Orientalism", in particular Foucault's "Archeology of Knowledge" and "Discipline and Punish", and at the debates that have ensued within many disciplines such as history, sociology and cultural studies.
Note: Expected to be given in 2014–15. Offered jointly with Divinity School as HDS 3358.

Islamic Civilizations 130. Islamization and Vernacularization: Religious and Cultural Dynamics in the History of Muslim Southeast Asia - *(New Course)*
Catalog Number: 77408
R. Michael Feener
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
From its origins in Arabia, Islam has expanded across the globe and taken deep root in diverse societies across Asia and Africa over the past 1,400 years. This course explores the cultural and political dynamics

of Islamization and vernacularization as themes of global Islamic history with particular reference to developments in Muslim Southeast Asia. Major topics to be covered include the spread of Islam, the development of vernacular Muslim cultures, the rise of regional sultanates, the impact of European colonialism, and modern reformist critiques of vernacular forms of devotional practice and cultural expression.
Note: No previous background in Islamic Studies or Arabic language is required for this course. Offered jointly with the Divinity School as 3020.

[Islamic Civilizations 145a. Introduction to Islamic Philosophy and Theology: The Formative and Classical Periods (8th to 15th centuries)]
Catalog Number: 0292
Khaled El-Rouayheb
Half course (fall term). Th., 3-5, and a weekly section to be arranged. EXAM GROUP: 17, 18
An introductory survey of the development of Islamic theology and philosophy. We will examine and discuss some of the central problems that were much debated through the centuries, such as: the relationship between philosophy and faith; whether humans possess free will; how to understand apparently anthropomorphic expressions in Scripture; whether acts are good because God commands them or God commands them because they are good; and proofs for the existence of God.
Note: Expected to be given in 2014–15. Offered alternate years with Islamic Civilizations 145b. Though the two courses can be taken in either order, 145a covers the 8th-15th centuries and 145b covers the 16th-20th centuries. Offered jointly with the Divinity School as 3602.

Islamic Civilizations 145b. Introduction to Islamic Philosophy and Theology: The Early-Modern and Modern Periods (16th to 20th centuries) - *(New Course)*
Catalog Number: 12106
Khaled El-Rouayheb
Half course (fall term). Th., 3–5, and a weekly section to be arranged. EXAM GROUP: 17, 18
The course is a continuation of Islamic Civilizations 145a but may be taken independently. It explores the thought of some of the major Islamic philosophers and theologians from the 16th century to the 20th: Mulla Sadra (d.1635), Shah Waliullah (d.1762), Muhammad Abduh (d.1905), and 20th century thinkers such as Muhammad Iqbal, Said Nursi, Abu l-Ala Maududi, Ali Shariati, Muhammad Baqir al-Sadr, Mohammed Arkoun and Fatema Mernissi.
Note: Expected to be omitted in 2014–15. Offered alternate years with Islamic Civilizations 145a. Though the two courses can be taken in either order, 145a covers the 8th-15th centuries and 145b covers the 16th-20th centuries. Offered jointly with the Divinity School as 3602b.

Islamic Civilizations 170. Islam, Modernity and Politics
Catalog Number: 55905 Enrollment: Limited to 18.
Ousmane Oumar Kane
Half course (fall term). F., 2–4. EXAM GROUP: 7, 8
The aim of this seminar is to study the evolution of Islamic thought and political practices in Muslim societies from the 19th to the early 21st centuries. Attention will be devoted to the patterns of interaction between the Muslim World and the West because it is our assumption that these patterns contribute to influence ideological formations and modes of religious/political mobilizations in the Muslim World. By the end of the 18th century, much of the Muslim World was in "decline" whereas European imperial powers, mainly France and Great Britain, were on the rise. The course will explore the response of Muslim societies and intellectuals to the rise of European prominence. The major 19th century reformist movements that appeared in the Muslim World will be discussed, ranging from movements advocating mild reform to those rejecting all influence of "Western civilization" and advocating a return to the Tradition of Muhammad. In the 20th century, virtually all the Muslim World came under European

colonial domination. During colonial rule and after, the Muslim world experienced major transformations which affected the nature and administration of law, politics and society. It is in this context, that the new Islamic revival that some have called "Islamism" was articulated as an alternative to Westernization. The course will address the rise of contemporary "Islamism," as an alternative to Western domination and modernization/Westernization. The major theorists of political Islam as well as the different trajectories of "Islamism" in diverse Muslim societies will be covered. The impact of political Islam in the West will also be addressed. The final part of the course will assess the trajectories of political Islam and address the ongoing debates on post-Islamism, secularism and modernity.
Note: Offered jointly with the Divinity School as 3368.

Islamic Civilizations 175. Islam in African History
Catalog Number: 15502 Enrollment: Limited to 30.
Ousmane Oumar Kane
Half course (spring term). Tu., Th., at 1. EXAM GROUP: 15
As of 2009 according to the Pew Charitable Trust Survey of the Global Muslim population, 241 million Muslims lived south of the Sahara. This is about 15 percent of the Muslim global population. The course is designed to provide an understanding of the spread of Islam and the formation and transformation of Muslim societies in Sub-Saharan Africa. The course is organized in two parts. The first part of the course will focus on the history of Islamization of Africa, and topics will include the ways in which Islam came to Africa, the relationships of Islam to trade, the growth of literary in Arabic and Ajami, the rise of clerical classes and their contribution to State formation in the pre-colonial period. The second part of the course will address Muslim responses to European colonial domination, and the varieties of Islamic expressions in the post-independence period (rise of Islamist, Shiite and Salafi jihadi movements) and Muslim globalization. In addition to the lectures, the course will include film showing and two discussion sections: one in English and one in Arabic.
Note: Offered jointly with the Divinity School as 3365.

Islamic Civilizations 176. Islam in Modern West Africa - *(New Course)*
Catalog Number: 59889 Enrollment: Limited to 30.
Ousmane Kane (Divinity School)
Half course (fall term). Tu., Th., at 1, plus one hour to be arranged. EXAM GROUP: 15
At the beginning of European colonial rule in the early 20th century, less than a half of the West African population was Muslim. By independence from European colonial rule in the early 1960s, close to 90 percent of many West African countries have been Islamized. More people converted to Islam during the six decades of European colonial rule than in the preceding thousand years of slow Islamization. The aim of this lecture course is to analyze contemporary West African Muslim societies with particular reference to the 20th and 21st centuries. This course will look at how colonialism created a favorable ground for the spread of Islam. It will also address the main institutions and movements of modern Islam in West Africa as well as the postcolonial transformations in education, gender, the arts, interfaith relations etc. In addition to the discussion section in English, this lecture course will also offer a section in Arabic in which participants will be initiated to the intellectual production of Muslim intellectuals in Africa.
Note: Jointly offered with the Divinity School as 3366.

Islamic Civilizations 177. Readings in the Islamic Archive of Africa - *(New Course)
Catalog Number: 87547 Enrollment: Limited to 18.
Ousmane Kane (Divinity School)
Half course (spring term). F., 2–4. EXAM GROUP: 7, 8
The majority of Arabs live in Africa, and Arabic is by far the most spoken Africa language. Yet in the academic division of labor, North Africa has been excised from the rest of Africa on the assumption that the Sahara has historically been a barrier separating Arabs from other Africans. Prior to the rise of

Western hegemony, North African Arabs have maintained close ties with Saharan and Sub-Saharan Africans through religion, trade, war and diplomacy. This long history is documented by an abundant archive in Arabic language or African language in the Arabic script. Drawing from theories of knowledge and primary sources in Arabic, this seminar introduces participants to a critical study of Islamic intellectual history in Africa. It addresses critically notions like knowledge, higher learning, history, book, author, archive, orality, audiences, memory, discursive space, library, that require an adequate contextualizing to read authors of past centuries and use their writing for the study of social and intellectual history. Participants will examine how knowledge was produced, reproduced and transmitted in Muslim societies of Africa.
Note: Jointly offered with the Divinity School as 3369.
Prerequisite: Reading proficiency in Arabic.

[Islamic Civilizations 180. Contemporary Islam: Texts and Contexts]
Catalog Number: 28231
Malika Zeghal
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
The course will examine ten important works in the social sciences and humanities on contemporary Islam published from the 1960s to the present day. We will pay attention to the contexts in which they were published and will analyze the conceptual assumptions that are at the foundation of these works.
Note: Expected to be given in 2014–15.

[Islamic Civilizations 183. Reform and Revival in Modern Islam, 19th -20th centuries]
Catalog Number: 15829
Malika Zeghal
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
This course will shed light on the historical transformation of the internal religious reforms of Islam in the 18th and 19th century into politicized and/or fundamentalist versions of Islam in the 20th century.
Note: Expected to be given in 2014–15. Offered jointly with Divinity School as HDS 3362.

[Islamic Civilizations 185. Ulama, Religious Institutions, and Islamic Education in the Middle East]
Catalog Number: 73552
Malika Zeghal
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Examines the recent historiography and sociology of religious education and religious scholars (’ulama) in the Muslim world. (19th-20th centuries).
Note: Expected to be given in 2014–15.

Cross-listed Courses

History 1878b. Ottoman State and Society II (1550-1920)
[*History 1977a (formerly *History 1877a). History of the Near East, 600-1055: Conference Course]
[History of Art and Architecture 128. Topics in Arabic Art and Culture: The Medieval Mediterranean]
[History of Science 108. Bodies, Sexualities, and Medicine in the Medieval Middle East]
[History of Science 111. Two Scientific Revolutions: From the Classical Age of Islamic Sciences to the Scientific World of Early Modern Europe]
[History of Science 113. Crusades, Plagues and Hospitals: Medicine and Society in the Islamic Middle Ages]
Religion 1810. Reading the Qur’an

Religion 1816. Ismaili History and Thought
[Religion 1832. Political Islam in the 20th and 21st Centuries]

Primarily for Graduates

Islamic Civilizations 205ar. The Satanic Verses Problem in History I
Catalog Number: 0273
M. Shahab Ahmed
Half course (fall term). Tu., 4–6:45. EXAM GROUP: 18
Wide-ranging introduction to the Islamic intellectual tradition through primary source readings from the debate over the Satanic verses incident conducted in the discourses of *sirah-maghazi*, *tafsir*, Hadith, *'ilm al-kalam*, *usul al-fiqh*, Sufism, inter-sectarian polemic, inter-religious polemic, etc., from the 7th century to today.
Note: Not open to auditors. Course may not be taken pass-fail. Jointly offered with the Divinity School as 3596.
Prerequisite: Advanced Reading Proficiency in Arabic.

Islamic Civilizations 205br. The Satanic Verses Problem in History II
Catalog Number: 9511
M. Shahab Ahmed
Half course (spring term). Tu., 4–6:45. EXAM GROUP: 18
Wide-ranging introduction to the Islamic intellectual tradition through primary source readings from the debate over the Satanic verses incident conducted in the discourses of *sirah-maghazi*, *tafsir*, Hadith, *'ilm al-kalam*, *usul al-fiqh*, Sufism, inter-sectarian polemic, inter-religious polemic, etc, from the 7th century to today.
Note: Not open to auditors. Course may not be taken pass-fail. Jointly offered with the Divinity School as 3597.
Prerequisite: Advanced Reading Proficiency in Arabic and Islamic Civilizations 205ar.

[Islamic Civilizations 220. The Social and Cultural Lives of Islamic Law]
Catalog Number: 82565
M. Shahab Ahmed
Half course (fall term). W., 7–9 p.m. EXAM GROUP: 9
This course seeks to understand Islamic law as a part of the larger cultural life of Muslim society. We will take as an exemplary case-study the most powerful Muslim society in history: namely, Ottoman society in the 16th and 17th centuries. Two prominent heresy trials (one of a professor of philosophical theology, the other of a madrasah-graduate turned business tycoon) will be studied as the means to open up the question of the relationship of Islamic law to social and cultural norms at large. The course will examine the Ottoman-Muslim understanding of the relationship of the law to intellectual discourses such as philosophy and Sufism that subordinated the law to their respective cosmologies, as well its relationship to social practices such as wine-drinking and figural painting that were practiced with regularized impunity despite the fact that they violated legal norms, as well to canonical forms of self-expression and communication such as poetry and moral tales assertive of ethical values that tempered or marginalized the law. In this way, we will treat subjects such as freedom of expression, public and private, ethics and morality, education, social hierarchy, literary self-statement, political theory, executive and judiciary, so as to understand how Muslims conceived of the law and its authority and function in relation to other discourses and practices that made alternative claims about the constitution of Islamic norms. Students will be evaluated on the basis of a research/responsive paper.
Note: Expected to be given in 2014–15. Offered jointly with Harvard Law School as 2517.

[*Islamic Civilizations 221. Does the Fiqh Know a Concept of Natural Law?]
Catalog Number: 40535 Enrollment: Limited to 10.
Baber Johansen (Divinity School)
Half course (spring term). M., 4–6. EXAM GROUP: 9
The first four sessions of the seminar will discuss different Natural Law concepts, from the Stoics to modern rational natural law. The rest of the seminar will be dedicated to the reading of *usul al-fiqh* texts dating from the 11th to the 17th centuries. These texts will be compared to our readings on Natural Law.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3592.

[*Islamic Civilizations 223. The Islamic Ritual's Influence on the Legal Reasoning of the Fiqh]
Catalog Number: 55642 Enrollment: Limited to 12.
Baber Johansen (Divinity School)
Half course (fall term). M., 4–6. EXAM GROUP: 9
From the end of the 19th until the last decade of the 20th century, Western research has excluded the ritual duties (*'ibadat*) from the study of "Islamic Law". It is only since the 1980s that increased attention has been given to the normative character of the ritual. This seminar focuses on the influence that the legal construction of the ritual has had on the *fiqh*'s forms of legal reasoning in general. It will, in particular, study the concept of obligation in the ritual and other parts of the *fiqh*. It will also draw attention to the fact that the ritual has always been and continues to be one of the most important forms in which Islamic Law is present in Muslim societies.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3584.

[Islamic Civilizations 225. Islam, Metaphor, Meaning]
Catalog Number: 32524
M. Shahab Ahmed
Half course (spring term). M., 5–7 p.m. EXAM GROUP: 9
This course examines the hermeneutical significance of the non-literal/figurative in Islamic history. How have Muslims conceptualized, created, received, used, identified and interpreted domains, texts and images in terms of literal and non-literal expression, and with what consequences for the production of meaning in terms of Islam?
Note: Expected to be given in 2014–15. Not open to auditors. Jointly offered with the Divinity School as 3631.

[*Islamic Civilizations 241r. Approaches to Studying Indo-Muslim Culture and South Asian Islam]
Catalog Number: 7515
Ali S. Asani
Half course (fall term; repeated spring term). Hours to be arranged.
A seminar for graduate students focusing on current scholarship on Islamic civilization in South Asia.
Note: Expected to be given in 2014–15. Open to undergraduates with a background in Islamic or South Asian studies.
Prerequisite: Introductory coursework on Islam, Religion 1820 or equivalent.

Cross-listed Courses

History 2884. Topics in Ottoman Social and Cultural History: Seminar
History 2886. Topics in Islamic History: Seminar
[History of Science 209. Science, Religion and Culture: Debates, Methods and Controversies]

Graduate Courses of Reading and Research

***Islamic Civilizations 300. Reading and Research in Islamic Civilizations**
Catalog Number: 1963
M. Shahab Ahmed 5273, Ali S. Asani 7739 (on leave fall term), Khaled El-Rouayheb 5536, William Albert Graham 4156, William E. Granara 1054, Chad Kia 2852, and Malika Zeghal 6744 (on leave 2013-14)

Jewish Studies

See also below under Aramaic, Hebrew, and Yiddish.

Jewish Studies

Primarily for Undergraduates

Jewish Studies 80. American Jews and the Television Age
Catalog Number: 84167
Rachel L. Greenblatt
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
Examines the involvement of Jews in American mass entertainment, especially television, during the 20th century. At a time when Jews were active in both the business and creative ends of the new media that came to dominate fields as seemingly diverse as popular culture and political discourse, Jewish leading characters were largely absent from prime time network television. Are there relationships among Jewish involvement in mass entertainment, the simultaneous absence of Jewish characters onscreen, and the role of television in American culture?

Cross-listed Courses

Aesthetic and Interpretive Understanding 29. Modern Jewish Literature
[Culture and Belief 13. The Contested Bible: The Sacred-Secular Dance]
Culture and Belief 27. Among the Nations: Jewish History in Pagan, Christian and Muslim Context
[Ethical Reasoning 15 (formerly Moral Reasoning 54). "If There is No God, All is Permitted:" Theism and Moral Reasoning]
***History 60e (formerly History 1025). Overlapping Spheres: Jewish Life in Early Modern Europe**
[*History 81f. Women's Voices in Medieval and Early Modern Europe]
Religion 25. Introduction to Judaism - *(New Course)*

For Undergraduates and Graduates

[Jewish Studies 103. Jewish Cultures in the Middle East]
Catalog Number: 46199
Susan M. Kahn
Half course (spring term). Tu., Th., 1–2:30.
An introduction to the cultural history of Jewish life in the Middle East. Provides an overview of the changing administrative contexts that historically governed the lives of minority populations in the Mamluk, Ottoman and Modern periods, and examines historical modes of Jewish community-building, strategies of survival, and cultural production in these settings. Finally, the course focuses on the diverse fates Middle Eastern Jewish communities in the 20th century. Readings will focus primarily on historical and anthropological accounts, though literary, cinematic and biographical sources will also be included.
Note: Expected to be given in 2014–15.

[Jewish Studies 129. Josephus]
Catalog Number: 93483
Shaye J.D. Cohen
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
A survey of the works of Flavius Josephus, and of modern Josephan scholarship. Knowledge of Greek is desirable but not required.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1468.

[Jewish Studies 136. Jews and Greeks, Judaism and Hellenism]
Catalog Number: 65408
Shaye J.D. Cohen
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
A study of the encounter between Judaism and Hellenism in antiquity, from the Hasmonean revolt until the emergence of Rabbinic Judaism. The course will focus on the land of Israel but some attention, for purposes of contrast, will also be paid to the diaspora. Themes: definitions of "Judaism" and "Hellenism," religious and philosophical resistance and accommodation, knowledge of Greek, literary forms, the "common culture" of Hellenistic near east, art and architecture.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1461.

[Jewish Studies 139 (formerly History 1020). Jews and Judaism in the Ancient World]
Catalog Number: 6035
Shaye J.D. Cohen
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
A survey of Jewish history in antiquity from the Persian period (5th century BCE) to the Byzantine period (5th century CE). Topics include: political accommodation and resistance, Hellenism, the Hasmoneans and Herod the Great, the effects of Roman rule, Pharisees, Qumran, Christians, unity and diversity, the destruction of the temple and its aftermath, the emergence of rabbinic Judaism, homeland and diaspora.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1462.

Jewish Studies 149. Topics in the Dead Sea Scrolls: Exegesis at Qumran
Catalog Number: 54969
D. Andrew Teeter (Divinity School)
Half course (spring term). Tu., 4–6. EXAM GROUP: 18
This course explores the diverse functions of scripture within the literature of the Dead Sea Scrolls, focusing in particular on the forms and methods of interpretation attested, considered in light of other varieties of interpretation in early Judaism. Sessions will be devoted to reading, translation and discussion of primary sources in Hebrew, as well as to discussion of relevant secondary literature.
Note: Offered jointly with the Divinity School as 1309.
Prerequisite: Two years of Biblical Hebrew strongly recommended.

Jewish Studies 168. Eighth-Century Prophets
Catalog Number: 14062
Michael D. Coogan (Divinity School)
Half course (spring term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
A close examination of the books of Amos, Hosea, Micah, and Isaiah 1-39, in their historical and social contexts.
Note: Offered jointly with the Divinity School as 1104.

[*Jewish Studies 170. Job and the Problem of Suffering]
Catalog Number: 80691

Michael D. Coogan (Divinity School)
Half course (fall term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
An examination of the book of Job and its poetic treatment of the human condition. The course will also consider other biblical and ancient Near Eastern texts that deal with the issue of evil in the world from a religious perspective, and later readings and retellings of Job by Frost, MacLeish, Wiesel, Fackenheim, and others.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1106.

Cross-listed Courses

History 1083. American Jewish History - *(New Course)*
History 1983. Judaism Confronts America: Conference Course - *(New Course)
[Literature 140. Literature and Politics]
[Literature 153. Saul Bellow and the New York Intellectuals]
[Literature 163. Jewish Languages and Literature]
[Literature 166. The Comic Tradition in Jewish Culture]
Religion 1255. Selected Works of Twentieth Century Jewish Theology
Societies of the World 35. Conditional Equality: The Case of the Jews of Europe in Modern Times

Primarily for Graduates

[*Jewish Studies 200r. Guided Readings in Jewish History]
Catalog Number: 4478
Shaye J.D. Cohen
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
Topic for 2010-11: Boundaries and Identities. Readings of Jewish texts, ancient to modern, that deal with the question of the Other and the Self: what is the boundary between Jews and non-Jews, and between Judaism and non-Judaism? Topic for 2014-15 to be determined.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3709. Required of all entering graduate students in Jewish Studies; open to others with the permission of the instructor.

Jewish Studies 207. Rewriting Scripture in Jewish Antiquity: Seminar
Catalog Number: 9572 Enrollment: Limited to 15.
D. Andrew Teeter (Divinity School)
Half course (fall term). Tu., 4–6. EXAM GROUP: 18
A study of the exegetical literature of so-called rewritten Bible texts from the Second Temple period, considered in relation to the received Hebrew Bible and its later interpretive traditions. Examination of exegetical techniques, aims, and presuppositions, with attention to higher level compositional strategies, underlying conceptions of scripture/scriptural authority, and the dynamics of canon formation. Primary sources will include, among others: the book of Jubilees, the Temple Scroll, Reworked Pentateuch, the Genesis Apocryphon, as well as selected prophetic and hymnic exemplars.
Note: Offered jointly with the Divinity School as 1302.
Prerequisite: Ability to read (unpointed) Hebrew.

[Jewish Studies 215. Jewish Law from Qumran to the Mishnah: Seminar]
Catalog Number: 28993
Shaye J.D. Cohen
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
The development of Jewish law in the period between the Bible and the Mishnah, with special attention to the Qumran scrolls. Topics include: the role of Scripture and the exegesis of Scripture; the "Oral Torah"

and tradition; "common Judaism" and sectarianism; the Temple and the Temple calendar. No prerequisites; all texts read in translation.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3718.

Jewish Studies 235r. Historical Consciousness and the Jewish Historical Imagination - *(New Course)
Catalog Number: 24588
Rachel L. Greenblatt
Half course (spring term). Tu., at 12, plus hours to be arranged. EXAM GROUP: 14
This seminar, designed for graduate students and advanced undergraduates, will introduce participants to current research and debates on questions of Jewish historiography and historical consciousness. At its core will be attendance at the regular meetings of the Harvard Center for Jewish Study's Starr Seminar for Spring 2014, in which six visiting fellow will present papers on their current research on this theme.
Note: Supplementary course meetings designed for the students will focus on core literature in this field and enable student participants to discuss material and arguments presented by the fellows. Students will prepare final research papers of their own.

Graduate Courses of Reading and Research

***Jewish Studies 300. Reading and Research in Jewish Studies**
Catalog Number: 1544
Shaye J.D. Cohen 4180, Jay M. Harris 2266, and Ruth R. Wisse 3177

Modern Middle Eastern Studies

The Modern Middle East

Primarily for Undergraduates

***The Modern Middle East 91r. Supervised Reading and Research**
Catalog Number: 88561
Ali S. Asani, William E. Granara, Susan M. Kahn, Malika Zeghal and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Tutorial supervision of research in subjects not treated in regular courses.

Cross-listed Courses

[Culture and Belief 41 (formerly Historical Study A-67). Gender, Islam, and Nation in the Middle East and North Africa]
History 60f. "Nothing Pleases Me": Understanding Modern Middle Eastern History Through Literature - *(New Course)
History 60g. Debates in Middle Eastern History - *(New Course)
[*History 82m. The Modern Mediterranean: Connections and Conflicts between Europe and North Africa]
Societies of the World 46 (formerly Anthropology 1621). The Anthropology of Arabia

For Undergraduates and Graduates

The Modern Middle East 100 (formerly Near Eastern Civilizations 100). Approaches to Middle Eastern Studies

Catalog Number: 12411
Susan M. Kahn
Half course (fall term). Tu., Th., at 1. EXAM GROUP: 15
An interdisciplinary introduction to Middle Eastern Studies focusing on the modern period. Disciplinary approaches will include exemplary texts in History, Anthropology, Religious Studies, Literature and Political Science. Required for all concentrators in The Modern Middle East. Open to all undergraduates.
Note: A required course primarily for undergraduates pursuing a secondary field in modern Middle Eastern Studies.

[The Modern Middle East 105 (formerly Near Eastern Civilizations 105). Peoples and Societies of the Middle East]
Catalog Number: 11698
Susan M. Kahn
Half course (spring term). Hours to be arranged.
This course is an introduction to the peoples and societies of the Middle East focusing on the following areas: Islam as Culture, Family and Kinship, Communal Identities, Gender, Youth Culture and Ethnic and Religious Minorities. The course examines the varieties of cultural experiences in the Middle East through close reading of ethnographic texts, memoirs, and primary historical sources.
Note: Expected to be given in 2014–15.

The Modern Middle East 111 (formerly Islamic Civilizations 105). Culture and Society in Contemporary Iran
Catalog Number: 51277
Chad Kia
Half course (spring term). M., W., at 1, plus weekly section to be arranged. EXAM GROUP: 6
Introduces a wide spectrum of students to some of the most significant aspects of Iranian culture from the Constitutional Revolution through the three decades since the Islamic Revolution of 1979, one of the paradigmatic shifts in twentieth-century global history. Using the modernist commitment of artists and intellectuals to social and political engagement as a unifying theme, the course will survey modern and contemporary Iranian culture through the analysis of various literary, artistic, cinematic, and intellectual forms. The impact of European culture; nationalism; the tensions between modernism, secularism, and religion; the emergence of women's voices, a cinematic avant-garde, and mass culture; the strains of cosmopolitan and provincial coexistence; the anti-Western critique of "occidentosis" are among the issues that will be addressed.
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Foreign Cultures.

[The Modern Middle East 120. The Arab Revolutions: popular uprisings and political transformations]
Catalog Number: 34461
Malika Zeghal
Half course (fall term). W., 1–3; . EXAM GROUP: 6, 7
Examines the causes of the 2010-2011 Arab uprisings, the subsequent political transformations in the Middle East and North Africa and the prospects for democratic transitions.
Note: Expected to be given in 2014–15.

[The Modern Middle East 158 (formerly Arabic 158). Modern Arabic Literature Seminar: Lebanese Civil War in Fiction]
Catalog Number: 5145
Moneera Al-Ghadeer

Half course (fall term). W., 4–6. EXAM GROUP: 9
The Racialized Other in the Arabian Peninsula Literature and Culture.This course introduces modern literature and contemporary technology writing in the contemporary Arabian Peninsula. Themes include 'race' and "otherness" and how these tropes are fashioned by political and social discourses. Readings include novels from Kuwait, Saudi Arabia, Oman, Yemen, and Qatar, exploring how narratives have been influenced and marked by questions of canon formation, globalization and social change.
Note: Expected to be given in 2014–15. Arabic helpful but not required. Open to both undergraduates and graduates.

The Modern Middle East 160r (formerly Turkish 160r). History of Modern Turkey through Literature
Catalog Number: 6964
Himmet Taskomur
Half course (spring term). M., W., at 12, and an additional hour to be arranged. EXAM GROUP: 5
This course surveys the history of modern Turkey and culture through Turkish literature in translation. Main focus is on topics of cultural revolution, nationalism, identity, gender, and migration. Primary readings are translations of novels, short stories, drama and poetry.
Note: Knowledge of Turkish not required. Not open to auditors.

[The Modern Middle East 175r (formerly Arabic 175r). Understanding Modern North Africa]
Catalog Number: 69851
William E. Granara
Half course (spring term). M., W., at 12. EXAM GROUP: 5
An introduction to the history, politics, cultures, societies and economics of the modern Maghrib (Morocco, Algeria, Tunisia and Libya). Emphasis on the formation of evolving post-colonial identities within Islamic, Arabo-Berber, African, and Mediterranean contexts.
Note: Expected to be given in 2014–15. Qualifies as a gateway course for secondary field in Modern Middle Eastern Studies.

Cross-listed courses

History 1860. Understanding the Middle East: 1800s to the Present - *(New Course)*
Literature 131. The Arab-American Experience in Fiction, Film, and Popular Culture - *(New Course)
[Religion 1088. Why They/We Hate Us/Them: Islam, History, Violence and Identity]

Primarily for Graduates

The Modern Middle East 200a (formerly Near Eastern Civilizations 200a). Approaches to Middle Eastern Studies
Catalog Number: 5918
Susan M. Kahn and members of the Faculty
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
Interdisciplinary seminar serves as an introduction to the major disciplines constituting Middle Eastern Studies, including history, political science, anthropology, literature and Islamic Studies. Faculty affiliated with Center for Middle Eastern Studies serve as guest lecturers.
Note: Required for students pursuing the AM in Middle Eastern Studies. Primarily for first-term students in the AM in Middle Eastern Studies program, although open to Graduate students in related fields.

[*The Modern Middle East 220. The Spring of 2011 in the Middle East]
Catalog Number: 92057 Enrollment: Limited to 20.
Baber Johansen (Divinity School)
Half course (spring term). W., 4–6. EXAM GROUP: 9
The course will give an overview of the events of the Middle Eastern Spring of 2011 and will discuss the forms of communication, their content and their use of cultural and technological resources by those who insisted on regime change.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3588.

Cross-listed Courses

Comparative Literature 255. Dysfunctional Family as National Allegory in the Middle Eastern Novel - *(New Course)*

Graduate Courses of Reading and Research

***The Modern Middle East 300. Direction of Master's Thesis**
Catalog Number: 37039
Ali S. Asani 7739 (on leave fall term), William E. Granara 1054, Baber Johansen (Divinity School) 5295, Susan M. Kahn 4833, and Malika Zeghal 6744 (on leave 2013-14)

Near and Middle Eastern Languages and Literatures

Akkadian

See also above under Ancient Near Eastern and Biblical Studies.

For Undergraduates and Graduates

Akkadian A. Introductory Akkadian
Catalog Number: 4891
Gojko Barjamovic
Full course (indivisible). Fall: Tu., Th., 1:30–3; Spring: Tu., Th., 1–2:30. EXAM GROUP: 15, 16
An introduction to the Semitic language of Akkadian, primarily through the Old Babylonian dialect and cuneiform writing system as used during the time of Hammurabi (c. 1750 BCE). Students learn the fundamentals of grammar and the writing system, as well as the most common cuneiform signs in official and cursive script. Readings span a variety of genres, including private letters, judicial documents, literary and religious texts, divinatory compendia, legal code, and royal inscriptions. The course also briefly introduces students to examples of texts from other periods and dialects of the Akkadian language for cultural and comparative purposes.

Akkadian 120. Intermediate Babylonian
Catalog Number: 3724
Piotr Steinkeller
Full course (indivisible). Tu., Th., at 11. EXAM GROUP: 13
Prerequisite: Akkadian grammar, basic vocabulary, knowledge of cuneiform script.

[Akkadian 141r. Akkadian Myths and Epics]
Catalog Number: 7618
Peter Machinist

Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
The Gilgamesh Epic.
Note: Expected to be given in 2014–15.
Prerequisite: Akkadian grammar, basic vocabulary, knowledge of cuneiform script.

[Akkadian 144. Akkadian Divination Texts]
Catalog Number: 6734
Piotr Steinkeller
Half course (fall term). W., 1–4. EXAM GROUP: 6, 7, 8
Note: Expected to be given in 2014–15.

Akkadian 149. Akkadian Legal and Economic Texts
Catalog Number: 6703
Instructor to be determined
Half course (fall term). Tu., Th., 1:30–3. EXAM GROUP: 15, 16
Prerequisite: Akkadian grammar, basic vocabulary, knowledge of cuneiform script.

[Akkadian 153. Old Akkadian]
Catalog Number: 8334
Piotr Steinkeller
Half course (fall term). Th., 1–4. EXAM GROUP: 15, 16, 17
Readings in representative historical, epistolary, literary, and economic texts with emphasis on the grammar.
Note: Expected to be given in 2014–15.
Prerequisite: Akkadian grammar, basic vocabulary, knowledge of cuneiform script.

[Akkadian 154a. Peripheral Akkadian]
Catalog Number: 2416
Instructor to be determined
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15.
Prerequisite: Two full courses in Akkadian.

[Akkadian 156. Neo-Babylonian Inscriptions]
Catalog Number: 4024
Instructor to be determined
Half course (spring term). Hours to be arranged.
Focuses on juridical aspects of every-day life in 1st millennium BCE Babylon. Reports of legal cases, letters and contracts allow vivid insights into interactions between persons and enhances their sometimes moving biographies. Explores the fates of murderers, thieves, slaves and foundlings; characteristics of legal decision-making bodies and the royal interventions in private law will be discussed.
Note: Expected to be given in 2014–15.
Prerequisite: Akkadian grammar, basic vocabulary, knowledge of cuneiform script.

Akkadian 157. Introduction to Old Assyrian Language and History - *(New Course)*
Catalog Number: 90343
Gojko Barjamovic
Half course (fall term). Tu., Th., 11–12:30. EXAM GROUP: 13, 14
Readings of texts in the Assyrian dialect of the period c. 1920-1720 BCE. Examples include loans and quittances, caravan texts, commercial records, partnership contracts, business letters, family and state law,

political treaties, royal inscriptions, incantations and literature. The course will integrate the textual record with an overview of Anatolian history and material culture during the period in question.

Primarily for Graduates

Akkadian 200r. Readings in Akkadian: Seminar
Catalog Number: 2970
Piotr Steinkeller
Half course (spring term). Hours to be arranged.

Graduate Courses of Reading and Research

***Akkadian 300. Akkadian Language and Literature**
Catalog Number: 2233
Peter Machinist 2812 (on leave 2013-14) and Piotr Steinkeller 7337

Arabic

See also Islamic Civilizations.

Primarily for Undergraduates

Cross-listed Courses

Literature 131. The Arab-American Experience in Fiction, Film, and Popular Culture - *(New Course)

For Undergraduates and Graduates

Arabic A. Elementary Arabic
Catalog Number: 5773
Dalia Abo Haggar and staff
Full course (indivisible). M., through F., at 9, 10, 11, or 12. EXAM GROUP: 2, 11
Introduces students to the phonology and script of classical/modern standard Arabic and covers the basic morphology and syntax of the written language. Emphasis on the development of the four skills (reading, speaking, listening, and writing). Samples of modern (contemporary) and classical styles of writing introduced into basic syllabus, and audio-visual material from the contemporary Arabic media. Required textbooks: (1) *Alif Baa* (with multimedia), 2nd edition. (2) *Al-Kitaab fii Ta'allum al-'Arabiyya:*, Part I, 2nd edition.
Note: Not open to auditors. Cannot be taken pass/fail. Cannot divide for credit. Offered jointly with the Divinity School as 4345.

Arabic Ba. Intermediate Arabic I
Catalog Number: 1106
Nour Barmada and staff
Half course (fall term). M. through F., at 9, 10, 11, or 12. EXAM GROUP: 3, 12
A thorough review and continuation of literary (classic and modern) Arabic grammar with emphasis on reading, writing, speaking and listening comprehension. Course materials draw from both classical and modern Arabic literature and culture. Required textbook: *Al-Kitaab fii Ta'allum al-Arabiyya*, Part II with

DVDs, 2nd edition.
Note: Not open to auditors. Cannot be taken pass/fail. Offered jointly with the Divinity School as 4351.
Prerequisite: Arabic A or equivalent.

Arabic Bb. Intermediate Arabic II
Catalog Number: 0973
Nour Barmada and staff
Half course (spring term). M., through F., at 9, 10, or 12. EXAM GROUP: 2, 11
A continuation of Arabic Ba. Textbook: *Al-Kitaab*, volume II, 2nd edition.
Note: Not open to auditors. Cannot be taken pass/fail. Offered jointly with the Divinity School as 4361.
Prerequisite: Arabic A or equivalent.

Arabic 130a. Upper-Level Classical Arabic I
Catalog Number: 4591
Dalia Abo Haggar
Half course (fall term). M., Tu., Th., at 9. EXAM GROUP: 2, 11
Concentration on readings from classical Islamic texts, with emphasis on Qur'an, hadîth, sîra, and tafsîr literature; directed readings and textual analysis; review of classical Arabic morphology and syntax.
Note: Not open to auditors. Offered jointly with the Divinity School as 4353.
Prerequisite: Arabic Ba or equivalent, or may be taken separately with permission of the instructor.

Arabic 130b. Upper-Level Classical Arabic II
Catalog Number: 2964
Dalia Abo Haggar
Half course (spring term). M., Tu., Th., at 9. EXAM GROUP: 2, 11
Continuation of Arabic 130a or may be taken separately with permission of the instructor. Readings from corpus of "Adab" (Belles-Lettres) literature, as well as various pieces of classical Arabic poetry.
Note: Not open to auditors. Offered jointly with the Divinity School as 4354.
Prerequisite: Arabic 130a or equivalent, or may be taken separately with permission of the instructor.

Arabic 131a. Upper-Level Modern Arabic l
Catalog Number: 0739
Nevenka Korica-Sullivan
Half course (fall term). Section l: M. through Th., at 11; Section ll: M. through Th., at 12. EXAM GROUP: 5, 14
Reading and discussion of selections from Arabic newspapers and journals on contemporary political, social, religious, and cultural issues in the Arab world. Emphasis on developing advanced reading and speaking skills, with some attention to writing and listening comprehension. Required textbook: *al-Kitaab -Kitaab fii Ta'allum al-Arabiyya*, Part III with DVDs.
Note: Not open to auditors.
Prerequisite: Arabic Ba or equivalent.

Arabic 131b. Upper-Level Modern Arabic II
Catalog Number: 0697
Nevenka Korica-Sullivan
Half course (spring term). M. through Th., at 11 or 12. EXAM GROUP: 5, 14
A continuation of Arabic 131a or may be taken separately with permission of the instructor. Continued emphasis on advanced reading and speaking skills, and introduction to contemporary Arabic fiction, with emphasis on short stories and essays. Required textbook: *al-Kitaab -Kitaab fii Ta'allum al-Arabiyya*, Part III with DVDs.

Note: Not open to auditors.
Prerequisite: Arabic 131a or equivalent.

[Arabic 132. Advanced Composition and Grammar Review]
Catalog Number: 74782 Enrollment: Limited to 12.
Nevenka Korica-Sullivan
Half course (spring term). Hours to be arranged.
Course introduces students to the stylistics of Arabic composition while reinforcing complex morphological and syntactic structures.
Note: Expected to be given in 2014–15. Not eligible for language citation.
Prerequisite: Two years of Modern Standard Arabic or equivalent.

Arabic 133. Upper-Level Spoken Modern Standard Arabic
Catalog Number: 4747 Enrollment: Limited to 15.
William E. Granara
Half course (fall term). M., W., 3–5. EXAM GROUP: 8, 9
This course emphasizes the development of advanced speaking and listening skills by exposing students to the contemporary media and academia. Some reading and writing will be required, but classes will revolve around oral presentations and directed conversations.
Note: Not open to auditors.
Prerequisite: Two years of MSA or equivalent proficiency.

[Arabic 134. Colloquial Levantine Arabic]
Catalog Number: 4154 Enrollment: Limited to 12.
Nour Barmada
Half course (spring term). M., W., 3–5. EXAM GROUP: 8, 9
Introduces students to Colloquial Levantine Arabic of Lebanon, Syria, Jordan, and Israel/Palestine. The course emphasizes the development of speaking and listening skills through the reinforcement of grammar and vocabulary.
Note: Expected to be given in 2014–15. Not open to auditors. Students who have completed Arabic 135 may not take this course for credit.
Prerequisite: Two years of Standard Arabic or the equivalent.

Arabic 135. Colloquial Egyptian Arabic
Catalog Number: 4454 Enrollment: Limited to 12.
Nevenka Korica-Sullivan
Half course (spring term). M., W., 3–5. EXAM GROUP: 8, 9
Introduces students to Egyptian Arabic, the most widely recognized dialect in the Arab world. The course emphasizes the development of speaking and listening skills through the reinforcement of grammar and vocabulary.
Note: Not open to auditors. Students who have completed Arabic 134 may not take this course for credit.
Prerequisite: Two years of Standard Arabic or the equivalent.

[Arabic 160r. Readings in Arabic Historians, Geographers, and Biographers]
Catalog Number: 5617
Roy Mottahedeh
Half course (fall term). W., 4–6. EXAM GROUP: 9
Note: Expected to be given in 2014–15.

Primarily for Graduates

Arabic 241ar. Advanced Modern Arabic Bridge: Language, Literature, and Culture I
Catalog Number: 3309
Sami Alkyam
Half course (fall term). Tu., Th., 11:30-1, and an additional hour to be arranged. EXAM GROUP: 13, 14
This constitutes the final year of Modern Arabic track. Representative readings from contemporary literature and culture will form bases of discussions on major themes in contemporary Arab society.
Note: Conducted in Arabic. Not open to auditors.
Prerequisite: Advanced proficiency in Arabic.

Arabic 241br. Advanced Modern Arabic Bridge: Language, Literature, and Culture II
Catalog Number: 6399
Sami Alkyam
Half course (spring term). Tu., Th., 11:30-1, and an additional hour to be arranged. EXAM GROUP: 13, 14
A continuation of Arabic 241ar.
Note: Conducted in Arabic. Not open to auditors.

***Arabic 242ar. Arabic Five**
Catalog Number: 44568 Enrollment: Limited to 12.
Sami Alkyam
Half course (fall term). M., 4–6. EXAM GROUP: 9
The Arabic short story: traditions and subversions.
Note: Course conducted solely in Arabic; all readings in Arabic.
Prerequisite: Four years of Modern Arabic or equivalent.

***Arabic 242br. Arabic Five**
Catalog Number: 59675
William E. Granara
Half course (spring term). Hours to be arranged.
Topic for spring 2014 to be determined. Interested students should contact the course head, William Granara, at granara@fas.harvard.edu.
Note: Course conducted solely in Arabic; all readings in Arabic.
Prerequisite: Four years of Modern Arabic or equivalent level of proficiency.

Arabic 243ar. Advanced Readings in Classical Arabic Bridge I: Historical Sources - *(New Course)*
Catalog Number: 41216
William E. Granara
Half course (fall term). W., 9–11, plus one hour to be arranged. EXAM GROUP: 2, 3
Reinforcement of advanced classical Arabic grammar and stylistics, and introduction to various genres of historical, geographical and biographical texts.
Prerequisite: Three years of Arabic or equivalent level of proficiency.

Arabic 243br. Advanced Readings in Classical Arabic Bridge II: Rational Sciences - *(New Course)*
Catalog Number: 77091
Khaled El-Rouayheb
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Reinforcement of advanced classical Arabic grammar and stylistics, and introduction to the genres of *usul, kalam, mantiq* and *falsafa.*
Prerequisite: Three years of Arabic or equivalent level of proficiency.

[Arabic 243cr. Advanced Readings in Classical Arabic Bridge III: Prose and Poetry] - *(New Course)*
Catalog Number: 11917
William E. Granara
Half course (fall term). Hours to be arranged.
Reinforcement of advanced classical Arabic grammar and stylistics, and introduction to various genres of poetry and prose (adab).
Note: Expected to be given in 2014–15.
Prerequisite: Three years of Arabic or equivalent level of proficiency.

[Arabic 243dr. Advanced Readings in Classical Arabic Bridge IV: Religious Sciences] - *(New Course)*
Catalog Number: 66382
Khaled El-Rouayheb
Half course (spring term). Hours to be arranged.
Reinforcement of advanced classical Arabic grammar and stylistics, and introduction to various genres of *Quran, Hadith, Sira* and *Tafsir.*
Note: Expected to be given in 2014–15.
Prerequisite: Three years of Arabic or equivalent level of proficiency.

[Arabic 246r. Andalus, Sicily, and the Maghrib in Literary and Cultural Texts: Seminar]
Catalog Number: 6196
William E. Granara
Half course (spring term). Hours to be arranged.
Literary and historical texts of the Arabo-Islamic cultures of Spain (*al-Andalus*), Sicily, and North Africa. Examines the emergence of a "Maghribi" identity amidst cross-cultural relations with the Christian North and the Muslim East.
Note: Expected to be given in 2014–15.
Prerequisite: Three years of Arabic, or permission from the instructor.

Arabic 249r. Arabic Philosophical Texts: Seminar
Catalog Number: 3572
Khaled El-Rouayheb
Half course (fall term). F., 2–4. EXAM GROUP: 7, 8
Readings on selected topics in Islamic philosophy.
Prerequisite: Three years of Arabic or equivalent.

Arabic 250r. Islamic Theological Texts: Seminar
Catalog Number: 7849
Khaled El-Rouayheb
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
Readings on selected topics in Islamic theology.
Note: Offered jointly with the Divinity School as 3883. Students will be expected to read approximately 15-20 pages of classical Arabic per week.
Prerequisite: Three years of Arabic or permission of the instructor.

Cross-listed Courses

[Comparative Literature 263. Journey, Exile, and Displacement in Modern Arabic Literature]

Graduate Courses of Reading and Research

***Arabic 300. Reading and Research in Arabic Language and Civilization**
Catalog Number: 7828
M. Shahab Ahmed 5273, Khaled El-Rouayheb 5536, William Albert Graham 4156, William E. Granara 1054, Baber Johansen (Divinity School) 5295, and Roy Mottahedeh 1454 (on leave spring term)

***Arabic 320. Reading and Research in Modern Arabic Literature and Literary Criticism**
Catalog Number: 9167
William E. Granara 1054

Aramaic

For Undergraduates and Graduates

See also Ancient Near East and Biblical Studies, Jewish Studies, and Early Iranian Civilizations.

Aramaic A. Introduction to Ancient Aramaic
Catalog Number: 5985
Jon D. Levenson (Divinity School)
Half course (spring term). F., 2–4. EXAM GROUP: 7, 8
Introduction to the ancient Aramaic dialects, including Biblical Aramaic, Imperial Aramaic from Egypt, and Palestinian Aramaic.
Prerequisite: Two semesters of Biblical Hebrew.

[Aramaic B. Targumic and Related Aramaic]
Catalog Number: 89499
Instructor to be determined
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Readings in Egyptian, Palestinian and targumic Aramaic, with special focus on the grammar, literary form and function of the Targumim.
Note: Expected to be given in 2014–15.
Prerequisite: Aramaic A or the equivalent.

[Aramaic 120. Introduction to Jewish Babylonian Aramaic]
Catalog Number: 68552
Instructor to be determined
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Introduction to the Aramaic of the Babylonian Talmud with readings from talmudic texts.
Note: Expected to be given in 2014–15. Two semesters or the equivalent of Hebrew or one semester or the equivalent of ancient Aramaic. Jointly offered with the Divinity School as 4018.

Graduate Courses of Reading and Research

***Aramaic 300. Aramaic Language and Literature**
Catalog Number: 5758
Shaye J.D. Cohen 4180, Khaled El-Rouayheb 5536, and Peter Machinist 2812 (on leave 2013-14)

Armenian

See also Armenian Studies.

For Undergraduates and Graduates

Armenian A. Elementary Classical Armenian
Catalog Number: 5476
James R. Russell
Full course (indivisible). Tu., 2–4. EXAM GROUP: 16, 17
Introduction to classical Armenian grammar and reading of selected texts.

Armenian B. Elementary Modern Eastern Armenian
Catalog Number: 7168
James R. Russell
Full course (indivisible). Th., 4–6. EXAM GROUP: 18
Introduction to the spoken and literary language of the Republic of Armenia.

[Armenian 120. Armenian Magical Texts]
Catalog Number: 7221
James R. Russell
Half course (spring term). Tu., 2–4.
Armenian magical texts include codices, scrolls, and separately-printed saints' lives used for good or ill, containing magic squares and symbols, the latter mostly deriving from Islamic magic. The course will consider literary sources of magic texts (e.g., the prayer Havatov khostovanim, the meditations of Narek), parallel traditions (esp. Christian Ethiopia), and the consideration of the paintings in Armenian magical manuscripts from the standpoint of the genre of Outsider Art.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2200.

[Armenian 130. Advanced Classical Armenian]
Catalog Number: 4926
James R. Russell
Full course. W., 5:30-7:30 pm. EXAM GROUP: Fall: 9
The text of St. Grigor Narekats'i *Matean olbergut'ean*, with other mystical texts from Armenian and Eastern Christian traditions.
Note: Expected to be given in 2014–15.
Prerequisite: Armenian A.

Graduate Courses of Reading and Research

***Armenian 300. Armenian Language and Literature**
Catalog Number: 0240
James R. Russell 3411

Egyptian

For Undergraduates and Graduates

[Egyptian Aa. The Language of the Pharaohs: Introduction to Egyptian hieroglyphs I]
Catalog Number: 13886
Peter Der Manuelian
Half course (fall term). M., W., 1:30–3. EXAM GROUP: 6, 7
This language course explores the fundamentals of Middle Egyptian, the classical stage of Egyptian hieroglyphs used throughout much of ancient Egyptian history. Lessons in the Egyptian writing system,

grammar, and culture, with weekly vocabulary and exercises, will introduce the language and verbal system in a systematic fashion. By the end of the semester, students may begin to read selections from Egyptian classic stories and historical texts. Visits to the Semitic Museum and the Museum of Fine Arts, Boston, in order to read ancient hieroglyphic inscriptions on the original monuments, may also be included.
Note: Expected to be given in 2014–15. Continues as Egyptian Ab. Offered jointly with the Divinity School as 4120.

[Egyptian Ab. The Language of the Pharaohs: Introduction to Egyptian hieroglyphs II]
Catalog Number: 80515
Peter Der Manuelian
Half course (spring term). M., W., 1:30–3. EXAM GROUP: 6, 7
Continues Middle Egyptian I from the spring 2013 semester. Students will complete the introductory grammar book lessons, and move on to read a selection of basic stories, historical and biographical inscriptions, in the original hieroglyphs. Visits to the Egyptian galleries of the Museum of Fine Arts, Boston, in order to read some of the ancient hieroglyphic inscriptions on the original monuments, may also be included.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 4121.
Prerequisite: Egyptian Aa, Middle Egyptian I or consent of instructor.

Egyptian 125. Sex, Gender, and Religion in Ancient Egypt, Mesopotamia, and Syria-Palestine - *(New Course)
Catalog Number: 31754 Enrollment: Limited to 15.
Jacquelyn Williamson (Divinity School)
Half course (spring term). M., 12–2. EXAM GROUP: 5, 6
This course will place later Judeo-Christian ideas of gender and sexuality within the context of cultures that came before those of the Bible. Key texts will be read in translation from all over the ancient Mediterranean. Discussion of these textual sources will be grounded in presentations of the visual culture of these countries as well, in particular temple art and architecture. Topics include sexuality as propaganda; the manipulation of the nonverbal language of gender in iconography; the role of sex in the ancient cult; and virginity and its association with ritual purity.
Note: Offered jointly with the Divinity School as 3108.

[*Egyptian 150. Voices from the Nile: Ancient Egyptian Literature in Translation]
Catalog Number: 19657 Enrollment: Limited to 20.
Peter Der Manuelian
Half course (spring term). M., W., at 11. EXAM GROUP: 4
Examines several literary genres, from the Pyramid Age through at least the New Kingdom (ca. 2500-1000 BCE), including royal decrees, autobiographies, the Pyramid Texts, legal documents, letters to the living (and dead), love stories and poetry, military texts, religious rituals, and tomb robber court trial transcripts. Special emphasis on classical tales of the Middle Kingdom ("The Shipwrecked Sailor," "The Story of Sinuhe," etc.). Lectures, class discussion; no prerequisites.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2131.

Cross-listed Courses

[Anthropology 1250. The Pyramids of Giza: Technology, Archaeology, History: Seminar]
***Freshman Seminar 30g. Digging Up the Past: Harvard and Egyptian Archaeology**
[Societies of the World 38. Pyramid Schemes: The Archaeological History of Ancient Egypt]

Primarily for Graduates

Cross-listed Courses

Anthropology 2022. Picturing the Past: An Introduction to Digital Epigraphy and Archaeological Illustration - *(New Course)

Graduate Courses of Reading and Research

***Egyptian 300. Reading and Research in Egyptology**
Catalog Number: 71257
Peter Der Manuelian 4279 (on leave spring term)
Half course (fall term). Hours to be arranged.
Note: This course must be taken for letter grade. Professor Manuelian is on leave spring term 2014; this course will not be offered spring 2014.

Hebrew (Classical and Modern)

See also Ancient Near Eastern and Biblical Studies and Jewish Studies.

Hebrew Language

Classical Hebrew

Classical Hebrew A. Elementary Classical Hebrew
Catalog Number: 8125
D. Andrew Teeter (Divinity School)
Full course (indivisible). M., W., F., at 10. EXAM GROUP: 3
A thorough and rigorous introduction to Biblical Hebrew, with emphasis on grammar in the first term, and translation of biblical prose in the second. Daily preparation and active class participation mandatory.
Note: Offered jointly with the Divinity School as 4010.

Classical Hebrew 120a. Intermediate Classical Hebrew I
Catalog Number: 5545
D. Andrew Teeter (Divinity School) and members of the Department
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
Readings in prose books; review of grammar.
Note: Offered jointly with the Divinity School as 4020.
Prerequisite: Classical Hebrew A or equivalent.

Classical Hebrew 120b. Intermediate Classical Hebrew II
Catalog Number: 8494
D. Andrew Teeter (Divinity School) and members of the Department
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Readings in prose and poetic books; review of grammar.
Note: Offered jointly with the Divinity School as 4021.
Prerequisite: Classical Hebrew 120a or equivalent.



Classical Hebrew 130ar. Rapid Reading Classical Hebrew I
Catalog Number: 7895
Jon D. Levenson (Divinity School)
Half course (fall term). F., 11–1. EXAM GROUP: 4, 5
Advanced reading in selected biblical prose texts and intensive review of the grammar of Biblical Hebrew.
Note: Offered jointly with the Divinity School as 1625.
Prerequisite: Classical Hebrew A, 120a, and 120b, or equivalent.

Classical Hebrew 130br. Rapid Reading Classical Hebrew II
Catalog Number: 7896
Jon D. Levenson (Divinity School)
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
Advanced reading in selected biblical poetic texts and intensive review of the grammar of Biblical Hebrew.
Note: Offered jointly with the Divinity School as 1626.
Prerequisite: Classical Hebrew 130a or equivalent.

Classical Hebrew 138. Historical Grammar of Biblical Hebrew
Catalog Number: 4415
Instructor to be determined
Half course (spring term). Hours to be arranged.
This course will trace the changes in Hebrew grammar in its ancient phases through the study of inscriptional, biblical, and extra-biblical texts.
Prerequisite: Classical Hebrew 130 or equivalent.

Modern Hebrew

Modern Hebrew B. Elementary Modern Hebrew
Catalog Number: 4810
Irit Aharony
Full course (indivisible). M. through F., at 10. EXAM GROUP: 3, 12
The course introduces students to the phonology and script as well as the fundamentals of morphology and syntax of Modern Hebrew. Emphasis is placed on developing reading, speaking, comprehension and writing skills, while introducing students to various aspects of contemporary Israeli society and culture.
Note: Offered jointly with the Divinity School as 4015. Not open to auditors. Cannot be taken pass/fail. Cannot divide for credit.

Modern Hebrew 120a. Intermediate Modern Hebrew I
Catalog Number: 1711
Irit Aharony
Half course (fall term). M. through F., at 11. EXAM GROUP: 4, 13
The course reinforces and expands knowledge of linguistic and grammatical structures, with emphasis on further developing the four skills. Readings include selections from contemporary Israeli literature, print media, and internet publications. Readings and class discussions cover various facets of Israeli high and popular culture.
Note: Conducted primarily in Hebrew. Offered jointly with the Divinity School as 4040.
Prerequisite: Modern Hebrew B or passing of special departmental placement test.

Modern Hebrew 120b. Intermediate Modern Hebrew II
Catalog Number: 2563
Irit Aharony
Half course (spring term). M. through Th., at 11; F., at 11. EXAM GROUP: 4, 13
Continuation of Hebrew 120a.
Note: Conducted primarily in Hebrew. Offered jointly with the Divinity School as 4041.
Prerequisite: Modern Hebrew 120a.

Modern Hebrew 130a (formerly Modern Hebrew 125a). Advanced Modern Hebrew I
Catalog Number: 4985
Irit Aharony and assistant
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
This course constitutes the third year of the Modern Hebrew language sequence. The course emphasizes the development of advanced proficiency in all skills. Readings include texts of linguistic and cultural complexity that cover contemporary Israeli literature and culture.
Note: Conducted in Hebrew. Not open to auditors. Offered jointly with the Divinity School as 4042.
Prerequisite: Modern Hebrew 120a, 120b, or equivalent level of proficiency.

Modern Hebrew 130b (formerly Modern Hebrew 125b). Advanced Modern Hebrew II
Catalog Number: 28788
Irit Aharony and assistant
Half course (spring term). M., W., 1–3. EXAM GROUP: 6, 7
This course is a continuation of Hebrew 130a. Texts, films, and other materials expose students to the richness and complexity of the contemporary sociolinguistics of Israeli society.
Note: Conducted in Hebrew. Not open to auditors. Offered jointly with the Divinity School as 4043.
Prerequisite: Modern Hebrew 130a, or equivalent level of proficiency.

Modern Hebrew 241r. Advanced Seminar in Modern Hebrew: Israeli Culture
Catalog Number: 6949
Irit Aharony
Half course (fall term). Tu., Th., 1–3. EXAM GROUP: 15, 16
This course constitutes the final level of Modern Hebrew language studies. The course offers representative readings and screenings from contemporary Israeli literature and cinema, and it forms bases of discussion on major cultural and linguistic themes through academic readings.
Note: Discussions, papers, movies and texts presented only in Hebrew. Not open to auditors. Offered jointly with the Divinity School as 4045.
Prerequisite: Modern Hebrew 130b or equivalent.

Hebrew Literature and History

For Undergraduates and Graduates

[Hebrew 130. Scriptural Interpretation in Ancient Israel: Inner-Biblical Exegesis]
Catalog Number: 53182
D. Andrew Teeter (Divinity School)
Half course (fall term). Tu., 4–6. EXAM GROUP: 18
An examination of the forms, methods, and aims of scriptural interpretation within the Hebrew Bible itself. Sessions will combine consideration of recent scholarship on "inner-biblical exegesis" with close readings of biblical texts (narrative, legal, prophetic, apocalyptic, hymnic) in Hebrew.

Note: Expected to be given in 2014–15. Two years of Biblical Hebrew strongly recommended. Offered jointly with the Divinity School as 1308.

Hebrew 135. Introduction to Rabbinic Hebrew
Catalog Number: 83659
Instructor to be determined
Half course (fall term). M., W., 9–10:30. EXAM GROUP: 2, 3
Introduction to Tannaitic and Amoraic Hebrew with readings from talmudic and midrashic literature.
Note: Jointly offered with the Divinity school is 4036.
Prerequisite: Two semesters or the equivalent of Hebrew, preferably Biblical Hebrew.

Primarily for Graduates

[*Hebrew 200r. Problems in the Literature, History, and Religion of Ancient Israel: Seminar]
Catalog Number: 3265
D. Andrew Teeter (Divinity School), Richard J. Saley and members of the Department
Half course (fall term). Th., 4–6. EXAM GROUP: 18
Topic for 2013-14 to be determined.
Note: Expected to be given in 2014–15. Primarily for doctoral students in Hebrew Bible. Offered jointly with the Divinity School as 1810.

[Hebrew 208r. Literature of Israel: Seminar]
Catalog Number: 1356
Peter Machinist
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
Topic for 2014-15 to be determined.
Note: Expected to be given in 2014–15. Jointly offered with the Divinity School as 1825.
Prerequisite: Good reading knowledge of Biblical Hebrew. Acquaintance with other relevant ancient and modern languages desirable.

[Hebrew 217. The Medieval Torah Commentary: A Practical Introduction: Seminar]
Catalog Number: 5883
Jon D. Levenson (Divinity School)
Half course (fall term). Hours to be arranged.
An introduction to the use of medieval Jewish biblical commentaries as a resource for modern exegetes. Some comparison of the medieval hermeneutical presuppositions with those of the distinctively modern forms of biblical study.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 1836.
Prerequisite: Three years of college-level Hebrew (any period).

[Hebrew 218. Joseph and Esther: Seminar]
Catalog Number: 0880
Jon D. Levenson (Divinity School)
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
A close critical reading of Genesis 37-50 and the Book of Esther in Hebrew. Emphasis on literary design and religious messages and on the influence of the story of Joseph upon the Book of Esther.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1802.
Prerequisite: Three years of Hebrew or the equivalent, and a good acquaintance with the historical-critical method.

***Hebrew 226r. Seminar in Jewish Studies**
Catalog Number: 42458
Shaye J.D. Cohen
Half course (fall term). Hours to be arranged.
An overview of the methods, questions, and controversies in the field of Jewish Studies over the last two centuries. Topic for 2013-14: Mishnah Eduyot and the beginnings of the Mishnah, with special attention to the history of scholarship and issues of method.
Prerequisite: Facility in reading rabbinic Hebrew. Permission of the instructor required for all students.

[Hebrew 230. Midrash: The Figure of Abraham: Seminar]
Catalog Number: 7364
Jon D. Levenson (Divinity School)
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
A close reading in Hebrew of some rabbinic midrashim centering on the figure of Abraham. Emphasis on the acquisition of the textual skills necessary for studying midrash and understanding the role of Abraham in rabbinic theology. Comparison with other primary sources about Abraham from Second Temple Judaism, early Christianity, and the Qur'an, presented in English.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 1803.
Prerequisite: Sound reading knowledge of Hebrew (any period).

[Hebrew 235. The Binding of Isaac (*Aqedah*): Seminar]
Catalog Number: 0170
Jon D. Levenson (Divinity School)
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
An examination of Genesis 22 and its afterlife in ancient Judaism, early Christianity, and the Qur'an. Ample consideration of the interpretation and expansion of the story in modern theology and of critical responses to the story.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1808.
Prerequisite: Three years of Hebrew or the equivalent, and acquaintance with historical critical methods.

Hebrew 236. Song at the Sea: Seminar
Catalog Number: 6496
Jon D. Levenson (Divinity School)
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
A close reading of Exodus 13:17-15:21 in the context of the Hebrew Bible together with its ancient Near Eastern background. Ample Hebrew readings in this block of material and parallel biblical texts.
Note: Offered jointly with the Divinity School as 1816.
Prerequisite: An introductory course in the critical study of the Hebrew Bible and a solid command of Hebrew grammar (any period).

[Hebrew 237. Jeremiah]
Catalog Number: 83454
Michael D. Coogan (Divinity School)
Half course (spring term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
A close examination of the book of Jeremiah, with special attention to its historical context and textual and literary history. Knowledge of Hebrew not required.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1121.
Prerequisite: Introduction to Hebrew Bible/Old Testament or the equivalent.

Hebrew 238. Readings in Midrash: Seminar - *(New Course)*
Catalog Number: 36275
Jon D. Levenson (Divinity School)
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Close reading in Hebrew of selections from the *Mekhilta de-Rabbi Ishmael* with the goal of understanding the nature of biblical interpretation in rabbinic Judaism and the shape of rabbinic theology.
Note: Offered jointly with the Divinity School as 3678.
Prerequisite: Three years of college level Hebrew (any period) or the equivalent.

Graduate Courses of Reading and Research

***Hebrew 300. Classical Hebrew Language and Literature**
Catalog Number: 7831
Shaye J.D. Cohen 4180, Jon D. Levenson (Divinity School) 2264, and Peter Machinist 2812 (on leave 2013-14)

***Hebrew 350. Hebrew Language and Literature**
Catalog Number: 4408
Shaye J.D. Cohen 4180, Jay M. Harris 2266, and Jon D. Levenson (Divinity School) 2264

Iranian

See also above under Near Eastern Civilizations; Early Iranian Civilizations; Islamic Civilizations; and below under Persian.

Primarily for Undergraduates

For Undergraduates and Graduates

Iranian Aab. Old Persian
Catalog Number: 5457
P. Oktor Skjaervo
Full course (fall term). Hours to be arranged.
Introduction to Old Persian.

Iranian B. Introduction to Western Middle Iranian - *(New Course)*
Catalog Number: 86585
James R. Russell
Full course. Tu., 6–8 p.m. EXAM GROUP: 18
An introduction to the pre-Islamic languages and literatures of Parthian and Sasanian Iran and Zoroastrian sacred texts, and their alphabets.
Note: There are no prerequisites for this course.

Cross-listed Courses

Linguistics 221r. Workshop in Indo-European

Primarily for Graduates

Graduate Courses of Reading and Research

***Iranian 300. Reading and Research in Iranian Languages and Literatures**
Catalog Number: 8155
James R. Russell 3411 and P. Oktor Skjaervo 2869 (on leave spring term)

Persian

See also above under Near Eastern Civilizations; Early Iranian Civilizations; Islamic Civilizations; Iranian.

For Undergraduates and Graduates

Persian A. Elementary Persian
Catalog Number: 8143
Daniel Reza Rafinejad
Full course (indivisible). M. through F. at 10, and a weekly section to be arranged. EXAM GROUP: 3, 12
Introduction to the grammar of modern literary and spoken Persian. Selected readings from contemporary and classical Persian literature.
Note: Not open to auditors. Cannot be taken pass/fail. Cannot divide for credit.

Persian Ba. Intermediate Persian I
Catalog Number: 2206
Daniel Reza Rafinejad
Half course (fall term). M. through F., at 11. EXAM GROUP: 4, 13
A thorough review and continuation of modern Persian grammar with an emphasis on reading, writing, speaking, and listening comprehension. Includes an introduction to classical prosody. Course materials draw from both classical and modern poetry and prose.
Note: Not open to auditors. Cannot be taken pass/fail.
Prerequisite: Persian A or the equivalent.

Persian Bb. Intermediate Persian II
Catalog Number: 3712
Daniel Reza Rafinejad
Half course (spring term). M. through F., at 11. EXAM GROUP: 4, 13
Continuation of Persian Ba.
Note: Not open to auditors. Cannot be taken pass/fail.

Persian 130ar. Advanced Persian I - *(New Course)*
Catalog Number: 73988
Chad Kia
Half course (fall term). M., W., 2–3:30, plus an additional hour to be arranged. EXAM GROUP: 7, 8
Review of advanced Persian grammar and syntax with introduction to both pre-modern and modern Persian prose and poetry. Themes cover a wide range of disciplines, from literature, history, social sciences and the arts.
Note: Formerly Persian 131r and Persian 132r.
Prerequisite: Persian B or equivalent, or permission of the instructor.

Persian 130br. Advanced Persian II - *(New Course)*
Catalog Number: 89002

Daniel Reza Rafinejad
Half course (spring term). Tu., Th., 1–2:30, plus an additional hour to be arranged. EXAM GROUP: 15, 16
Continuation of Persian 130ar.
Note: Formerly Persian 131r and Persian 132r.
Prerequisite: Persian B or equivalent, or permission of the instructor.

[Persian 150r. Readings in Persian Historians, Geographers and Biographers]
Catalog Number: 6538
Roy Mottahedeh
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15.

Persian 151r. Sufi Traditions in Classical Persian Literature: Rumi's *Masnavi*
Catalog Number: 58728
Chad Kia
Half course (spring term). W., 2–3:30. EXAM GROUP: 7, 8
The course focuses on Islamic mysticism's most famous poet, Rumi, and his great work the *Masnavi*. We will begin by tracing Sufism as a theme in Persian literary works before the 13th century, especially in the works of Sanai and Attar, leading up to Rumi's particular understanding of mysticism as articulated in his lyric verse and other writings. Major aspects of Rumi's work, including his concept of the divine and unity with the beloved, themes of self-deception, reason, knowledge and suppression of the ego, as well as the *Masnavi*'s assimilation of popular fables, Quranic revelations, and emphatically profane tales will be considered. The course will also situate Rumi and Persian Sufi literature within the larger context of medieval Islam.
Note: The course lectures and readings will be in English but there will be a separate section for students with adequate knowledge of Persian to read the text of the *Masnavi* in Persian. Offered jointly by the Divinity School as 4070.
Prerequisite: At least two years of Persian or equivalent.

Persian 152. Literary and Visual Narrative in the Persian Epic Tradition
Catalog Number: 67634
Chad Kia
Half course (fall term). Tu., 1:30–3:30. EXAM GROUP: 15, 16, 17
Both poetry and the art of painting in medieval Persianate cultures developed to a high level of artistic excellence in the context of court patronage. This advanced Persian reading course examines that development through the epic tradition in classical Persian poetry including long narratives in heroic, romance and ethical genres composed in the *masnavi* (double-rhymed verse) form, and considers the parallel art of manuscript illustration as a visual dimension of that narrative. Beginning with the heroic epic of Shahnameh by Ferdowsi, this survey of long narrative poetry in *masnavi* form will include the epic romances of Nizami and didactic epics by Sa'di and others and will consider the interaction of this poetry with Persian painting and manuscript illustration.
Prerequisite: Two years of Persian or equivalent.

Graduate Courses of Reading and Research

***Persian 300. Persian Language and Literature**
Catalog Number: 6962
Roy Mottahedeh 1454 (on leave spring term), William E. Granara 1054, and Chad Kia 2852 (spring term only)

Semitic Philology

For Undergraduates and Graduates

[Semitic Philology 130. Diglossia in Semitic Languages]
Catalog Number: 82868
Instructor to be determined
Half course (spring term). Th., 3–5.
Diglossia describes a situation in which two (or more) languages coexist, or two varieties of one language, within one speech community. In this course we will examine various aspects of such a linguistic situation from different theoretical points of view, considering this fascinating phenomenon in the history of the Semitic languages.
Note: Expected to be given in 2014–15.

Semitic Philology 151. Introduction to Northwest Semitic Epigraphy
Catalog Number: 2858
John L. Ellison and staff
Half course (fall term). Hours to be arranged.
Readings in Hebrew, Phoenician and other Northwest Semitic inscriptions with an introduction to methods and techniques of Northwest Semitic palaeography, and attention to problems of historical grammar.
Note: Offered jointly with the Divinity School as 1152.
Prerequisite: Good working knowledge of Classical (Biblical) Hebrew.

[Semitic Philology 152. Introduction to Ugaritic]
Catalog Number: 2777
John L. Ellison and staff
Half course (fall term). F., 2–4. EXAM GROUP: 7, 8
Introduction to Ugaritic grammar, with readings in mythological, epistolary, and administrative texts.
Note: Expected to be given in 2014–15. Expected to be given in 2014–15. Offered jointly with the Divinity School as 1153.
Prerequisite: Good working knowledge of Classical (Biblical) Hebrew.

Primarily for Graduates

Semitic Philology 220r. Northwest Semitic Epigraphy: Seminar
Catalog Number: 2948
John L. Ellison and staff
Half course (spring term). F., 2–4. EXAM GROUP: 7, 8
Topic for 2013-14 to be determined; topic for 2012-13 was "Advanced discussion of Ugaritic grammar and texts."
Note: Offered jointly with the Divinity School as 1160.
Prerequisite: Semitic Philology 151.

Cross-listed Courses

Linguistics 221r. Workshop in Indo-European

Graduate Courses of Reading and Research

***Semitic Philology 300. Semitic and Afroasiatic Languages and Literatures**
Catalog Number: 2762
Members of the Department

Sumerian

See also above under Ancient Near Eastern and Biblical Studies.

For Undergraduates and Graduates

Sumerian A. Elementary Sumerian
Catalog Number: 5260
Piotr Steinkeller
Full course (indivisible). Fall: Tu., Th., at 1; Spring: Th., 1:30–4:30. EXAM GROUP: Fall: 15; Spring: 15, 16, 17, 18
Introduction to the Sumerian language with emphasis on grammatical structure.

[Sumerian 120. Intermediate Sumerian]
Catalog Number: 7399
Piotr Steinkeller and assistant
Full course (indivisible). Hours to be arranged.
Note: Expected to be given in 2014–15.
Prerequisite: Knowledge of basic Sumerian grammar, vocabulary, and cuneiform script.

Sumerian 140. Sumerian Historical Texts
Catalog Number: 35916
Piotr Steinkeller
Half course (fall term). W., 1–4. EXAM GROUP: 6, 7, 8

Sumerian 141. Sumerian Myths and Epics
Catalog Number: 9858
Piotr Steinkeller
Half course (spring term). Hours to be arranged.

[Sumerian 145. Sumerian Incantations and Rituals]
Catalog Number: 5259
Piotr Steinkeller
Half course (fall term). W., 1–4. EXAM GROUP: 6, 7, 8
Note: Expected to be given in 2014–15.

[Sumerian 146. Sumerian Religious Literature]
Catalog Number: 2605
Instructor to be determined
Half course (fall term). Hours to be arranged.
Note: Expected to be given in 2014–15.

[Sumerian 149. Sumerian Legal and Economic Texts]
Catalog Number: 8820
Instructor to be determined

Half course (spring term). Tu., 1–4. EXAM GROUP: 15, 16, 17
Note: Expected to be given in 2014–15.

Primarily for Graduates

[Sumerian 200r. Readings in Sumerian: Seminar]
Catalog Number: 7496
Instructor to be determined
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15.

Graduate Courses of Reading and Research

***Sumerian 300. Sumerian Language and Literature**
Catalog Number: 7912
Piotr Steinkeller 7337

Cross-listed Courses

[Linguistics 225a. Introduction to Hittite]

Turkish (Ottoman and Modern)

See also above under Near Eastern Civilizations; Islamic Civilizations.

For Undergraduates and Graduates

[Turkish A. Elementary Modern Turkish]
Catalog Number: 2527
Himmet Taskomur
Full course (indivisible). M. through F., at 10.
Emphasis on all aspects of Turkish grammar toward developing a solid foundation for speaking, listening, reading, writing, and vocabulary skills.
Note: Expected to be given in 2014–15. Not open to auditors. Cannot be taken pass/fail. Cannot divide for credit.

Turkish 120a. Intermediate Modern Turkish I
Catalog Number: 4009
Himmet Taskomur
Half course (fall term). M. through F., at 10. EXAM GROUP: 3, 12
Emphasis on complex sentence structure and building communicative competence in describing events and expressing ideas through exercises in reading, writing, and speaking.
Note: Not open to auditors.
Prerequisite: Turkish A or equivalent.

Turkish 120b. Intermediate Modern Turkish II
Catalog Number: 1394
Himmet Taskomur
Half course (spring term). M. through F., at 10. EXAM GROUP: 3, 12

Studies in argumentative and literary prose.
Note: Not open to auditors.
Prerequisite: Turkish 120a or equivalent.

Turkish 121. Elementary Uzbek
Catalog Number: 14198
William E. Granara and assistant
Full course (indivisible). Fall: M. through Th., at 9. EXAM GROUP: Fall: 2, 11
Introduction to conversational and literary Uzbek. Overview of the grammar, intensive practice of the spoken language, and reading of contemporary texts.
Note: Some knowledge of Modern Turkish or other Turkic language helpful but not required. For information on Uzbek instruction at other levels, please contact the Student Programs Officer at the Davis Center for Russian and Eurasian Studies, reeca@fas.harvard.edu.

Turkish 125a. Intermediate Uzbek I
Catalog Number: 2947
William E. Granara and assistant
Half course (fall term). Hours to be arranged.
Continuation of Elementary Uzbek with an emphasis on further development of both conversational and literary Uzbek.
Note: For information on Uzbek instruction at other levels, please contact the Student Programs Officer at the Davis Center for Russian and Eurasian Studies, reeca@fas.harvard.edu.
Prerequisite: Turkish 121b or equivalent.

Turkish 125b. Intermediate Uzbek II
Catalog Number: 0125
William E. Granara and assistant
Half course (spring term). Hours to be arranged.
A continuation of Turkish 125a.
Prerequisite: Turkish 125a or equivalent.

[Turkish 130a. Advanced Turkish I]
Catalog Number: 42651
William E. Granara and assistant
Half course (fall term). M., 2–4, W., 2–5.
Gaining and improving advanced language skills in Modern Turkish through reading, writing, listening, and speaking with special emphasis on the proper usage of vocabulary and idiomatic expressions.
Note: Expected to be given in 2014–15. Not open to auditors.

[Turkish 130b. Advanced Turkish II]
Catalog Number: 4354
William E. Granara and assistant
Half course (spring term). Hours to be arranged.
Studies in literary and idiomatic prose through readings, discussions, and writing of short analytical papers.
Note: Expected to be given in 2014–15. Not open to auditors.
Prerequisite: Turkish 130a or equivalent.

[Turkish 140a. Introduction to Ottoman Turkish I]
Catalog Number: 8163

Himmet Taskomur
Half course (fall term). Section I: M., W., 12–2; Section II: M., 3–5, W., 2–4.
Introduction to basic orthographic conventions and grammatical characteristics of Ottoman Turkish through readings in printed selections from the 19th and 20th centuries, and exercises on techniques.
Note: Expected to be given in 2014–15. Not open to auditors.
Prerequisite: Turkish A or equivalent; one year of Arabic or Persian desirable.

[Turkish 140b. Introduction to Ottoman Turkish II]
Catalog Number: 8298
Himmet Taskomur
Half course (spring term). Hours to be arranged.
Continuation of Turkish 140a. Exercises on specialized orthographic conventions and grammatical characteristics of Ottoman Turkish through readings in printed selections from the 19th and 20th centuries.
Note: Expected to be given in 2014–15. Not open to auditors.
Prerequisite: Turkish 140a or equivalent.

[Turkish 145. Readings in Ottoman Language and Culture: Early Modern Travel Literature]
Catalog Number: 0095
Himmet Taskomur
Half course (spring term). Hours to be arranged.
Theme: "Early Modern Travel Literature". The course introduces students to various genres of travel writing by focusing on selected themes, including language registers, styles of travelogues.
Note: Expected to be given in 2014–15.
Prerequisite: Advanced reading proficiency in Ottoman Turkish.

Turkish 150a. Advanced Ottoman Turkish: Readings on Ottoman Cultural History between 15th to 18th centuries.
Catalog Number: 91716
Himmet Taskomur
Half course (fall term). M., Th., 5–7:30 p.m. EXAM GROUP: 9, 18
Note: Not open to auditors.
Prerequisite: Turkish 140 or equivalent; one year of Arabic or Persian desirable.

***Turkish 150b. Advanced Ottoman Turkish**
Catalog Number: 40194
Himmet Taskomur
Half course (spring term). M., 2–4, F., 2:30–4:30. EXAM GROUP: 7, 8
Bureaucracy and Empire: Introduction to Ottoman Archival Research. The course introduces research tools for Ottoman archives and surveys central government documents focusing on paleography, diplomatics and linguistic features of documents.
Note: Not open to auditors.
Prerequisite: Turkish 140 or equivalent; one year of Arabic or Persian desirable.

Graduate Courses of Reading and Research

***Turkish 300. Turkish Languages and Literatures**
Catalog Number: 7702
William E. Granara 1054, Cemal Kafadar 2459, and Himmet Taskomur 6296

Yiddish

See also above under Near Eastern Civilizations: Jewish Studies.

Primarily for Undergraduates

Cross-Listed Courses

For Undergraduates and Graduates

Yiddish A. Elementary Yiddish
Catalog Number: 4623
Eitan Lev Kensky and staff
Full course (indivisible). M., W., (F.), at 10. EXAM GROUP: 3
Introduction to the Yiddish language, as written and spoken in Eastern Europe, the Americas, Israel, and around the world, and to the culture of Ashkenazic Jews. Development of reading, writing, speaking, and oral comprehension skills. Course materials include rich selections from Jewish humor, Yiddish songs, and films of Jewish life past and present.
Note: For students with little or no knowledge of Yiddish. Additional sections at different times may be added as needed.

Yiddish Ba. Intermediate Yiddish I
Catalog Number: 6023
Eitan Lev Kensky and staff
Half course (fall term). M., W., (F.), at 12.
Further development of reading, writing, speaking, and oral comprehension skills. Introduction to features of the main Yiddish dialects: Polish/Galician, Ukrainian/Volhynian, and Lithuanian/Belorussian. Course materials include selections from modern Yiddish fiction, poetry, songs, the press, and private letters, as well as pre-WWII and contemporary Yiddish films. Occasional visits from native Yiddish speakers.
Note: Additional sections at different times may be added as needed.
Prerequisite: Yiddish A or equivalent.

Yiddish Bb. Intermediate Yiddish II
Catalog Number: 1239
Eitan Lev Kensky and staff
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
Continuation of Yiddish Ba.
Prerequisite: Yiddish Ba or permission of the instructor.

[Yiddish Ca. Advanced Yiddish I]
Catalog Number: 8331 Enrollment: To enroll, please contact the instructor.
Ruth R. Wisse and staff
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Emphasis on building advanced vocabulary from the three main lexical components, Germanic, Hebrew-Aramaic, and Slavic, and further development of writing, reading, and speech. Continued exploration of the main Yiddish dialects. Introduction to various styles of Yiddish literature, journalism, theater, film, and song, particularly from the nineteenth century to the present, including contemporary sources from both secular Yiddish culture and the Yiddish-speaking "ultra-orthodox" communities of New York, Jerusalem, and elsewhere.

Note: Expected to be given in 2014–15. Additional sections at different times may be added as needed.
Prerequisite: Yiddish Bb or permission of the instructor.

[Yiddish Cb. Advanced Yiddish II]
Catalog Number: 8968 Enrollment: To enroll, please contact the instructor.
Ruth R. Wisse and staff
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Continuation of Yiddish Ca.
Note: Expected to be given in 2014–15.
Prerequisite: Yiddish Ca or permission of the instructor.

Yiddish 130. Three Centers of Yiddish Culture - *(New Course)*
Catalog Number: 95148
Ruth R. Wisse and Eitan Lev Kensky
Half course (fall term). Tu., 2–4, plus a section to be arranged. EXAM GROUP: 16, 17
In 1926, the Yiddish novelist Dovid Bergelson announced the "three centers" of Yiddish literature and culture: New York, Warsaw and Moscow. Using Bergelson's essay as a window on Yiddish modernism, this class looks at the relationship between language, city, and state. We will ask, what distinguished Yiddish culture in one place from another? Did writers see themselves at home or in exile? How did politics affect the Yiddish writer? And what should we make of the other Yiddish centers, Vilna, Kiev, even Berlin?
Note: This class is intended for students with a reading knowledge of Yiddish, though all texts will be available in English translation. Class discussion will be in English. There will be an extra section for Yiddish readers.

Primarily for Graduates

Yiddish 200r. Modern Yiddish Literature: Seminar
Catalog Number: 4263
Ruth R. Wisse
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
An examination of 20th century Yiddish literature from between the world wars, emphasizing the transition from a religiously centered to a largely secular outlook. Materials will be read in Yiddish and the class will be conducted in English.
Note: Offered jointly with the Divinity School as 3719.
Prerequisite: Reading knowledge of Yiddish required.

Graduate Courses of Reading and Research

***Yiddish 300. Yiddish Language and Literature**
Catalog Number: 7833
Ruth R. Wisse 3177

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Neurobiology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Degrees in Neurobiology

Venkatesh N. Murthy, Professor of Molecular and Cellular Biology *(Chair, and Head Tutor)*
Richard T. Born, Professor of Neurobiology *(Medical School)*
Randy L. Buckner, Professor of Psychology and of Neuroscience
Florian Engert, Professor of Molecular and Cellular Biology
Lisa V. Goodrich, Associate Professor of Neurobiology *(Medical School)*
Takao K. Hensch, Professor of Molecular and Cellular Biology *(FAS)* and Professor of Neurology *(Medical School)*
Jeff W. Lichtman, Jeremy R. Knowles Professor of Molecular and Cellular Biology
Margaret S. Livingstone, Professor of Neurobiology *(Medical School)*
Bence P. Olveczky, John L. Loeb Associate Professor of the Natural Sciences
Aravinthan D. T. Samuel, Professor of Physics *(on leave spring term)*
Joshua R. Sanes, Jeff C. Tarr Professor of Molecular and Cellular Biology
Maurice A. Smith, Thomas D. Cabot Associate Professor of Bioengineering
Naoshige Uchida, Professor of Molecular and Cellular Biology
Yun Zhang, Associate Professor of Organismic and Evolutionary Biology

Other Faculty Offering Instruction in Neurobiology

Ryan Wesley Draft, Lecturer on Molecular and Cellular Biology

Neurobiology is the science of how the nervous system organizes behavior. This singular question has spawned a field of study with remarkable vertical range. It investigates phenomena on vastly different scales, from molecules to societies, and draws upon many of the classical disciplines for experimental tools and explanatory frameworks. The neurobiology concentration has its natural hub in the life sciences but emphasizes a solid grounding in other relevant fields. It provides a broad preparation for advanced studies in any of the life sciences or in medicine, and students will have many opportunities for hands-on laboratory experience and independent research projects.

The undergraduate concentration is administered by the Department of Molecular and Cellular Biology. Curriculum and academic policies are determined by a Standing Committee with representatives from several departments of the Faculty of Arts and Sciences, and from other schools as appropriate to ensure the required breadth of the program.

The graduate program in Neurobiology is administered by the Division of Medical Sciences and is listed separately. Graduate level courses on Neurobiology topics can be found in various fields and related chapters of the course catalog. For more information about the Neurobiology Concentration, and a complete listing of courses that count toward the concentration, please visit the Neurobiology Life Science Page.

Primarily for Undergraduates

Neurobiology Supervised Reading and Research

***Neurobiology 98r. Laboratory Research**
Catalog Number: 0494 Enrollment: Laboratory safety session required. This course can be taken twice for concentration credit.
Ryan W. Draft and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
This course is taken to obtain credit for independent laboratory research during the 6th, 7th, or 8th semester. Research work should be directed by a member of the Neurobiology concentration standing committee or an appropriate Harvard affiliated faculty member in another department or institution. All students must submit registration materials for Neurobiology 98r at the time of enrollment.

***Neurobiology 99. Honors Thesis Tutorial**
Catalog Number: 9400
Ryan W. Draft and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
For honors candidates writing a thesis in Neurobiology. This course is ordinarily taken in the last semester of enrollment. The Head Tutor must approve a thesis proposal prior to enrolling in Neurobiology 99.
Note: Laboratory safety session required.

For Undergraduates and Graduates

Tutorials

The Neurobiology 101hf Program is taught by MCB, OEB, and Medical School faculty. Ordinarily the tutorials are half courses spread throughout the year and cannot be divided or combined for credit. Neurobiology tutorials are considered advanced neurobiology courses. Ordinarily, only one tutorial course may be counted toward the secondary field. Students should feel free to contact the tutorial instructors directly. Their names, phone numbers, and e-mail addresses, as well as tutorial seminar course descriptions, are posted on the Life Sciences website under the concentration course listings at www.lifescience.fas.harvard.edu. Please consult the Neurobiology website for dates and times of first meetings.

[*Neurobiology 101hfa (formerly *Neurobiology 95hfd). Novel Therapeutics in the Central Nervous System]
Catalog Number: 3437
Ryan Wesley Draft and Members of the Department
Half course (throughout the year). W., 4:30–6.
Recent advances have elucidated new non-traditional molecular signaling pathways involved in many disorders and injury paradigms in the CNS. This seminar will focus on examining novel targets and 'outside the box' approaches to treat CNS disorders such as Alzheimer's, Spinal Cord Injury, and Multiple Sclerosis. To do this we will examine primary and clinical literature and explore drug design strategies.
Note: Expected to be given in 2014–15.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a, MCB 80, and permission of the instructor.

***Neurobiology 101hfb (formerly *Neurobiology 95hfh). Dopamine**
Catalog Number: 2579
Ryan W. Draft and Members of the Department
Half course (throughout the year). M., 4–5:30. EXAM GROUP: Fall: 9

A Parkinson's victim regains control of her body with l-dopa. A schizophrenic man paralyzed by fear & hallucinations is freed from a mental institution by clozapine. A meth addict lies, cheats & steals, ending up emaciated & dead. Miracles and monstrosities, all related to a single molecule - dopamine. Three phases: (1) lectures & discussion led by Barak Caine; (2) Reading of 17 basic research articles and reviews with Socratic debate; (3) Presentations by students.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a, MCB 80, and permission of the instructor.

[*Neurobiology 101hfc (formerly *Neurobiology 95hfp). Designer Neurons: How Cell Types are Generated in the Nervous System and the Lab]
Catalog Number: 86442 Enrollment: Limited to 15.
Laura M. Magnotti
Half course (throughout the year). Th., 7–8:30 p.m.
The derivation of stem cells from a human embryo ten years ago ignited an explosion of scientific and public interest. This seminar will explore the current understanding of neural stem cells as it relates to their role in physiological and pathological states in developing and adult animals. We will also explore the generation, characterization, and manipulation of neural stem cells in current research.
Note: Expected to be given in 2014–15.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a, MCB 80 and permission of the instructor.

[*Neurobiology 101hfd (formerly *Neurobiology 95hfu). Building a Brain]
Catalog Number: 74392
Ryan W. Draft and Members of the Department
Half course (throughout the year). W., 7–8:30 p.m.
Neuronal connectivity underlies brain function. This seminar focuses on discussing and debating research related to how synaptic connections are influenced by genes, the environment, and chance to generate functional circuits and accommodate learning. In particular we will discuss molecular mechanisms, activity patterns (spontaneous and experience-evoked), and organizational rules implicated in synaptic formation and refinement in the context of many regions within the nervous system (retina, olfactory bulb, cortex, autonomic, and neuromuscular system).
Note: Expected to be given in 2014–15.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a, MCB 80 and permission of the instructor.

[*Neurobiology 101hfe (formerly *Neurobiology 95hfw). Working Memory: From Behavior to Dopamine and Back Again.]
Catalog Number: 15731 Enrollment: Limited to 12.
Ryan Wesley Draft and Members of the Department
Half course (throughout the year). Tu., 7–8:30 p.m. EXAM GROUP: 18
Many daily tasks, such as taking lecture notes, require us to quickly store information and then recall it within seconds to minutes. This seminar will explore the neural basis of such working memory and how it differs computationally and neurally from more long-term memory.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a, MCB 80, and permission of the instructor.

[*Neurobiology 101hff (formerly *Neurobiology 95hfy). Seeing Time in the Brain]
Catalog Number: 72995 Enrollment: Limited to 12.
Ryan Wesley Draft and Members of the Department.
Half course (throughout the year). M., 7–8:30 p.m. EXAM GROUP: 9
Time critically shapes our perceptual experience, yet how the brain represents time is poorly understood. This course investigates the experience of time from multiple perspectives, focusing on a systems-level

analysis of visual time perception. Topics include illusions of time, models of time perception, neuronal mechanisms of time, the meaning of timescales, and the influence of expectation on neural activity.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a, MCB 80.

Neurobiology 101hfg. Synapses: Molecules, Networks, and Behavior - *(New Course)
Catalog Number: 43391
Ryan Wesley Draft and Members of the Department
Half course (throughout the year). Tu., 7–8:30 p.m. EXAM GROUP: 18
The synapse functions as a fundamental signaling unit of the nervous system, and underlies all forms of brain activity. We will first explore the biology of glutamatergic synapses, focusing on receptor function and synaptic plasticity. Then we will address how synapses function in neuronal networks and direct behavior. The course will highlight important biological concepts as well as technical advances.
Prerequisite: LPSA/LS 1a, MCB 80, and permission of the instructor.

Neurobiology 101hfh. More than Glue: Glial Cells in Health and Neurological Disease - *(New Course)
Catalog Number: 87994
Ryan Wesley Draft and Members of the Department
Half course (throughout the year). Th., 7–8:30 p.m. EXAM GROUP: Fall: 18
Glial cells have long been considered passive, supporting cells of the brain. Recently, the notion of glia as inert bystanders is being revised. In this course, we will address the physiological roles for glial cells in the normal nervous system (e.g., synaptic transmission, action potential propagation, brain wiring, etc.). In addition, we will investigate how glia play distinct and prominent roles during neurological diseases such as Alzheimer's disease, multiple sclerosis and autism spectrum disorders.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a, MCB 80, and permission of the instructor.

Neurobiology 101hfi. The Neurobiology of Drug Addiction - *(New Course)
Catalog Number: 57397
Ryan Wesley Draft and Members of the Department
Half course (throughout the year). W., 4–5:30. EXAM GROUP: 9
Students will examine primary literature to understand the acute and chronic action of drugs of abuse, including opioids, cannabinoids, psychostimulants, nicotine, and ethanol. The course will introduce the models of addiction and examine animal and human research results to build an understanding of how modifications to molecular signaling, cells and neural circuits underlie the development of the addicted brain.
Prerequisite: LS 1a, MCB 80, and permission of the instructor. In addition, one of the following courses is required: MCB 52, MCB 54, or MCB 80.

Neurobiology 101hfj. Brain Rhythms in Cognition, Mental Health & Epilepsy - *(New Course)
Catalog Number: 94358
Ryan Wesley Draft and Members of the Department
Half course (throughout the year). W., 7–8:30 p.m. EXAM GROUP: 9
"Everything in the universe has a rhythm, everything dances." - Maya Angelou. The brain, too, dances. Its rhythms are the result of millions of neurons coordinating each other's activity. This course will explore how these rhythms are generated, how they relate to our perception and cognition, and how they can be used to better understand and diagnose psychiatric and neurological disorders.
Prerequisite: LS 1a, MCB 80, and permission of the instructor

Cross-listed Courses in Neurobiology

***BCMP 213. Behavioral Pharmacology**
Biomedical Engineering 110 (formerly Engineering Sciences 145). Physiological Systems Analysis
[Biomedical Engineering 130 (formerly Engineering Sciences 149). Neural Control of Movement]
***Life Sciences 100r. Experimental Research in the Life Sciences**
MCB 80. Neurobiology of Behavior
MCB 105. Systems Neuroscience
MCB 115. Cellular Basis of Neuronal Function
***MCB 129. The Brain: Development, Plasticity and Decline**
[MCB 131. Computational Neuroscience]
***MCB 145. Neurobiology of Perception and Decision Making**
***MCB 146. Experience-Based Brain Development: Causes and Consequences**
MCB 186. Circadian Biology: From Cellular Oscillators to Sleep Regulation
[MCB 206. Introduction to Connectomics]
Neurobiology 204. Neurophysiology of Central Circuits
Neurobiology 207. Developmental Neurobiology
Neurobiology 209. Neurobiology of Disease
***Neurobiology 220. Cellular Neurophysiology**
Neurobiology 221. Molecular Neurobiology
Neurobiology 230. Visual Object Recognition
OEB 57. Animal Behavior
OEB 105 (formerly OEB 205). Neurobiology of Motor Control
OEB 145. Genes and Behavior
OEB 223. Topics in Neurogenetics
[Physics 141. The Physics of Sensory Systems in Biology]
[Psychology 1307. Brain Genomics]
[Psychology 1430. Human Memory and Amnesia]
***Psychology 2480. Human Neuropsychology/Neuroanatomy: Laboratory**
SCRB 180. Regeneration and Repair in the Mammalian Brain

Oceanography

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Oceanography

Eli Tziperman, Pamela and Vasco McCoy, Jr. Professor of Oceanography and Applied Physics, Area Dean Environmental Sciences & Engineering, *(Chair)*
Peter John Huybers, Professor of Earth and Planetary Sciences and of Environmental Science and Engineering
James J. McCarthy, Professor of Biological Oceanography and Alexander Agassiz Professor of Biological Oceanography
Daniel P. Schrag, Sturgis Hooper Professor of Geology and Professor of Environmental Science and

Engineering

Courses in the various branches of oceanography are listed separately under the headings Earth and Planetary Sciences, Biology, and Engineering Sciences in this catalog. Further opportunities for study in oceanography exist at the Woods Hole Oceanographic Institution and at the Woods Hole Marine Biological Laboratory. Interested students are invited to contact members of the Faculty Committee on Oceanography for additional advice. The committee encourages undergraduate and graduate students to pursue sea-going and other oceanography-related research and study opportunities, including during the summer, at a variety of possible institutions in the US and abroad. Interested students are encouraged to write the committee chair for specific advice on this and to apply for funding in order to pursue such oceanography-related projects, field work, or study opportunities. Please see the Oceanography website for more information.

Organismic and Evolutionary Biology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Organismic and Evolutionary Biology

John Wakeley, Professor of Organismic and Evolutionary Biology *(Chair)*
Arkhat Abzhanov, Associate Professor of Organismic and Evolutionary Biology *(on leave 2013-14)*
Andrew J. Berry, Lecturer on Organismic and Evolutionary Biology
Andrew A. Biewener, Charles P. Lyman Professor of Biology
Kirsten Bomblies, Thomas D. Cabot Associate Professor of Organismic and Evolutionary Biology
Michael R. Canfield, Lecturer on Organismic and Evolutionary Biology
Jennifer A. Carr, Preceptor in Organismic and Evolutionary Biology
Colleen M. Cavanaugh, Edward C. Jeffrey Professor of Biology
Stacey A. Combes, Associate Professor of Organismic and Evolutionary Biology
Charles C. Davis, Professor of Organismic and Evolutionary Biology and Curator of Vascular Plants in the Harvard University Herbaria
Benjamin Lovegren de Bivort, Assistant Professor of Organismic and Evolutionary Biology
Michael Manish Desai, Assistant Professor of Organismic and Evolutionary Biology and of Physics
Scott V. Edwards, Professor of Organismic and Evolutionary Biology, Alexander Agassiz Professor of Zoology in the Museum of Comparative Zoology, and Curator of Ornithology
Cassandra G. Extavour, Associate Professor of Organismic and Evolutionary Biology
Brian D. Farrell, Professor of Biology
David R. Foster, Senior Lecturer on Biology
William Friedman, Arnold Professor of Organismic and Evolutionary Biology
Peter R. Girguis, Professor of Organismic and Evolutionary Biology
Gonzalo Giribet, Alexander Agassiz Professor of Zoology and Curator of Invertebrates in the Museum of Comparative Zoology *(Director of Undergraduate Studies)*
David A. Haig, George Putnam Professor of Organismic and Evolutionary Biology *(on leave 2013-14)*

James Hanken, Professor of Biology and Curator of Herpetology, Alexander Agassiz Professor of Zoology in the Museum of Comparative Zoology
Daniel L. Hartl, Higgins Professor of Biology *(FAS)* and Professor in the Department of Immunology and Infectious Diseases *(Public Health)*
Hopi E. Hoekstra, Professor of Organismic and Evolutionary Biology and Molecular and Cellular Biology, and Curator of Mammals in the Museum of Comparative Zoology
N. Michele Holbrook, Charles Bullard Professor of Forestry *(on leave 2013-14)*
Robin Hopkins, Assistant Professor of Organismic and Evolutionary Biology
Collin H. Johnson, Preceptor in Organismic and Evolutionary Biology
Andrew H. Knoll, Fisher Professor of Natural History and Professor of Earth and Planetary Sciences *(on leave fall term)*
Elena M. Kramer, Bussey Professor of Organismic and Evolutionary Biology
George V. Lauder, Henry Bryant Bigelow Professor of Ichthyology and Curator of Ichthyology in the Museum of Comparative Zoology
Jonathan Losos, Monique and Philip Lehner Professor for the Study of Latin America and Curator in Herpetology *(Director of Graduate Studies)*
L. Mahadevan, Lola England de Valpine Professor of Applied Mathematics, of Organismic and Evolutionary Biology, and of Physics
James Mallet, Distinguished Lecturer on Organismic and Evolutionary Biology
Christopher Marx, Associate Professor of Organismic and Evolutionary Biology, Visiting Professor of Organismic and Evolutionary Biology, Visiting Associate Professor of Organismic and Evolutionary Biology
James J. McCarthy, Professor of Biological Oceanography and Alexander Agassiz Professor of Biological Oceanography
Paul R. Moorcroft, Professor of Organismic and Evolutionary Biology
Martin A. Nowak, Professor of Mathematics and of Biology
Bence P. Olveczky, John L. Loeb Associate Professor of the Natural Sciences
Donald H. Pfister, Asa Gray Professor of Systematic Botany, Curator of the Farlow Library and Herbarium, and Interim Dean of Harvard College *(on leave spring term)*
Naomi E. Pierce, Sidney A. and John H. Hessel Professor of Biology and Curator of Lepidoptera
Anne E. Pringle, Associate Professor of Organismic and Evolutionary Biology
Andrew Richardson, Associate Professor of Organismic and Evolutionary Biology
Fulton E. Rockwell, Lecturer on Organismic and Evolutionary Biology
Pardis Sabeti, Associate Professor of Organismic and Evolutionary Biology
Elizabeth M. Wolkovich, Assistant Professor of Organismic and Evolutionary Biology
Robert M. Woollacott, Professor of Biology and Curator of Marine Invertebrates in the Museum of Comparative Zoology
Yun Zhang, Associate Professor of Organismic and Evolutionary Biology

Other Faculty Offering Instruction in Organismic and Evolutionary Biology

William H. Bossert, David B. Arnold, Jr. Professor of Science
Michael S. Gilmore, Sir William Osler Professor of Ophthalmology *(Medical School)*
David T. Johnston, Associate Professor of Earth and Planetary Sciences
Anna G. Warrener, Lecturer on Human Evolutionary Biology

Affiliates of the Department of Organismic and Evolutionary Biology

Arthur L. Lage, Associate Professor of Surgery *(Medical School)*
Daniel E. Lieberman, Edwin M. Lerner II Professor of Biological Sciences, Harvard College Professor
Maryellen Ruvolo, Professor of Human Evolutionary Biology *(on leave fall term)*

Primarily for Undergraduates

OEB 10. Foundations of Biological Diversity
Catalog Number: 7967
Brian D. Farrell, Elena M. Kramer, and Andrew Richardson
Half course (fall term). M., W., F., at 12, and two hours of laboratory/discussion section weekly, including field trips to marine and forest environments. EXAM GROUP: 5
An integrated approach to the diversity of life, emphasizing how chemical, physical, genetic, ecological and geologic processes contribute to the origin and maintenance of biological diversity. Topics to be covered include the evolution of metabolic pathways, multicellularity and structural complexity; causes and consequences of differences in diversity over space and time; the role of species interactions (including symbioses) as an evolutionary force; and the evolution of humans and their impact on the environment.
Note: Knowledge of introductory molecular, cellular biology, and genetics is recommended. This course, when taken for a letter grade, meets the General Education requirement for Science of Living Systems or the Core requirement for Science B.

OEB 50. Genetics and Genomics
Catalog Number: 72331
Kirsten Bomblies and Daniel L. Hartl
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Fundamental concepts in genetics and genomics forming a critical foundation for biology approached from two perspectives: (1) as a body of knowledge pertaining to genetic transmission, function, mutation, and evolution in eukaryotes and prokaryotes; and (2) as an experimental approach providing a toolkit for the study of biological processes such as development and behavior. Topics include structure, function, transmission, linkage, mutation, and manipulation of genes; genetic approaches in experimental studies of biological processes; and analysis of genomes in individuals and populations. Related ethical issues also discussed include genetically modified organisms, gene therapy, genetic testing, personalized medicine, and genetic privacy.

OEB 51. Biology and Evolution of Invertebrate Animals
Catalog Number: 7873 Enrollment: Limited to 12.
Gonzalo Giribet and Cassandra G. Extavour
Half course (spring term). Lectures Tu., Th., 10-11:30; laboratory on Wednesdays with hours to be arranged. EXAM GROUP: 12, 13
Introduction to invertebrate diversity, will cover the development, adult anatomy, biology and evolutionary relationships of the main animal phyla including sponges, mollusks, annelids and arthropods among others. Special emphasis is placed on understanding the broad diversity of animal forms and their adaptations to different ecosystems and how these phenomena shape animal evolution. Lectures will be complemented with a mandatory weekly lab and a field trip to different areas of outstanding marine diversity in the Caribbean.
Note: Field trip to the Caribbean for research during spring break.
Prerequisite: LS1b, OEB 10, OEB 53 or permission of instructor required.

OEB 52. Biology of Plants
Catalog Number: 1343

Elena M. Kramer
Half course (spring term). Tu., Th., 10-11:30, one afternoon laboratory per week, plus occasional field trips. EXAM GROUP: 12, 13
Introduction to the structure, diversity, and physiology of plants with an emphasis on evolutionary relationships and adaptations to life on land. Topics include growth, resource acquisition, interactions with other organisms (i.e., fungi, bacteria, insects), reproduction, and survival in extreme environments. Laboratory sessions provide an overview of plant and diversity and an introduction to basic physiological processes.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of Living Systems or the Core area requirement for Science B.

OEB 53. Evolutionary Biology
Catalog Number: 3342
Andrew J. Berry and James Mallet
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
The course covers micro- and macro-evolution, ranging in its focus from population genetics through molecular evolution to the grand patterns of the fossil record. Topics emphasized include both natural and sexual selection, the ecological context of adaptation, genomic and developmental mechanisms of evolutionary innovation, speciation, phylogenetics, and evolutionary approaches to human problems.
Note: This course, when taken for a letter grade, meets the Core requirement for Science B.
Prerequisite: Life Sciences 1b or permission of instructor.

[OEB 54. Biology of the Fungi]
Catalog Number: 9326
Donald H. Pfister
Half course (fall term). Tu., Th., 1-2:30, and a weekly laboratory on Tu., 2:30 -5. EXAM GROUP: 15, 16
This course explores the fascinating diversity of the kingdom fungi, including evolution, ecology and morphology. All of the major groups of fungi, from smuts to molds, will be included. Students use a variety of techniques to learn about these organisms and their activities.
Note: Expected to be given in 2014–15. There is a weekly laboratory, and several afternoon field trips are required (dates to be announced). This course, when taken for a letter grade, meets the Core area requirement for Science B.
Prerequisite: Life Sciences 1a and 1b or permission of instructor.

OEB 55. Ecology: Populations, Communities, and Ecosystems
Catalog Number: 3365
Paul R. Moorcroft
Half course (spring term). M., W., F., at 10, and a weekly discussion section, and two field trips on either Saturdays or Sundays during mid-April to early-May. EXAM GROUP: 3
This course examines the relationships of organisms to their environment at the individual, population, and community level. The course covers topics in both pure and applied ecology including: adaptations to the physical environment, population dynamics, competition, predator-prey interactions, community ecology, ecosystem structure, stability, and function, the ecology of infectious diseases, and natural resource management.
Note: This course, when taken for a letter grade, meets the Core requirement for Science B.
Prerequisite: Mathematics 1a or 1b.

OEB 56. Geobiology and the History of Life
Catalog Number: 22846
David T. Johnston and Andrew H. Knoll

Half course (spring term). M., W., F., at 10, and a weekly three-hour lab to be arranged, and one field trip. EXAM GROUP: 3
Within our solar system, Earth is distinguished as the planet with life. Life was born of planetary processes, has been sustained for some four billion years by planetary processes, and through time has emerged as a set of planetary processes that is important in its own right. In this course we will investigate the ways that Earth and life interact, focusing in particular on the biogeochemical cycles of major elements. This will provide a framework for interpreting the history of life reconstructed from fossils and phylogeny.
Note: OEB 56 is also offered as EPS 56. Students may not take both OEB 56 and EPS 56 for credit.
Prerequisite: EPS 21, 22, or Life Sciences 1b; or permission of instructor.

OEB 57. Animal Behavior
Catalog Number: 2539
Naomi E. Pierce and Bence P. Olveczky
Half course (spring term). Tu., Th., at 10; Guest lectures and film screenings W., at 7:30 pm; one hour discussion section weekly. EXAM GROUP: 12
A review of the behavior of animals under natural conditions, with emphasis on both mechanistic and evolutionary approaches. Topics include classical ethology; behavioral endocrinology; behavioral genetics; learning and memory; communication; orientation, migration and biological rhythms; optimal foraging; evolutionary stable strategies; sexual selection; parental investment and mating systems; selfishness, altruism, and reciprocity; and sociality in vertebrates and invertebrates.
Note: This course, when taken for a letter grade, meets the Core area requirement for Science B.

OEB 59. Plants and Human Affairs
Catalog Number: 5281
Donald H. Pfister and Charles C. Davis
Half course (fall term). M., W., at 10. EXAM GROUP: 3
An introduction to the uses of plants by humans. Topics include the form, structure and genetics of plants related to their use as sources of food, shelter, fiber, flavors, beverages, drugs, and medicines. Plant structure and reproduction are studied in lecture and laboratory with a particular focus on relationships between the plant's structural, chemical, or physiological attributes and the utility plant.
Note: This course, when taken for a letter grade, meets the Core requirement for Science B.
Prerequisite: OEB 10 or permission of the instructor.

OEB 91r. Supervised Reading
Catalog Number: 6374
David A. Haig and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading on topics not covered by regular courses. For OEB concentrators, work may be supervised by faculty in other departments, provided it is co-sponsored by an OEB faculty member. For non-concentrators, work must be directed by an OEB faculty member. Students must submit a registration request to the OEB Undergraduate Office before enrollment. Students cannot take OEB 91r and 99r simultaneously with the same director.

***OEB 99r. Supervised Research**
Catalog Number: 7744
David A. Haig and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Course taken in one or more semesters to obtain credit for independent research, including research toward a senior thesis. Work should be directed by an OEB faculty member or have an OEB faculty

sponsor. All students must submit registration materials for OEB 99r at the time of enrollment.
Note: Laboratory safety session required.

For Undergraduate and Graduates

[OEB 100. Evolution in Action]
Catalog Number: 9930 Enrollment: Limited to 16.
Christopher Marx
Half course (spring term). M., 4–5:30. EXAM GROUP: 9
In this project based laboratory course students will conduct research utilizing experimental evolution of microbial populations. The research will address questions that synthesize knowledge of genetics, biochemistry, systems biology, microbiology, evolution and ecology.
Note: Expected to be given in 2014–15.
Prerequisite: Life Sciences 1a and 1b or permission of the instructor required. Open to students from any concentration

[OEB 103. Plant Systematics and Evolution]
Catalog Number: 8704
Charles C. Davis
Half course (spring term). Tu., Th., 10–11:30, and a four hour lab on Fridays. EXAM GROUP: 12, 13
An introduction to the diversity and evolution of vascular plants. The course focuses mainly on flowering plants because of their dominant role on the earth, but lycophytes, ferns, and gymnosperms are studied as well. A phylogeny of vascular plants provides the framework for their evolution and diversification. Related subjects, including plant habitats, biogeography, phylogenetics, herbaria, nomenclature, and pollination biology are also presented in lecture and laboratory.
Note: Expected to be given in 2014–15. There are two midterms, a final, and frequent lab quizzes.
Prerequisite: OEB 10 or permission of instructor.

OEB 105 (formerly OEB 205). Neurobiology of Motor Control
Catalog Number: 1519
Bence P. Olveczky
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
This course explores the functional organization and anatomy of motor circuits in the brain and how they control movements, including simple reflex movements, rhythmic movements, and more complex sequences of learned movements.
Prerequisite: MCB 80 or equivalent or permission of instructor.

[OEB 106. Plant Development and Differentiation]
Catalog Number: 4559
Elena M. Kramer and Pamela Diggle
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
A comprehensive lecture course on the developmental biology of plants from fertilization through all phases of vegetative and reproductive growth. Material includes both morphological and genetic studies. Although the main focus of the course is angiosperms, examples are drawn from other lineages of land plants as well. Additional topics include control of cell division and elongation, signal transduction, and hormone response.
Note: Expected to be given in 2014–15.
Prerequisite: Life Sciences 1b and OEB 52 (formerly OEB 124) or permission of the instructor.

[OEB 107. Evolution of Plant Life in Geologic Time]
Catalog Number: 1318 Enrollment: OEB 107 is also offered as EPS 107. Students may not take both OEB 107 and EPS 107 for credit.
Andrew H. Knoll
Half course (fall term). M., W., at 10, and a weekly 2-hour lab to be arranged. EXAM GROUP: 3
Origin, evolution, dispersal, paleoecology, and geologic history of the major groups of the plant kingdom. Laboratory study of representative groups, living and fossil.
Note: Expected to be given in 2014–15.
Prerequisite: OEB 10 or permission of instructor.

[OEB 114. Vertebrate Viviparity]
Catalog Number: 4953
David A. Haig
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
Viviparity has evolved many times in vertebrate phylogeny. The course reviews the diversity of parental care in vertebrates and explores the selective forces that have favored the evolution of live-bearing. The evidence for intergenerational conflicts is considered.
Note: Expected to be given in 2014–15.
Prerequisite: Life Sciences 1b or permission of instructor.

[OEB 115. Evolutionary Developmental Biology in Animals]
Catalog Number: 9892
Arkhat Abzhanov
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
A lecture course in evolutionary developmental biology. Main principles and mechanisms of development as illustrated on both invertebrate and vertebrate animal model systems. In this course we will discuss how animal embryos develop adult body plans on cellular and molecular level. Particular emphasis will be placed on how knowledge of developmental biology helps us understand major evolutionary transitions and the origin of innovation in animal evolution.
Note: Expected to be given in 2014–15.
Prerequisite: Life Sciences 1a (or LPS A) and 1b, or permission of instructor. OEB 10, MCB 52, and MCB 54 are recommended but not required. Open to students from any concentration.

[OEB 117. The Mathematics of Evolution]
Catalog Number: 11415
Michael Manish Desai
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
The quantitative basis of evolutionary theory: models of natural selection, mutations, and genetic drift at a single locus; multilocus problems in evolutionary dynamics including topics such as Muller's ratchet, hitchhiking, quasi-linkage equilibrium and strong linkage approximations; evolution of recombination and mutation rates and other modifiers of evolvability; an introduction to genealogical approaches; inference in population genetics; evolution in structured populations; and interactions between ecology, epidemiology, and evolution.
Note: Expected to be given in 2014–15.
Prerequisite: Mathematics through calculus and familiarity with differential equations and probability.

[OEB 118. Biological Oceanography]
Catalog Number: 7752
James J. McCarthy
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13

The ocean as an ecological system, with focus on environmental-organismal interactions that regulate plankton production and transfer to higher trophic levels. Specific topics include bloom events, the limits to fish harvest, and the effects of climate change on ocean systems. Plankton demonstrations and optional coastal research vessel day trip.
Note: Expected to be given in 2014–15. For biology and other natural science concentrators.
Prerequisite: OEB 10, Physical Sciences 1 or permission of instructor.

OEB 119. Deep Sea Biology
Catalog Number: 1397
Peter R. Girguis
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
The oceans contain 97% of Earth's water, and host the most disparate ecosystems on the planet. This course provides an introduction to deep ocean habitats, macrofauna and microorganisms. Emphasis is placed on the physiological adaptations of organisms to their environment, as well the role of microbes in mediating oceanic biogeochemical cycles.

***OEB 121a. Research in Comparative Biomechanics: Seminar**
Catalog Number: 4049
Andrew A. Biewener, Stacey A. Combes, George V. Lauder, and Anna G. Warrener
Half course (spring term). Hours to be arranged.
Introduces students to experimental techniques used to investigate the structure and physiology of animals. Each instructor offers research projects that are undertaken in their laboratory (limit 5 students per instructor). Students meet to introduce their project, discuss their work and progress, and to present their final results. An extensive commitment of time in the laboratory is required. Grades are based on the work completed, the oral presentation, and a short research paper.
Note: Laboratory safety session required.

[OEB 123. Biology of Symbiosis]
Catalog Number: 0508
Colleen M. Cavanaugh
Half course (spring term). Hours to be arranged.
An examination of the major aspects of microbial endosymbiosis with emphasis on mutualisms, although some parasitic interactions are covered. Topics include origins of the eukaryotic cell, specificity and recognition of partners, distribution and diversity of associations, and coevolution of host and symbiont. The course covers symbiotic interactions among bacteria and archaea with protists, fungi, plants, and animals, including the human microbiome.
Note: Expected to be given in 2014–15.
Prerequisite: Life Sciences 1b, OEB 10, and MCB 52 or equivalent, or permission of instructor.

[OEB 125. Molecular Ecology and Evolution]
Catalog Number: 2691
Scott V. Edwards
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
A survey of theory and applications of DNA technologies to the study of evolutionary, ecological and behavioral processes in natural populations. Topics to be covered will span a variety of hierarchical levels, timescales, and taxonomic groups, and will include the evolution of genes, genomes and proteins; the neutral theory of molecular evolution and molecular clocks; population genomics and phylogenetic principles of speciation and phylogeography; metagenomics of microbial communities; relatedness and behavioral ecology; molecular ecology of infectious disease; and conservation genetics.
Note: Expected to be given in 2014–15. Weekly computer laboratories will introduce the use of the

internet and computational software in DNA sequence alignment and phylogenetic and population genetic analysis.
Prerequisite: Life Sciences 1b, OEB 10, OEB 53 or MCB 52.

[OEB 130. Biology of Fishes]
Catalog Number: 4624
George V. Lauder
Half course (spring term). M., W., 11–12:30. EXAM GROUP: 4, 5
Fishes inhabit diverse aquatic environments including deep seas, intertidal zones, coral reefs, polar waters, the vast Amazonian basin, and great East African lakes. A single fish species may occupy diverse environments through extraordinary long distance horizontal and vertical migrations. To explore this unparalleled diversity, the course emphasizes bridging traditional academic boundaries with integrative analyses of the biology underlying rapid evolutionary radiations and stasis.
Note: Expected to be given in 2015–16.

OEB 131. Neuroethology - *(New Course)*
Catalog Number: 31902 Enrollment: Limited to 16.
Benjamin Lovegren de Bivort
Half course (spring term). F., at 2 and a weekly lab to be arranged. EXAM GROUP: 7
The evolutionary success of animals depends on how effectively they respond to external events with useful behaviors. Neuroethology is the study of the neurobiological mechanisms underlying adaptive behaviors. In this laboratory class we will examine the adaptive behaviors of three organisms: fruit flies, flatworms and cockroaches. By following published experimental protocols, and testing novel student-developed hypotheses, we will explore the transformation of external stimuli to behavioral output, the role of neurotransmitter systems and neuromodulatory states, the effect of genetic mutation and genomic background, and the physiology of locomotion. In culmination, students will develop their own multi-week experimental project.
Prerequisite: MCB 80 or OEB 57 or instructor's permission

[*OEB 132. Tropical Plant Ecophysiology]
Catalog Number: 61306
N. Michele Holbrook
Half course (spring term). M., 1–4. EXAM GROUP: 6, 7, 8
An introduction to the ecology and physiology of South America ecosystems, with an emphasis on how physiological processes contribute to plant diversity and ecosystem functioning. Lectures and hands-on laboratory sessions will explore how rainforest, cerrado, caatinga, seasonally dry forests, mangroves, paramo, cold and warm desert plants obtain the water, nutrients and CO2 needed for them to carry out photosynthesis. The course will cover basic physiological processes, as well as environmental conditions of the major South American biomes and ecosystems.
Note: Expected to be given in 2014–15. Course meets on alternate weeks at the Arnold Arboretum.
Prerequisite: One half course in OEB or permission of the instructor.

[OEB 141. Biogeography]
Catalog Number: 85974
Gonzalo Giribet
Half course (spring term). M., W., 2–3:30. EXAM GROUP: 7, 8
Biogeography aims to explain distributions of organisms through historical and ecological factors. This course will focus on the history of biogeographic research, developments in the area of historical biogeography, and on ecological processes that affect distributions of whole clades. Topics include plate tectonics and earth history, vicariance and dispersal, areas of endemism, phylogenetic niche conservatism,

latitudinal gradients in species richness, and the theory of island biogeography. Software for biogeographical analysis will be discussed and evaluated.
Note: Expected to be given in 2014–15.
Prerequisite: Two following courses: Life Sciences 1b, OEB 10, OEB 51, OEB 52, OEB 53, OEB 54, OEB 55, OEB 181, or permission of the instructor.

OEB 145. Genes and Behavior
Catalog Number: 48436
Yun Zhang
Half course (fall term). M., W., 3–4:30. EXAM GROUP: 8, 9
Behavior is inheritable and regulated by genes. This lecture course explores the causal links between the genes encoded in the genome and various behaviors, aiming to provide mechanistic understandings on how gene products control and influence behavioral outputs. The topics of the lectures cover both important findings as well as major research approaches in the field. The behavioral traits in discussion include olfaction, mechanosensation, foraging, circadian rhythm, aggression, courtship, sleep, social recognition, learning and memory, etc. The organisms that we will discuss include invertebrates, vertebrates and humans.
Note: This course, when taken for a letter grade, meets the Core area requirement for Science B.
Prerequisite: Life Science 1a.

[OEB 150. Vertebrate Evolution and Development]
Catalog Number: 62937
Arkhat Abzhanov
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
A survey of the evolution and development of major groups of vertebrates, integrating the paleontological record of the origin of chordates, diverse fishes, amphibians, reptiles, birds, and mammals with current understanding of the genetic, cellular and developmental mechanisms that underlie these transformations.
Note: Expected to be given in 2014–15. Not open to students who have taken OEB 139.

[OEB 153. Statistics for Biology]
Catalog Number: 49559
John Wakeley
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
Introduction to probability and statistical distributions, and the principle and practice of statistical inference, with a focus on genetical and other biological applications; in other words, how to defend your claims and not be fooled by quantitative arguments.
Note: Expected to be given in 2014–15. This course is offered every other year.
Prerequisite: Mathematics through Calculus.

***OEB 155r. Biology of Insects**
Catalog Number: 2346 Enrollment: Limited to 15.
Naomi E. Pierce and Michael R. Canfield
Half course (fall term). W., F., 1:30–3. EXAM GROUP: 6, 7
An introduction to the major groups of insects. The life history, morphology, physiology, and ecology of the main taxa are examined through a combination of lecture, lab, and field exercises. Topics include the phylogeny of terrestrial arthropods with a review of the extant orders, an analysis of abiotic and biotic factors regulating populations, including water balance, temperature, migration, parasitism, mutualism, sociality, insect/plant interactions, medical entomology, and the use of insects in biological control.
Prerequisite: With permission of instructor.

OEB 157. Global Change Biology
Catalog Number: 7055
Paul R. Moorcroft and James J. McCarthy
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course examines how natural and anthropogenic changes in the earth system are affecting the composition and the functioning of the world's land and ocean ecosystems. Topics include: the ecological impacts of natural and anthropogenic changes in the earth's physical environment, and the effects of introduced species, species extinctions, land-use change, agriculture, and fishing.
Prerequisite: OEB 10 or OEB 53 and Mathematics 1a required. OEB 55 (formerly BS 55) recommended.

OEB 167. Herpetology
Catalog Number: 4070
James Hanken and Jonathan Losos
Half course (spring term). Tu., Th., 1-2:30; Lab: W., 2:30-5:30. EXAM GROUP: 15, 16
An introduction to the biology of amphibians and reptiles. Lectures and laboratories examine the morphology, systematics, natural history, behavior, ecology, evolutionary relationships, and biogeography of all major taxa.
Note: The course is planning an optional week-long field trip during spring break.

[OEB 168r. Sociobotany]
Catalog Number: 5092
David A. Haig
Half course (spring term). F., 2–4. EXAM GROUP: 7, 8
A study of the diversity and evolution of plant life cycles, with an emphasis on interactions between the generations. The course will focus on bryophytes.
Note: Expected to be given in 2014–15.
Prerequisite: Permission of instructor.

OEB 173. Comparative Biomechanics
Catalog Number: 9667
Andrew A. Biewener and Stacey A. Combes
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
An exploration of how animals and plants contend with their physical environment, considering their biomaterial properties, structural form, and mechanical interaction with the environment. Through lectures, seminar discussions, class activities, and student presentations based on readings, students are introduced to topics related to biomechanical performance.
Prerequisite: Mathematics 1b, Physical Science 2 or Physics 11a; Mathematics 21a recommended, or permission of instructor.

OEB 181. Systematics
Catalog Number: 5459
Gonzalo Giribet
Half course (fall term). Tu., Th., 10-11:30; laboratory on Wednesdays with hours to be arranged. EXAM GROUP: 12, 13
Theory and practice of systematics, emphasizing issues associated with homology statements and alignments, methods of tree reconstruction, and hypothesis evaluation. The course combines theoretical considerations, paying special attention to algorithmic aspects of phylogenetics, with the use of different computer programs for conducting evolutionary and phylogenetic analyses.
Prerequisite: OEB 53, LS1b or permission of instructor required. Familiarity with computers, especially PC platforms.

OEB 185. Genetic Conflict
Catalog Number: 98102
Kirsten Bomblies
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Some genes cheat random inheritance to gain disproportionate representation in progeny. The results for organisms range from beneficial to strongly detrimental; some may even cause extinction. The evolution of selfish elements and their suppressors is a rich drama that unfolds in genomes with important implications for evolution, speciation, human and animal health, and agriculture. This course will explore the mechanisms by which genes or chromosomes cheat, and counterstrategies that evolve to thwart them.

[OEB 190. Biology and Diversity of Birds]
Catalog Number: 3870 Enrollment: Limited to 12.
Scott V. Edwards
Half course (spring term). Tu., Th., 11:30-1, and two hours weekly of specimen laboratory. EXAM GROUP: 13, 14
An introduction to the biology of birds. Covers the fossil record and theories for avian origins, physiology and anatomy, higher-level systematics and field characters of the ~27 orders, speciation processes, nesting and courtship behavior, vocalizations, mating systems and sexual selection, cooperative breeding, demography and conservation. Optional field trip during spring break. Laboratories will consist of gross anatomy, bird watching excursions in the Cambridge area, field techniques and specimen preparation, and systematic study of avian groups using the collections of the Museum of Comparative Zoology.
Note: Expected to be given in 2015–16.
Prerequisite: OEB 10 or OEB 53 or permission of the instructor.

[OEB 191. Physiological and Biochemical Adaptation]
Catalog Number: 2314
Peter R. Girguis
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course examines how microbes and animals have evolved to maintain function throughout the wide range of extant habitats. Emphasis is on physiological/biochemical evolution in response to environmental conditions, including climate change and life in extreme environments. As the first course in the "genomes to biomes" series, we will examine new approaches to interrogating organismal physiology in nature. Those interested can continue the "genomes to biomes" program via LS 100r.
Note: Expected to be given in 2014–15. One lab per week.
Prerequisite: OEB 10 or CHEM 27 or permission of the instructor.

OEB 192. Microbial Evolution
Catalog Number: 5019
Christopher Marx
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
An examination of the evolution of microbes through an integration of lectures and discussion of primary literature. We will focus on a series of broad questions for which we will draw upon knowledge from both lab-based study of experimental microcosms and comparative studies of natural populations. Notably, students will conduct their own experimental evolution projects using ’digital organisms’.
Prerequisite: Life Sciences 1a and Life Sciences 1b or equivalent required.

[OEB 194. Laboratory Techniques in Ecological Physiology]
Catalog Number: 19882
Peter R. Girguis and Stacey A. Combes
Half course (spring term). Hours to be arranged.

An introduction to laboratory techniques in experimental physiology, this course will utilize a variety of equipment and several model organisms to empirically investigate foundational concepts in physiological and biochemical adaptation. Labs will complement and extend topics discussed in the companion class, OEB191. After demonstrating proficiency with core techniques, students will design independent research projects to explore novel questions in ecological physiology.
Note: Expected to be given in 2014–15.
Prerequisite: Concurrent or previous enrollment in OEB 191, or instructor approval.

Primarily for Graduates

[OEB 209. Oxygen and Life]
Catalog Number: 67224
Andrew H. Knoll and Peter R. Girguis
Half course (fall term). W., 12–2. EXAM GROUP: 5, 6
In this seminar, we will explore the molecular and physiological interactions between organisms and oxygen, and use these to shed light on the role of oxygen in modulating evolutionary change through Earth history.
Note: Expected to be given in 2014–15.
Prerequisite: One of the following: OEB 191, EPS 181, EPS 186; or permission of instructors

***OEB 210. Writing Scientific Papers**
Catalog Number: 37244 Enrollment: Limited to 12.
Andrew Richardson
Half course (fall term). M., W., 2:30–4. EXAM GROUP: 7, 8
You've designed your experiment, made your measurements, and analyzed your data. Now what? How do you write a paper that will not only get accepted, but also get cited? This is a hands-on workshop course targeted at graduate students who are ready to write up their first research paper for submission to a peer-reviewed scientific journal. The class will emphasize the idea that your paper should tell a (nonfiction!) story that engages the reader. By the end of the semester you will have a coherent, well-structured, and polished manuscript.

[OEB 212r. Advanced Topics in Plant Physiology]
Catalog Number: 2176
N. Michele Holbrook
Half course (spring term). Hours to be arranged.
A critical discussion of current research in plant physiology including measurement techniques, modeling, and experimental approaches.
Note: Expected to be given in 2014–15.
Prerequisite: OEB 120 , OEB 52 or permission of instructor.

[*OEB 214. Biology of Acoustic Communities]
Catalog Number: 2422 Enrollment: Limited to 12.
Brian D. Farrell
Half course (spring term). Tu., 11:30–1. EXAM GROUP: 13, 14
Four principal animal groups (insects, frogs, birds and mammals) sing and call in habitats around the world. We discuss the ecology, evolution and characteristics of such acoustic communities and the hypothesis that their members compete for "bandwidth". We discuss readings on acoustic ecology and evolution, and listen to (and watch, via spectrum analysis) soundscapes from selected tropical and temperate habitats. The capstone will be a fieldtrip to record natural soundscapes.

Note: Expected to be given in 2014–15.
Prerequisite: OEB 10 or permission of the instructor.

[OEB 215. Topics in Ecophysiology]
Catalog Number: 99294
Stacey A. Combes
Half course (fall term). Tu., 3–5. EXAM GROUP: 17, 18
A discussion based course exploring the physiological processes involved in an organism's interactions with its environment. Readings will focus on adaptation to environmental variability, with an emphasis on responses to climate change and habitat alteration.
Note: Expected to be given in 2014–15.
Prerequisite: OEB 191 or permission of instructor

***OEB 220r. Writing fellowship and grant proposals for the biological sciences**
Catalog Number: 15907
Stacey A. Combes
Half course (fall term). W., 1–3.
This course will prepare graduate students to write NSF-style proposals through in-class exercises, group analysis of writing samples, talks by former NSF panel members, and writing assignments geared towards meeting November proposal deadlines.

OEB 221. Microbial Diversity
Catalog Number: 1234
Colleen M. Cavanaugh
Half course (fall term). Tu., 1:30–4. EXAM GROUP: 15, 16, 17
Examines the remarkable diversity of the microbial world, "the unseen majority". Physiological, genetic, ecological, and evolutionary characteristics of Bacteria and Archaea are discussed, as well as the relation of phenotype to phylogeny. The course has strong links to fields ranging from geochemistry and climate change to the human microbiome, and will include discussions with experts in microbial biodiversity.
Prerequisite: Background in microbial science and/or permission of instructor.

OEB 223. Topics in Neurogenetics
Catalog Number: 1434
Yun Zhang
Half course (spring term). W., 2–3:30. EXAM GROUP: 7, 8
We will discuss current literatures related to genetic effects on neural functions, including: (1) mental illness; (2) neurodegenerative diseases; (3) various behaviors; (4) learning and memory.
Note: The course is primarily planned for new graduate students, but it is also open to interested senior undergraduates who have taken OEB 57 (formerly BS 57) or MCB 80 and obtained permission from the instructor.

***OEB 230. Genomics of Species Evolution**
Catalog Number: 0122
James Mallet
Half course (spring term). Th., 1:30–3:30. EXAM GROUP: 15, 16, 17
This discussion-based course will survey modern ideas about speciation, and how they have changed as a result of genomic approaches. As well as readings and discussions in class, the course will utilize live online video sessions with major players in the field of evolutionary genomics and speciation.
Prerequisite: Permission of instructor. Instructor's permission. It is recommended that a basic evolution or population genetics course will have been taken (e.g. OEB 53 or OEB 242).

[*OEB 231. Adaptation]
Catalog Number: 95671
Hopi E. Hoekstra
Half course (spring term). M., 2–4. EXAM GROUP: 8
This discussion-based course covers the latest advances in the study of adaptation with a focus on controversial issues and integrative approaches. The course combines readings from recent primary literature with discussion with experts via video conferencing.
Note: Expected to be given in 2014–15.

***OEB 234. Topics in Marine Biology**
Catalog Number: 4637
Robert M. Woollacott
Half course (spring term). W., 2:30–5. EXAM GROUP: 7, 8, 9
Human impacts on marine life and ecosystems of the sea.
Note: Weekly class meeting including lectures, class presentations, several laboratories, and one field trip through the course of term.

[OEB 242. Population Genetics]
Catalog Number: 0903
Daniel L. Hartl and Michael Manish Desai
Half course (spring term). W., 2–5. EXAM GROUP: 7, 8, 9
Mathematical theory, experimental data, and history of ideas in the field, including analytical methods to study genetic variation with applications to evolution, demographic history, agriculture, health and disease. Includes lectures, problem sets, and student presentations.
Note: Expected to be given in 2014–15.
Prerequisite: LS1b or permission of the instructor.

***OEB 251. Introduction to Vertebrate Surgery**
Catalog Number: 2075 Enrollment: Limited to 16.
Arthur L. Lage (Medical School)
Half course (fall term). W., 1-3, and a weekly lab, W., 3-6. EXAM GROUP: 6, 7
Teaches the basic principles of aseptic surgery with emphasis on practicality. Students learn basic "open" surgery as well as newer high-tech videoscopic minimally invasive technique, obtaining hands-on experience in scrubbing, gowning, and sterile technique while serving as anesthetist and surgeon.
Note: Intended for the student interested in the application of surgical technique in higher studies in biology and related disciplines.
Prerequisite: Comparative anatomy, Life Sciences 2 (or OEB 102), or equivalent course.

[OEB 252. Coalescent Theory]
Catalog Number: 0118
John Wakeley
Half course (fall term). M., W., F., at 9. EXAM GROUP: 2
The mathematics and computation of ancestral inference in population genetics. Theory relates observable genetic data to factors of evolution such as mutation, genetic drift, migration, natural selection, and population structure.
Note: Expected to be given in 2015–16.
Prerequisite: OEB 242 or permission of instructor: calculus and statistics or probability.

OEB 253r. Evolutionary Genetics Seminar
Catalog Number: 8104

John Wakeley
Half course (spring term). W., at 11. EXAM GROUP: 4
Readings and discussion of primary literature in population and evolutionary genetics.
Prerequisite: OEB 152 or permission of instructor.

[OEB 255. Nature and Regulation of Marine Ecosystems]
Catalog Number: 7753
James J. McCarthy and guest lecturers
Half course (spring term). F., 1–3.
A presentation of topics that are of current interest in marine ecosystems. Emphasis on identification and quantification of biological and environmental factors important in the regulation of community structure.
Note: Expected to be given in 2014–15.
Prerequisite: OEB 118 or OEB 157.

OEB 258. Adaptive Radiation and Macroevolution - *(New Course)*
Catalog Number: 68083
Jonathan Losos
Half course (fall term). Tu., 2:30–5.
A critical examination of the concepts and methods related to the study of adaptive radiation and macroevolutionary diversification. Evolutionary consequences will be studied from both empirical and theoretical perspectives. Emphasis will be placed on current controversies on applying modern conceptual and analytical approaches to long-standing questions.

[OEB 261r. Developmental Mechanisms of Evolutionary Change]
Catalog Number: 8451
Arkhat Abzhanov
Half course (spring term). F., 2–4. EXAM GROUP: 7, 8
This lecture-seminar course will consider how mechanisms of animal developmental genetics help to explain the scope and patterns of animal diversity. Particular emphasis is placed on major evolutionary transitions and the origin of innovations.
Note: Expected to be given in 2014–15.
Prerequisite: LS 1A and LS 1B or by permission of the instructor.

[OEB 264. Sustainability Science: Interactions between Human and Environmental Systems]
Catalog Number: 16239
William C. Clark (Kennedy School) and N. Michele Holbrook
Half course (fall term). Tu., Th., 1:10–2:30.
A research seminar on how core theories of sustainability science provide a framework for improving the well-being of present and future generations in ways that conserve the planet's life support systems. The seminar will engage in a critical discussion of the underlying theory of the field and evaluate case studies of efforts to manage particular coupled human-environment systems.
Note: Expected to be given in 2014–15. Offered jointly with the Kennedy School as IGA-944.

[OEB 268r. Topics in Plant Developmental Genetics]
Catalog Number: 5020
Pamela Diggle
Half course (fall term). Tu., Th., 1-2:30, with Lab on Thursdays, 3-5. EXAM GROUP: 15, 16
This lecture/laboratory covers plant anatomy and development, including the structure and function of cells, tissues, and organs and their developmental origin at the shoot apical meristem. Techniques of histology and microscopy also are covered.

Note: Expected to be given in 2014–15.
Prerequisite: OEB 106 and Life Sciences 1b or BS 50, or MCB 52 or permission of instructor.

[OEB 275r. Phylogenomics, Comparative Genomics and Adaptation]
Catalog Number: 5004
Scott V. Edwards
Half course (fall term). Th., 2-4, and occasional computer labs. EXAM GROUP: 16, 17
This semester we will explore through readings of the recent literature the ways in which comparative genomics can inform phylogeny and genomic adaptation. In addition to surveying recent methods for harnessing thousands of loci for phylogenetic reconstruction, we will also study how comparing genomes of higher clades can reveal signatures of adaptation, particularly in the noncoding portion of the genome.
Note: Expected to be given in 2014–15.
Prerequisite: OEB 53, OEB 181, OEB 125 or equivalent.

***OEB 277. In Sickness and in Health: Topics in Symbiosis**
Catalog Number: 37264
Colleen M. Cavanaugh
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Critical review and discussion of current issues in symbiosis. Emphasis is on microbe-eukaryote symbioses ranging from mutualistic to pathogenic associations. In 2011 the course will focus on the human microbiome and topics selected by faculty and students.
Prerequisite: Life Sciences 1a, 1b or equivalent, microbial science, or permission of instructor.

***OEB 278. Ecological Genetics**
Catalog Number: 0732
Anne E. Pringle
Half course (fall term). W., 1–3:30.
Ecological genetics explores the adjustments and adaptations of wild populations to their environment. We will use the primary literature to explore how diverse organisms are actually evolving in nature, and challenge the traditional divide between evolution and ecology.

[OEB 279. Microbial Metabolic Systems] - *(New Course)*
Catalog Number: 79668
Christopher Marx
Half course (spring term). Hours to be arranged.
This course covers microbial metabolism, with a focus on quantitative analyses and modeling. Rather than a laundry list of what different microbes can do, we will focus on thinking about metabolism from the more generic point of view of systems of enzymes, concentrations, and fluxes. We will cover empirical, computational, and theoretical approaches, including concepts such as Flux Balance Analysis and Metabolic Control, and focusing upon the selective pressures that operate on metabolism.
Note: Expected to be given in 2014–15.
Prerequisite: LS1A or equivalent

[OEB 282. Genomics and Evolution of Infectious Disease (Graduate Seminar in General Education)]
Catalog Number: 43026
Pardis Sabeti
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Infectious diseases rapidly evolve to evade our immune systems, drugs, and vaccines, to remain agents of great morbidity and mortality. We will investigate the genome evolution of these pathogens and our

intervention strategies for them past and present, with case examples from avian flu, malaria, TB, lassa fever and more. The seminar will design and develop a General Education course on these themes for undergraduates.
Note: Expected to be given in 2014–15.

***OEB 290. Microbial Sciences: Chemistry, Ecology and Evolution**
Catalog Number: 7185 Enrollment: Limited to 30.
Michael S. Gilmore (Medical School)
Half course (spring term). F., at 8:30, F., 9:45–11:45. EXAM GROUP: 2
This is an interdisciplinary graduate-level and advanced undergraduate-level course in which students explore topics in molecular microbiology, microbial diversity, and microbially-mediated geochemistry in depth. This course will be taught by faculty from the Microbial Sciences Initiative. Topics include the origins of life, biogeochemical cycles, microbial diversity, and ecology.
Note: Also offered as as Microbiology 210.
Prerequisite: For advanced undergraduates, Life Sciences 1a and 1b are required, or permission of instructor. MCB 52 is recommended.

[*OEB 296. Conservation History, Values, and Law]
Catalog Number: 17821
Jonathan Losos and David R. Foster
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
Designed for students in ecology and evolution. Through readings and discussion we examine the history of the conservation/preservationist movements. We focus on how various constituencies value nature, and the legal system for protecting nature.
Note: Expected to be given in 2014–15.

***OEB 299r. Forest Practice and Research**
Catalog Number: 6128
David R. Foster
Half course (fall term; repeated spring term). Hours to be arranged.
Field and laboratory research into the history, biology, ecology, culture, and economic problems of local, regional, and world forests. Individual research projects.
Note: Seminars, conferences, field, and laboratory work at the Harvard Forest, Petersham, Massachusetts.

Cross-listed Courses

[Earth and Planetary Sciences 181. Historical Geobiology]
[*Environmental Science and Public Policy 90e. Conservation Biology]
Human Evolutionary Biology 1420. Human Evolutionary Anatomy
[*Human Evolutionary Biology 1463. Molecular Evolution of the Primates]
Life Sciences 1b. An Integrated Introduction to the Life Sciences: Genetics, Genomics, and Evolution
Life Sciences 2. Evolutionary Human Physiology and Anatomy
Mathematics 153. Mathematical Biology-Evolutionary Dynamics
Mathematics 243. Evolutionary Dynamics
[*MCB 162. Major Advances in Understanding Heredity and Evolution]
MCB 291. Genetics, Genomics and Evolutionary Biology

Graduate Courses of Reading and Research

***OEB 303. Theoretical Population Genetics**
Catalog Number: 4248
John Wakeley 5680

***OEB 304. Mycology**
Catalog Number: 4702
Donald H. Pfister 4344 (on leave spring term)

***OEB 305. The Fundamental Interconnectedness of All Things**
Catalog Number: 3647
David A. Haig 1629 (on leave 2013-14)

***OEB 307. Biomechanics, Physiology and Musculoskeletal Biology**
Catalog Number: 2831
Andrew A. Biewener 1446

***OEB 308. Evolution of Floral Developmental Mechanisms**
Catalog Number: 5535
Elena M. Kramer 3791

***OEB 310. Metazoan Systematics**
Catalog Number: 3975
Gonzalo Giribet 3854

***OEB 311. Ecosystem Ecology**
Catalog Number: 6416
Paul R. Moorcroft 4174

***OEB 320. Biomechanics and Evolution of Vertebrates**
Catalog Number: 8915
George V. Lauder 2375

***OEB 323. Advanced Vertebrate Anatomy**
Catalog Number: 8188
Instructor to be determined

***OEB 324. Molecular Evolution**
Catalog Number: 2356
Daniel L. Hartl 3278

***OEB 325. Marine Biology**
Catalog Number: 4643
Robert M. Woollacott 4135

***OEB 334. Behavioral Ecology**
Catalog Number: 8279
Naomi E. Pierce 2889

***OEB 335. Ichthyology and Functional Anatomy of Fishes**
Catalog Number: 4640
Instructor to be determined

***OEB 339. Whole-Plant Physiology**
Catalog Number: 5214
N. Michele Holbrook 1220 (on leave 2013-14)

***OEB 341. Coevolution**
Catalog Number: 2998
Brian D. Farrell 1985

***OEB 343. Microbial Ecology and Symbiosis**
Catalog Number: 1288
Colleen M. Cavanaugh 2538

***OEB 345. Biological Oceanography**
Catalog Number: 4676
James J. McCarthy 4343

***OEB 355. Evolutionary Developmental Biology**
Catalog Number: 9192
James Hanken 2719

***OEB 357. Population Biology and Mathematical Biology**
Catalog Number: 5392
William H. Bossert 1049

***OEB 359. Paleobotany**
Catalog Number: 0248
Andrew H. Knoll 7425 (on leave fall term)

***OEB 361. Somatic Evolution of Cancer**
Catalog Number: 5791
Martin A. Nowak 4568

***OEB 362. Research in Molecular Evolution**
Catalog Number: 2367
Scott V. Edwards 5049

***OEB 363. Plant Diversity and Evolution**
Catalog Number: 0001
Charles C. Davis 5263

***OEB 364. Ecological Physiology of Microbes**
Catalog Number: 0002
Peter R. Girguis 5264

***OEB 365. Evolution of Microbes**
Catalog Number: 0003
Christopher J. Marx 5265

***OEB 366. Evolution, Ecology, and Fungi**
Catalog Number: 0004
Anne Pringle 5266

***OEB 367. Evolutionary and Ecological Diversity**
Catalog Number: 0420
Jonathan Losos 5449

***OEB 368. Oral Developmental Biology**
Catalog Number: 7087
Arkhat Abzhanov 5597 (on leave 2013-14)

***OEB 369. Molecular Genetics of Neuroscience**
Catalog Number: 5175
Yun Zhang 5780

***OEB 370. Mammalian Evolutionary Genetics**
Catalog Number: 3072
Hopi E. Hoekstra 5814

***OEB 371. Comparative and Evolutionary Invertebrate Developmental Biology**
Catalog Number: 7188
Cassandra G. Extavour 6035

***OEB 372. Neural Basis of Learned Motor Behaviors**
Catalog Number: 8438
Bence P. Olveczky 6003

***OEB 373. Plant Population Biology**
Catalog Number: 34452
Kirsten Bomblies 6337

***OEB 375. Evolutionary Dynamics and Population Genetics**
Catalog Number: 60662
Michael Manish Desai 6547

***OEB 376. Insect Biomechanics and Behavioral Ecology**
Catalog Number: 75769
Stacey A. Combes 6030

***OEB 378. Terrestrial Ecology**
Catalog Number: 24247
Andrew Richardson 6562

OEB 380. Neurobiological Basis of Behavior - *(New Course)
Catalog Number: 50426
Benjamin Lovegren de Bivort 7305

***OEB 385. Natural Selection in Humans and Pathogens**
Catalog Number: 39354
Pardis Sabeti 6022

***OEB 386. Organismic and Evolutionary Plant Biology**
Catalog Number: 55867
William Friedman 6896

***OEB 399. Topics in Organismic and Evolutionary Biology**
Catalog Number: 0764
Jonathan Losos 5449
Half course (fall term; repeated spring term). W., 5-7 pm.
Presents the research interests and experiences of scientists in organismic and evolutionary biology. Specific topics treated vary from year to year.
Note: Required of all first-year graduate students in Organismic and Evolutionary Biology.

Philosophy

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Philosophy

Sean D. Kelly, Professor of Philosophy *(Chair)*
Selim Berker, John L. Loeb Associate Professor of the Humanities *(on leave 2013-14)*
Matthew Boyle, Professor of Philosophy
Cheryl K. Chen, Senior Lecturer on Philosophy
Warren Goldfarb, Walter Beverly Pearson Professor of Modern Mathematics and Mathematical Logic *(Head Tutor)*
Güven Güzeldere, Senior Lecturer on Philosophy and Psychology
Edward J. Hall, Professor of Philosophy
Russell Edward Jones, Assistant Professor of Philosophy *(on leave 2013-14)*
Frances Kamm, Professor of Philosophy *(on leave 2013-14)*
Peter Koellner, Professor of Philosophy
Christine M. Korsgaard, Arthur Kingsley Porter Professor of Philosophy
Douglas Lavin, John L. Loeb Associate Professor of the Humanities
Jeffrey K. McDonough, Professor of Philosophy
Richard Moran, Brian D. Young Professor of Philosophy
Bernhard Nickel, Professor of Philosophy

Mark Richard, Professor of Philosophy *(Director of Graduate Studies)*
Thomas M. Scanlon, Jr., Alford Professor of Natural Religion, Moral Philosophy, and Civil Polity *(on leave spring term)*
Amartya Sen, Lamont University Professor
Tommie Shelby, Caldwell Titcomb Professor of African and African American Studies and of Philosophy *(on leave 2013-14)*
Susanna Siegel, Edgar Pierce Professor of Philosophy
Alison Simmons, Samuel H. Wolcott Professor of Philosophy, Harvard College Professor
W. Hugh Woodin, Professor of Philosophy and of Mathematics

Other Faculty Offering Instruction in Philosophy

Richard H. Fallon, Ralph S. Tyler, Jr. Professor in Constitutional Law *(Law School)*
Eric M. Nelson, Professor of Government
Parimal G. Patil, Professor of Religion and Indian Philosophy

Affiliates of the Department of Philosophy

Gennaro Chierchia, Haas Foundations Professor of Linguistics
Michael E. Rosen, Professor of Government

Primarily for Undergraduates

Philosophy 3. Introduction to the Problems of Philosophy
Catalog Number: 1996
Bernhard Nickel
Half course (fall term). M., W., (F.), at 11, and a weekly section to be arranged. EXAM GROUP: 4
An introduction to philosophy. Focus on the three main areas of concern: epistemology (the theory of knowledge), metaphysics (the theory of the nature of reality), and ethics (the theory of what we ought to do). Emphasis on philosophical modes of argument and inquiry. The course aims as much at developing the skills involved in pursuing these and other philosophical concerns as at acquainting students with particular positions.

[Philosophy 7. Introduction to Ancient Philosophy]
Catalog Number: 1583
Russell Edward Jones
Half course (spring term). M., W., (F.), at 11.
A survey of ancient Greek philosophy, with an emphasis on Socrates, Plato, and Aristotle. Topics include: the nature of reality, and how we come to know it; the nature and value of wisdom and virtue, and how we might come to attain them; and the good life for human beings, with special attention to the place of justice and friendship in it.
Note: Expected to be given in 2014–15.

Philosophy 8. Introduction to Early Modern Philosophy
Catalog Number: 8947
Alison Simmons
Half course (spring term). M., W., (F.), at 12. EXAM GROUP: 5
A survey of 17th- and 18th-century philosophy with a focus on the major metaphysical and epistemological writings of Descartes, Locke, Hume, and Kant. Topics include the natures of mind and

body, the existence of God, the existence of the external world, the nature and limits of human knowledge, and the changing relationship between science and philosophy.

Philosophy 15. Moral Dilemmas - *(New Course)*
Catalog Number: 20728
Douglas Lavin
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
An introduction to questions in moral philosophy that arise from reflection on ordinary life. Topics from among issues raised by death, suicide, euthanasia, abortion, war, terrorism, punishment, poverty, scarce resources, future generations, non-human animals, sex and race.

Philosophy 19. Introduction to Philosophy of Religion
Catalog Number: 20223
Cheryl K. Chen
Half course (fall term). Tu., Th., at 11. EXAM GROUP: 13
An examination of some central themes in the philosophy of religion. Topics include: arguments for and against the existence of God, divine attributes, the problem of evil, miracles, religious experience, the relation between religion and science, and life and death. Readings from historical and contemporary sources.

Philosophy 22. Introduction to Philosophy of Psychology
Catalog Number: 54404
Güven Güzeldere
Half course (spring term). Tu., Th., at 11. EXAM GROUP: 13
An introduction to philosophical questions in psychology and the cognitive sciences: the nature of consciousness, the relation between perception, cognition, and introspection, the pertinence of language for rational thought, and the role of memory for personal identity and the self. We also examine related questions, such as how we can study the content of minds in non-human animals and assess the possibility of minds in robots, as well as how certain brain dysfunctions affect the mind and the self.

Philosophy 34. Existentialism in Literature and Film (formerly Humanities 14) - *(New Course)*
Catalog Number: 60569
Sean D. Kelly
Half course (spring term). M., W., at 11. EXAM GROUP: 4
What is it to be a human being? How can human beings live meaningful lives? These questions guide our discussion of theistic and atheistic existentialism and their manifestations in literature and film. Material includes philosophical texts from Pascal, Kierkegaard, Nietzsche, Sartre; literature from Dostoevsky, Kafka, Beckett; films from Jean-Luc Godard, Alain Resnais, Carol Reed.

***Philosophy 91r. Supervised Reading and Research**
Catalog Number: 9710
Warren Goldfarb
Half course (fall term; repeated spring term). Hours to be arranged.
Graded independent study under faculty supervision. Interested students need approval of head tutor for their topic and must propose a detailed syllabus before the beginning of term.

***Philosophy 97. Tutorial - I**
Catalog Number: 2435
Warren Goldfarb

Half course (fall term; repeated spring term). Hours to be arranged.
Note: Required of all sophomore concentrators, and for the secondary field in philosophy.

***Philosophy 98hf. Tutorial — Junior Year**
Catalog Number: 5533
Warren Goldfarb
Half course (throughout the year). Hours to be arranged.
Note: Required of all junior concentrators.

***Philosophy 99. Tutorial — Senior Year**
Catalog Number: 4396
Warren Goldfarb and members of the Department.
Half course (fall term; repeated spring term). Hours to be arranged.

Cross-listed Courses

Culture and Belief 31. Saints, Heretics, and Atheists: An Historical Introduction to the Philosophy of Religion
Empirical and Mathematical Reasoning 17 (formerly Quantitative Reasoning 22). Deductive Logic
Ethical Reasoning 13 (formerly Moral Reasoning 56). Self, Freedom, and Existence
[Ethical Reasoning 14 (formerly Moral Reasoning 33). Issues in Ethics]
Ethical Reasoning 21 (formerly Moral Reasoning 66). Moral Reasoning about Social Protest
***Social Studies 10a. Introduction to Social Studies**

For Undergraduates and Graduates

[Philosophy 102. Aristotle]
Catalog Number: 8100
Russell Edward Jones
Half course (fall term). Hours to be arranged.
A survey of some central topics in the work of Aristotle, with attention to his philosophical methodology and his views on nature, substance, change, psychology, and ethics. Readings will include selections from *Categories*, *Analytics*, *Physics*, *Metaphysics*, *De Anima*, and *Nicomachean Ethics*.
Note: Expected to be given in 2014–15.

Philosophy 120. The Rationalists
Catalog Number: 2512
Jeffrey K. McDonough
Half course (fall term). M., W., (F.), at 11.
The Early Modern Era was dominated by two broad philosophical traditions: British Empiricism and Continental Rationalism. This course examines the development of Continental Rationalism through the works of its three most important proponents, René Descartes, Baruch Spinoza, and G.W. Leibniz. Focusing on their contributions to metaphysics and epistemology, specific topics will include rationalist treatments of philosophical method, skepticism, knowledge, the nature of substance, mind-body relations, and the metaphysical foundations of science. Attention to how the Rationalists reacted to the medieval tradition and their Empiricists rivals, and set the stage for Kant's "Copernican Revolution."

[Philosophy 122. British Empiricism]
Catalog Number: 9025
Jeffrey K. McDonough

Half course (spring term). Hours to be arranged.
A study of the central works of Locke, Berkeley, and Hume, with primary emphasis on their contributions to metaphysics and epistemology.
Note: Expected to be given in 2014–15.

Philosophy 129. Kant's *Critique of Pure Reason*
Catalog Number: 0614
Matthew Boyle
Half course (spring term). M., W., (F.), at 11. EXAM GROUP: 4
A careful reading of the work that is the cornerstone of Kant's critical system, his first *Critique,* aiming at a general understanding of the problems that Kant seeks to address and the significance of his doctrine of "transcendental idealism." Topics to include: the role of mind in the constitution of experience; the nature of space and time; the relation between self-knowledge and knowledge of objects; causation; freedom of the will; the relation between appearance and reality; the status of metaphysics.

Philosophy 139x. Heidegger: Being and Time
Catalog Number: 12433
Sean D. Kelly
Half course (fall term). Tu., Th., 11–12:30, and a weekly discussion section to be arranged. EXAM GROUP: 13, 14
A close reading of Martin Heidegger's *Being and Time.* Topics from Division I of the book include: In what sense, and on the basis of what, is the world we inhabit intelligible? In what sense do we inhabit such an intelligible world? And what, after all, is the relation between what is and what we understand there to be? Division II of the book addresses existential issues such as: death, guilt, authenticity, history, and temporality. We aim to read the entire book.

Philosophy 141. Frege, Russell, and the Early Wittgenstein
Catalog Number: 6807
Warren Goldfarb
Half course (fall term). M., W., (F.), at 1, and a weekly section to be arranged. EXAM GROUP: 6
An examination of the beginnings of analytic philosophy, with primary interest in the reformulation of traditional philosophical problems by these three authors and the analytic and logical methods they introduced to treat them.

Philosophy 144. Logic and Philosophy
Catalog Number: 1111
Warren Goldfarb
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
Three philosophically important results of modern logic: Gödel's incompleteness theorems; Turing's definition of mechanical computability; Tarski's theory of truth for formalized languages. Discusses both mathematical content and philosophical significance of these results.

Philosophy 147. Philosophy of Language
Catalog Number: 8887
Mark Richard
Half course (spring term). M., W., (F.), at 1. EXAM GROUP: 6
An introduction to recent philosophical thought about language. Topics to include: relations between meaning and truth; the extent to which meaning is determinate and the extent to which it is shared; conceptions of language use as performative or expressive; the idea that there is a gulf between factual and evaluative language.

Philosophy 149z. Philosophy of Science
Catalog Number: 54787
Edward J. Hall
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Survey of 20th century and contemporary views on the nature of scientific knowledge, and related metaphysical issues. Topics include: logical empiricism, Popper and "falsifiability", induction and confirmation, explanation, scientific realism, causation and laws of nature, and the sense (if any) in which "everything reduces to physics".

[Philosophy 151z. Philosophy of Quantum Mechanics]
Catalog Number: 5465
Edward J. Hall
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
A crowning achievement of 20th century science, quantum mechanics requires that we separate the wheat of genuine mystery from the chaff of philosophical confusion. No prior knowledge of quantum mechanics required.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Science A.

Philosophy 156. Philosophy of Mind
Catalog Number: 3410
Cheryl K. Chen
Half course (spring term). Tu., Th., at 12. EXAM GROUP: 14
The mind-body problem and proposed solutions to it, including dualism, behaviorism, identity theories, and functionalism. Theories of consciousness, subjective experience, and the mind's representation of the world.

Philosophy 160. Classics of Philosophical Psychology: Proseminar - *(New Course)
Catalog Number: 77411
Susanna Siegel
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Readings from old and new classics in philosophical psychology, including primarily William James's *The Principles of Psychology*, Susan Carey's *The Origin of Concepts*, and Tyler Burge's *Origins of Objectivity*.

Philosophy 163. Rationality and Irrationality
Catalog Number: 83126
Matthew Boyle
Half course (fall term). M., W., (F.), at 12.
What kind of power is rationality; in what respects does it set humans apart from nonrational creatures? To what extent, if any, is a special form of understanding brought to bear in making sense of rational creatures? Though human beings are capable of rationality, clearly we are often actually irrational: we do what we judge not to be worth doing and believe what we know to be unjustified. How are such phenomena to be understood?

Philosophy 168. Kant's Ethical Theory
Catalog Number: 8361
Christine M. Korsgaard
Half course (spring term). M., W., (F.), at 12. EXAM GROUP: 5
A study of Kant's moral philosophy, based primarily on the *Groundwork of Metaphysics of Morals*, the

Critique of Practical Reason, and *The Metaphysics of Morals.*
Note: This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning or the Core area requirement for Moral Reasoning.

[Philosophy 172. The History of Modern Moral Philosophy]
Catalog Number: 5184
Christine M. Korsgaard
Half course (fall term). Hours to be arranged.
A study of the development of modern moral philosophy from its origins in the natural law theories of Hobbes and Pufendorf to the emergence of the two most influential theories of the modern period, utilitarianism and Kantianism, in the works of Bentham and Kant. Selections from the works of Hobbes, Clarke, Butler, Hutcheson, Hume, Smith, Price, and others.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning or the Core area requirement of Moral Reasoning.

Philosophy 175. Ethical Theory: Proseminar - *(New Course)
Catalog Number: 73169
Douglas Lavin
Half course (fall term). Th., 2–4.
A study of some major trends in ethical theory. Some topics include the nature of goodness, virtue (e.g. justice, benevolence, courage), duty, pleasure, happiness, and practical rationality. Is it rational to be just? Can an unjust person be happy? Is being virtuous sufficient for being happy? Readings from classical and contemporary authors such as Plato, Aristotle, Hume, Williams, Foot and Nagel.

Philosophy 178q. Equality and Liberty
Catalog Number: 77839
Thomas M. Scanlon, Jr.
Half course (fall term). Tu., Th., at 1, and a weekly section to be arranged. EXAM GROUP: 15
Arguments for equality, conceptions of liberty, and the relations between the two.
Note: This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning.

Philosophy 187. Aesthetics
Catalog Number: 2594
Richard Moran
Half course (spring term). Tu., Th., at 1. EXAM GROUP: 15
An examination of some texts of philosophical aesthetics from the 18th and 19th centuries, texts which either represent or anticipate the Romantic period. Themes include the role of emotion in art, the nature of expression and its relation to the will, problems of sincerity, and art or poetry as sources of knowledge. Readings will include some, but probably not all, of the following authors: Diderot, Schiller, Burke, Kant, Hume, Hegel, Lessing, Rousseau.

Philosophy 191. Philosophy without Borders: India and Europe: Proseminar - *(New Course)
Catalog Number: 44625
Alison Simmons and Parimal G. Patil
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
European and Indian traditions of philosophy are rarely studied together, and yet they grapple with many of the same fundamental questions: What am I? What can I know? What really exists? Is there a God (or gods)? What is the good life? Working with some classic Buddhist and Western philosophical texts we

will launch a conversation between these traditions. At the same time, we will explore what is lost and gained by this sort of philosophical exchange.

Cross-listed Courses

[Mathematics 141. Introduction to Mathematical Logic]

Primarily for Graduates

Philosophy 207z. Aristotle's Ethics: Seminar - *(New Course)
Catalog Number: 81189
Christine M. Korsgaard
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
A study primarily of the *Nicomachean Ethics*, with attention to the metaphysical and psychological bases of the theory in the *Metaphysics* and *On the Soul.*
Prerequisite: Some background in Aristotle's philosophy and/or ethical theory.

***Philosophy 224. Topics in Early Modern Philosophy: Seminar**
Catalog Number: 57097
Jeffrey K. McDonough
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
This seminar will focus on the whole of Spinoza's philosophical masterpiece, *The Ethics.* Topics include Spinoza's views on the nature of God, freedom, human nature, the mind-body problem, the passions, virtue, eternity and blessedness.

***Philosophy 237. Wittgenstein: Seminar**
Catalog Number: 4165
Warren Goldfarb
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Issues in philosophy of logic, philosophy of mathematics, and philosophy of mind in the *Tractatus* and the *Philosophical Investigations*. Attention to metaphilosophical questions, particularly concerning continuities between Wittgenstein's early and later views.

Philosophy 246. Generics: Seminar - *(New Course)
Catalog Number: 72099
Bernhard Nickel
Half course (spring term). M., 2–4.
An investigation of semantic and metaphysical issues raised by genericity, our ability to frame generalizations about kinds as a whole (e.g., "ravens are black," "tigers have stripes"). We'll use genericity as a case study to look at the interaction between contemporary semantic theorizing and non-semantic philosophical concerns, as well as at what the proper subject matter of semantics is in the first place.

***Philosophy 248. Topics in the Philosophy of Mathematics: Seminar**
Catalog Number: 87478
Peter Koellner
Half course (fall term). W., 4–6.
Mathematical objects and knowledge of mathematical truths. We will start with weak systems of arithmetic and work through more complex systems, to systems involving the infinite in a substantive way. Focus on contemporary authors.

Philosophy 251. Knowledge and Abilities: Seminar - *(New Course)
Catalog Number: 96596
Mark Richard
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
A discussion of recent work in philosophy on the relations between propositional knowledge, abilities, and skills. Topics drawn from the following: the distinction between knowing how and knowing that; implicit knowledge; the semantics and purposes of knowledge ascriptions; embodiment and knowledge.

Philosophy 257. Other Minds: Seminar - *(New Course)
Catalog Number: 82242
Matthew Boyle and Richard Moran
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
A consideration of some problems about what it is to encounter another subject, a mind that is not one's own. Topics to include: the relation between knowledge and recognition, the body, empathy, the role of theory.

Philosophy 272. Foundations of Justice - *(New Course)
Catalog Number: 24586
Amartya Sen and Eric M. Nelson
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
The course will explore a number of contemporary debates about the nature, scope, and requirements of justice. Is justice an objective standard accessible to reason, or is it, in some sense, the product of human choice? Do we have obligations of justice to all human beings, or only to our fellow citizens? Which, if any, facts about individuals are "arbitrary from a moral point of view"? In order to pursue justice in the real world, do we need a theory of justice? If so, what issues would the theory have to resolve?
Note: Offered jointly with the Law School as 2620.

***Philosophy 277. Philosophy and Law: Seminar**
Catalog Number: 94967
Richard H. Fallon (Law School) and Thomas M. Scanlon, Jr.
Half course (fall term). W., 5–7 p.m. EXAM GROUP: 9
An exploration of some of the ways in which philosophical analysis and discussions of what the law is and ought to be can enrich one another. Readings will include drafts of works-in-progress by philosophers, political theorists, and law professors who will present their work in the seminar.
Note: Offered jointly with Harvard Law School as 2470.

***Philosophy 299hf. Individual Supervision**
Catalog Number: 8076
Mark Richard and members of the Department
Half course (throughout the year). Hours to be arranged.
Note: Required of candidates for the AM or PhD in Philosophy. Consult the Department's *Supplement to the General Announcement* for details.

Cross-listed Courses

[Economics 2082. Social Choice Theory]
Mathematics 241. Fine Structure Theory - *(New Course)*
Mathematics 265x. Reasoning via Models - *(New Course)*

Graduate Courses of Reading and Research

***Philosophy 300aa (formerly *Philosophy 300a). Colloquium**
Catalog Number: 5615
Edward J. Hall 5324 and Alison Simmons 1300
Full course (fall term). Hours to be arranged.
An intensive study of selected problems in contemporary philosophy.
Note: Limited to first-year graduate students in the Department.

***Philosophy 300b. Colloquium**
Catalog Number: 6280
Mark Richard 6603
Half course (spring term). M., 4–6. EXAM GROUP: 9
Continuation of Philosophy 300aa.

***Philosophy 303. Colloquium: Dissertation Presentations**
Catalog Number: 1089
Susanna Siegel 2441
Half course (fall term; repeated spring term). Hours to be arranged.

***Philosophy 305. Individual Reading and Research**
Catalog Number: 4462
Selim Berker 5514 (on leave 2013-14), Matthew Boyle 5279, Warren Goldfarb 4499, Edward J. Hall 5324, Russell Edward Jones 6777 (on leave 2013-14), Frances Kamm 4280 (on leave 2013-14), Sean D. Kelly 5515, Peter Koellner 4680, Christine M. Korsgaard 2994, Douglas Lavin 5091, Jeffrey K. McDonough 5280, Richard Moran 1786, Bernhard Nickel 5516, Mark Richard 6603, Thomas M. Scanlon, Jr. 7986 (on leave spring term), Amartya Sen 1705, Tommie Shelby 3863 (on leave 2013-14), Susanna Siegel 2441, and Alison Simmons 1300
Half course (fall term; repeated spring term). Hours to be arranged.

***Philosophy 310. Research Seminars**
Catalog Number: 4465
Selim Berker 5514 (on leave 2013-14), Matthew Boyle 5279, Warren Goldfarb 4499, Edward J. Hall 5324, Russell Edward Jones 6777 (on leave 2013-14), Frances Kamm 4280 (on leave 2013-14), Sean D. Kelly 5515, Peter Koellner 4680, Christine M. Korsgaard 2994, Douglas Lavin 5091, Jeffrey K. McDonough 5280, Richard Moran 1786, Bernhard Nickel 5516, Mark Richard 6603, Thomas M. Scanlon, Jr. 7986 (on leave spring term), Amartya Sen 1705, Tommie Shelby 3863 (on leave 2013-14), Susanna Siegel 2441, and Alison Simmons 1300
Small seminars on specialized topics, arranged by members of the Department in consultation with suitably prepared graduate students. Seminars will be listed individually with numbers from 311 through 398.

***Philosophy 311. Workshop in Moral and Political Philosophy**
Catalog Number: 5370
Christine M. Korsgaard 2994 and Douglas Lavin 5091
Half course (fall term; repeated spring term). M., 4–6. EXAM GROUP: Fall: 9
A forum for the presentation and discussion of work in progress by students in moral and political philosophy. Open only to graduate students in the Philosophy Department or by invitation of the instructors.

***Philosophy 312. Workshop in Metaphysics and Epistemology**
Catalog Number: 0576

Matthew Boyle 5279 (spring term only), Richard Moran 1786 (fall term only), Susanna Siegel 2441 (spring term only), and Alison Simmons 1300 (fall term only)
Half course (fall term; repeated spring term). M., 4–6. EXAM GROUP: Fall: 9
A forum for the presentation and discussion of work in progress by students in metaphysics and epistemology. Open only to graduate students in the Philosophy Department or by invitation of the instructors.

***Philosophy 315hf. Instructional Styles in Philosophy**
Catalog Number: 9781
Bernhard Nickel 5516
Half course (throughout the year). Hours to be arranged.
Course is required for graduate students in their first year of teaching; optional for students in their second year of teaching.

***Philosophy 320. Philosophy in Translation: Latin**
Catalog Number: 44862
Jeffrey K. McDonough 5280
Half course (spring term). Hours to be arranged.
A close reading of philosophical texts in their original Latin language with the aim of developing reading and translation skills.

***Philosophy 333. Preparation for the Topical Examination**
Catalog Number: 1967
Selim Berker 5514 (on leave 2013-14), Matthew Boyle 5279, Warren Goldfarb 4499, Edward J. Hall 5324, Russell Edward Jones 6777 (on leave 2013-14), Frances Kamm 4280 (on leave 2013-14), Sean D. Kelly 5515, Peter Koellner 4680, Christine M. Korsgaard 2994, Douglas Lavin 5091, Jeffrey K. McDonough 5280, Richard Moran 1786, Bernhard Nickel 5516, Mark Richard 6603, Thomas M. Scanlon, Jr. 7986 (on leave spring term), Amartya Sen 1705, Tommie Shelby 3863 (on leave 2013-14), Susanna Siegel 2441, and Alison Simmons 1300
Required in both fall and spring terms of all third-year graduate students in the Department.

***Philosophy 399. Direction of Doctoral Dissertations**
Catalog Number: 3283
Selim Berker 5514 (on leave 2013-14), Matthew Boyle 5279, Warren Goldfarb 4499, Edward J. Hall 5324, Russell Edward Jones 6777 (on leave 2013-14), Frances Kamm 4280 (on leave 2013-14), Sean D. Kelly 5515, Peter Koellner 4680, Christine M. Korsgaard 2994, Douglas Lavin 5091, Jeffrey K. McDonough 5280, Richard Moran 1786, Bernhard Nickel 5516, Mark Richard 6603, Thomas M. Scanlon, Jr. 7986 (on leave spring term), Amartya Sen 1705, Tommie Shelby 3863 (on leave 2013-14), Susanna Siegel 2441, and Alison Simmons 1300

Physical Sciences

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

The Physical Sciences encompass a broad array of disciplines that focus on quantitative modeling of natural systems, from subatomic particles to cells to galaxies. Physical Sciences courses are jointly organized by faculty in the departments of Astronomy, Chemistry and Chemical Biology, Earth and Planetary Sciences, and Physics, in collaboration with faculty of the School of Engineering and Applied Sciences. Physical Sciences courses fulfill requirements in many concentrations in the sciences and in General Education. Incoming students interested in the physical sciences should take Harvard's online placement tests in Mathematics and Chemistry. Students who take these tests will receive a recommendation for appropriate courses in Mathematics, Chemistry and the Physical Sciences. For more information about Physical Sciences Education, please visit the Physical Sciences Homepage.

Life and Physical Sciences

Primarily for Undergraduates

Life and Physical Sciences A. Foundational Chemistry and Biology
Catalog Number: 3956
Gregory C. Tucci and Tamara J. Brenner
Half course (fall term). M., W., F., at 9, and a weekly one-hour of discussion section, three-hour lab, and one-hour of review session. EXAM GROUP: 2
This course introduces fundamental concepts in chemistry and biology. Topics in chemistry include stoichiometry, acids and bases, aqueous solutions, gases, thermochemistry, electrons in atoms, and chemical bonding. Topics in biology include the transfer of information from DNA to RNA to protein, genetic inheritance, mitosis and meiosis, and cell structure.
Note: Students should use their scores on the Chemistry and Biology Placement Tests to determine whether to enroll in Life and Physical Sciences A or Life Sciences 1a. This course assumes fluency with high school algebra. Students who have completed Life Sciences 1a, Physical Sciences 1, Chemistry 17 or Chemistry 20 may not take Life and Physical Sciences A for credit. This course, when taken for a letter grade, meets the General Education Requirement for Science of Living Systems. This course, when taken for a letter grade, meets the Core area requirement for either Science A or Science B, but not both.

Physical Sciences

Primarily for Undergraduates

Physical Sciences 1. Chemical Bonding, Energy, and Reactivity: An Introduction to the Physical Sciences
Catalog Number: 2225
Alán Aspuru-Guzik
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
This course covers the chemistry and physics underlying molecular phenomena in the world around you. Starting from a single electron, we will build up to atoms, molecules, and materials. We will study interactions of molecules through thermochemistry, equilibria, entropy and free energy, acids and bases, electrochemistry, and kinetics. We will apply these concepts to (1) world energy demands and global climate change (2) application of physical principles in biology, and (3) modern materials and technology.
Note: This course is part of an integrated introduction to the physical science intended for students who plan to pursue a concentration in the physical or life sciences and/or satisfy pre-medical requirements in Chemistry. May not be counted toward a degree in addition to the former Chemistry 7. Students interested in Physical Sciences 1 should take the Chemistry Placement Exam. This course, when taken for

a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. NOTE: Physical Sciences 1 and Physical Sciences 11 cannot both be taken for credit.
Prerequisite: A few operations of calculus are developed and used. Fluency in pre-calculus secondary school mathematics is assumed. Students are expected to have AP or honors level high school chemistry, or have completed Life and Physical Sciences A (LPS A) with a satisfactory grade.

Physical Sciences 2. Mechanics, Elasticity, Fluids, and Diffusion
Catalog Number: 6053
Logan S. McCarty and David J. Morin
Half course (fall term). Tu., Th., 9:30-11, and a weekly section and lab to be arranged. EXAM GROUP: 11, 12
An introduction to classical mechanics, with special emphasis on the motion of organisms in fluids. Topics covered include: kinematics, Newton's laws of motion, oscillations, elasticity, random walks, diffusion, and fluids. Examples and problem set questions will be drawn from the life sciences and medicine.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Physical Sciences 1 (or Chemistry 7), Mathematics 1b, or the equivalent.

Physical Sciences 3. Electromagnetism, Circuits, Waves, Optics, and Imaging
Catalog Number: 5262
Logan S. McCarty
Half course (spring term). Tu., Th., 9:30-11, and a weekly section and lab to be arranged. EXAM GROUP: 11, 12
This course is an introduction to electromagnetism, digital information, waves, optics and sound. Topics covered include: electric and magnetic fields, electrical potential, circuits, simple digital circuits, wave propagation in various media, microscopy, sound and hearing. The course will draw upon a variety of applications to the biological sciences and will use real-world examples to illustrate many of the physical principles described. There are six laboratories.
Note: This course is part of an integrated introduction to the physical sciences intended for students who plan to pursue a concentration in the life sciences and/or satisfy pre-medical requirements in Physics. May not ordinarily be taken for credit in addition to Physics 1b, 11b, or 15b. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Physical Sciences 2 (or Physics 1a or 11a), Mathematics 1b, or equivalent.

Physical Sciences 10. Quantum and Statistical Foundations of Chemistry
Catalog Number: 75544
Logan S. McCarty
Half course (fall term). M., W., F., at 10 and a weekly section and lab to be arranged. EXAM GROUP: 3
An introduction to the fundamental theories of quantum mechanics and statistical mechanics and their role in governing the behavior of matter. The course begins with the quantum behavior of a single electron and develops the elements of the periodic table, the nature of the chemical bond, and the bulk properties of materials. Applications include semiconductor electronics, solar energy conversion, medical imaging, and the stability and dynamism of living systems. Calculus will be used extensively.
Note: Physical Sciences 10 and Physical Sciences 11 may be taken in any order. The general chemistry requirement for medical school can be satisfied with any two of the following courses: Life and Physical

Sciences A, Life Sciences 1a, Physical Sciences 1, Physical Sciences 10, or Physical Sciences 11. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A.
Prerequisite: A strong background in chemistry (Chemistry AP score of 5, or Physical Sciences 1, or equivalent preparation), mathematics at the level of Mathematics 1b (may be taken concurrently), and some familiarity with physics (force, energy, work, and electric charge).

Physical Sciences 11. Foundations and Frontiers of Modern Chemistry: A Molecular and Global Perspective
Catalog Number: 24022
James G. Anderson, Sirinya Matchacheep, and Gregory C. Tucci
Half course (spring term). M., W., F., at 10 and a weekly section and lab to be arranged.
The Physical Sciences hold the key to solving unprecedented problems at the intersection of science, technology, and an array of rapidly emerging global scale challenges. The course emphasizes a molecular scale understanding of energy and entropy; free energy in equilibria, acid/base reactivity, and electrochemistry; molecular bonding and kinetics; catalysis in organic and inorganic systems; the union of quantum mechanics, nanostructures, and photovoltaics; and the analysis of nuclear energy. Case studies are used both to develop quantitative reasoning and to directly link these principles to global strategies.
Note: Physical Sciences 10 and Physical Sciences 11 may be taken in any order. The general chemistry requirement for medical students can be satisfied with any two of the following courses: Life and Physical Sciences A, Life Sciences 1a, Physical Sciences 1, Physical Sciences 10, or Physical Sciences 11. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. NOTE: Physical Sciences 1 and Physical Sciences 11 cannot both be taken for credit.
Prerequisite: A strong background in chemistry. Students are expected to have had Honors or AP-level high school chemistry preparation or a placement score of 650 or better on the Harvard Chemistry Placement exam. A few operations of calculus are developed and used. Fluency in pre-calculus secondary school mathematics is assumed.

Physical Sciences 12a. Mechanics from an Analytic, Numerical and Experimental Perspective
Catalog Number: 43244
Christopher Stubbs
Half course (spring term). Tu., Th., 9:30–11. EXAM GROUP: 11, 12
This is the first term of a two-semester introductory physical science and engineering course sequence. The focus is on quantitative scientific reasoning, with the first term's exploration framed in the context of basic mechanics. Students will gain competence in both analytic (using pencil, paper and single-variable calculus) and numerical (using computer modeling) approaches to modeling simple physical systems and for the analysis of experimental data. Topics include kinematics, linear and rotational motion, forces, energy, collisions, gravitation, simple fluids and a brief introduction to waves. Examples are drawn from across the physical sciences and engineering. The course is aimed at first year students who have an interest in pursuing a concentration in the sciences and/or engineering. The course structure includes lecture, discussion and laboratory components.
Note: Physical Sciences 12a may not be taken for credit by students who have passed Physics 11a, 15a or 16. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A or Quantitative Reasoning, but not both.

Physical Sciences 12b. Electromagnetism and Statistical Physics from an Analytic, Numerical and Experimental Perspective - *(New Course)*
Catalog Number: 82209

Efthimios Kaxiras
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This is the second term of a two-semester introductory sequence that uses a combination of analytic and numerical methods to understand physical systems, to analyze experimental data, and to compare data to models. Topics include electrostatics and magnetostatics, electromagnetic fields, optics [all topics illustrated with applications to current technological and societal challenges], and an introduction to the physics of many-body systems and their aggregate properties such as entropy, temperature and pressure. The course is aimed at second year students who have an interest in pursuing a concentration in the sciences and/or engineering. The course structure includes lecture, discussion and laboratory components.
Note: May not be taken for credit by students who have passed Physics 15b or Physics 15c. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A.
Prerequisite: Physical Sciences 12a

Physics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Physics

Melissa Franklin, Mallinckrodt Professor of Physics *(Chair)*
Jacob Barandes, Lecturer on Physics *(Associate Director of Graduate Studies)*
Howard C. Berg, Herchel Smith Professor of Physics and Professor of Molecular and Cellular Biology *(on leave spring term)*
Beatriz Burrola Gabilondo, Preceptor in Physics
Adam E. Cohen, Professor of Chemistry and Chemical Biology and of Physics *(on leave fall term)*
Eugene A. Demler, Professor of Physics
Michael Manish Desai, Assistant Professor of Organismic and Evolutionary Biology and of Physics
John M. Doyle, Professor of Physics *(on leave spring term)*
Gary J. Feldman, Frank B. Baird, Jr. Professor of Science *(on leave spring term)*
Douglas Finkbeiner, Professor of Astronomy and of Physics
Gerald Gabrielse, George Vasmer Leverett Professor of Physics *(on leave 2013-14)*
Peter L. Galison, Joseph Pellegrino University Professor *(on leave spring term)*
Howard Georgi, Mallinckrodt Professor of Physics *(Director of Undergraduate Studies)*
Jene A. Golovchenko, Rumford Professor of Physics and Gordon McKay Professor of Applied Physics
Markus Greiner, Professor of Physics
Joao Pedro Guimaraes da Costa, Associate Professor of Physics
Girma Hailu, Lecturer on Physics
Bertrand I. Halperin, Hollis Professor of Mathematicks and Natural Philosophy *(on leave spring term)*
Lene V. Hau, Mallinckrodt Professor of Physics and of Applied Physics
Thomas C. Hayes, Lecturer on Physics
Eric J. Heller, Abbott and James Lawrence Professor of Chemistry and Professor of Physics

Jennifer E. Hoffman, Associate Professor of Physics *(on leave 2013-14)*
Gerald Holton, Mallinckrodt Professor of Physics and Professor of the History of Science, Emeritus
John Huth, Donner Professor of Science
Arthur M. Jaffe, Landon T. Clay Professor of Mathematics and Theoretical Science
Daniel Louis Jafferis, Assistant Professor of Physics
Efthimios Kaxiras, John Hasbrouck Van Vleck Professor of Pure and Applied Physics
Randall Kelley, Preceptor in Physics
Erel Levine, Assistant Professor of Physics
Mikhail D. Lukin, Professor of Physics
L. Mahadevan, Lola England de Valpine Professor of Applied Mathematics, of Organismic and Evolutionary Biology, and of Physics
Vinothan N. Manoharan, Gordon McKay Professor of Chemical Engineering and Professor of Physics *(on leave 2013-14)*
Eric Mazur, Balkanski Professor of Physics and Applied Physics, Area Dean for Applied Physics
Logan S. McCarty, Lecturer on Physics, Lecturer on Chemistry and Chemical Biology
Masahiro Morii, Professor of Physics *(Director of Graduate Studies)*
David J. Morin, Lecturer on Physics *(Associate Director of Undergraduate Studies)*
Cherry Murray, John A. and Elizabeth S. Armstrong Professor of Engineering and Applied Sciences, Professor of Physics, and Dean of the School of Engineering and Applied Sciences
Venkatesh Narayanamurti, Benjamin Peirce Professor of Technology and Public Policy *(on leave fall term)*
David R. Nelson, Arthur K. Solomon Professor of Biophysics and Professor of Physics and Applied Physics *(on leave fall term)*
Sang-Joon Pahk, Preceptor in Physics
Hongkun Park, Professor of Chemistry and Chemical Biology and of Physics *(on leave spring term)*
Peter S. Pershan, Frank B. Baird, Jr. Professor of Science *(on leave fall term)*
Mara Prentiss, Mallinckrodt Professor of Physics
Lisa Randall, Frank B. Baird, Jr. Professor of Science
Matthew Reece, Assistant Professor of Physics
Subir Sachdev, Professor of Physics *(on leave spring term)*
Aravinthan D. T. Samuel, Professor of Physics *(on leave spring term)*
Matthew D. Schwartz, Associate Professor of Physics
Irwin I. Shapiro, Timken University Professor
Isaac F. Silvera, Thomas D. Cabot Professor of the Natural Sciences
Nils Sorensen, Preceptor in Physics
Andrew Strominger, Gwill E. York Professor of Physics
Christopher Stubbs, Samuel C. Moncher Professor of Physics and of Astronomy, Harvard College Professor
John S. Townsend, Visiting Professor of Physics
Cumrun Vafa, Donner Professor of Science
Ronald L. Walsworth, Senior Lecturer on Physics
David A. Weitz, Mallinckrodt Professor of Physics and of Applied Physics
Robert M. Westervelt, Mallinckrodt Professor of Applied Physics and of Physics
Carey Witkov, Preceptor in Physics
Tai T. Wu, Gordon McKay Professor of Applied Physics and Professor of Physics
Amir Yacoby, Professor of Physics and of Applied Physics
Shing-Tung Yau, William Caspar Graustein Professor of Mathematics and Professor of Physics *(on leave 2013-14)*
Xi Yin, Associate Professor of Physics
Xiaowei Zhuang, Professor of Chemistry and Chemical Biology and of Physics

Other Faculty Offering Instruction in Physics

James G. Anderson, Philip S. Weld Professor of Atmospheric Chemistry
Alán Aspuru-Guzik, Professor of Chemistry and Chemical Biology
Federico Capasso, Robert L. Wallace Professor of Applied Physics and Vinton Hayes Senior Research Fellow in Electrical Engineering
Roy J. Glauber, Mallinckrodt Professor of Physics, Emeritus
Paul Horowitz, Professor of Physics and of Electrical Engineering, Emeritus
Sirinya Matchacheep, Lecturer on Chemistry and Chemical Biology
Gregory C. Tucci, Senior Lecturer on Chemistry and Chemical Biology

Affiliates of the Department of Physics

Kang-Kuen Ni, Assistant Professor of Chemistry and Chemical Biology

There are three separate calculus-based sequences of courses covering introductory physics: Physics 15a, 15b, 15c, Physical Sciences 12a, 12b, and Physical Sciences 2, 3. Each of these three sequences is designed to be a self-contained treatment of classical physics.

Students who expect to concentrate in physics or one of the other sciences in which physics plays a major role will normally take the Physics 15a,b,c sequence followed by Physics 143a. These four semesters cover mechanics, electromagnetism, waves, and quantum mechanics, respectively. Students with excellent high-school preparation in physics and mathematics may begin the Physics 15 sequence taking Physics 16 instead of Physics 15a. Physics 16 is a course in mechanics and special relativity specifically designed for students who have done well in a high-school advanced placement course.

Physical Sciences 12a and 12b constitute a two-semester introductory physical science and engineering course sequence. An emphasis is placed on numerical approaches to physical systems (using computer modeling) and on the analysis of experimental data. Examples are drawn from across the physical sciences and engineering. Physical Sciences 12a (taught in the spring term) is aimed at first year students who have an interest in pursuing a concentration in the sciences and/or engineering. Students who plan to count Physical Sciences 12a,b for the Physics concentration should contact the director or associate director of undergraduate studies, who will work with them to develop a coherent program.

Physical Sciences 2 and 3 present an introductory treatment of college physics. These courses draw upon a variety of applications to the biological sciences and use real-world examples to illustrate many of the physical principles discussed. The Physical Sciences 2, 3 sequence is designed to meet the two semesters of physics required by all medical schools, and is intended to teach physical concepts in a way that is immediately relevant to students in the life sciences.

Physics 15a,b and Physical Sciences 12a,b also fulfill the two-semester physics requirement for most medical schools. However, students who do not intend to take advanced courses in the mathematical sciences, and especially those concentrating in biology or biochemistry, may find that the Physical Sciences 2, 3 sequence covers a broader range of subject matter, and might more appropriately serve their needs than the Physics 15 or Physical Sciences 12 sequences.

Primarily for Undergraduates

Physical Sciences 1. Chemical Bonding, Energy, and Reactivity: An Introduction to the Physical Sciences

Catalog Number: 2225
Alán Aspuru-Guzik
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
This course covers the chemistry and physics underlying molecular phenomena in the world around you. Starting from a single electron, we will build up to atoms, molecules, and materials. We will study interactions of molecules through thermochemistry, equilibria, entropy and free energy, acids and bases, electrochemistry, and kinetics. We will apply these concepts to (1) world energy demands and global climate change (2) application of physical principles in biology, and (3) modern materials and technology.
Note: This course is part of an integrated introduction to the physical science intended for students who plan to pursue a concentration in the physical or life sciences and/or satisfy pre-medical requirements in Chemistry. May not be counted toward a degree in addition to the former Chemistry 7. Students interested in Physical Sciences 1 should take the Chemistry Placement Exam. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. NOTE: Physical Sciences 1 and Physical Sciences 11 cannot both be taken for credit.
Prerequisite: A few operations of calculus are developed and used. Fluency in pre-calculus secondary school mathematics is assumed. Students are expected to have AP or honors level high school chemistry, or have completed Life and Physical Sciences A (LPS A) with a satisfactory grade.

Physical Sciences 2. Mechanics, Elasticity, Fluids, and Diffusion
Catalog Number: 6053
Logan S. McCarty and David J. Morin
Half course (fall term). Tu., Th., 9:30-11, and a weekly section and lab to be arranged. EXAM GROUP: 11, 12
An introduction to classical mechanics, with special emphasis on the motion of organisms in fluids. Topics covered include: kinematics, Newton's laws of motion, oscillations, elasticity, random walks, diffusion, and fluids. Examples and problem set questions will be drawn from the life sciences and medicine.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Physical Sciences 1 (or Chemistry 7), Mathematics 1b, or the equivalent.

Physical Sciences 3. Electromagnetism, Circuits, Waves, Optics, and Imaging
Catalog Number: 5262
Logan S. McCarty
Half course (spring term). Tu., Th., 9:30-11, and a weekly section and lab to be arranged. EXAM GROUP: 11, 12
This course is an introduction to electromagnetism, digital information, waves, optics and sound. Topics covered include: electric and magnetic fields, electrical potential, circuits, simple digital circuits, wave propagation in various media, microscopy, sound and hearing. The course will draw upon a variety of applications to the biological sciences and will use real-world examples to illustrate many of the physical principles described. There are six laboratories.
Note: This course is part of an integrated introduction to the physical sciences intended for students who plan to pursue a concentration in the life sciences and/or satisfy pre-medical requirements in Physics. May not ordinarily be taken for credit in addition to Physics 1b, 11b, or 15b. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Physical Sciences 2 (or Physics 1a or 11a), Mathematics 1b, or equivalent.

Physical Sciences 10. Quantum and Statistical Foundations of Chemistry
Catalog Number: 75544
Logan S. McCarty
Half course (fall term). M., W., F., at 10 and a weekly section and lab to be arranged. EXAM GROUP: 3
An introduction to the fundamental theories of quantum mechanics and statistical mechanics and their role in governing the behavior of matter. The course begins with the quantum behavior of a single electron and develops the elements of the periodic table, the nature of the chemical bond, and the bulk properties of materials. Applications include semiconductor electronics, solar energy conversion, medical imaging, and the stability and dynamism of living systems. Calculus will be used extensively.
Note: Physical Sciences 10 and Physical Sciences 11 may be taken in any order. The general chemistry requirement for medical school can be satisfied with any two of the following courses: Life and Physical Sciences A, Life Sciences 1a, Physical Sciences 1, Physical Sciences 10, or Physical Sciences 11. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A.
Prerequisite: A strong background in chemistry (Chemistry AP score of 5, or Physical Sciences 1, or equivalent preparation), mathematics at the level of Mathematics 1b (may be taken concurrently), and some familiarity with physics (force, energy, work, and electric charge).

Physical Sciences 11. Foundations and Frontiers of Modern Chemistry: A Molecular and Global Perspective
Catalog Number: 24022
James G. Anderson, Sirinya Matchacheep, and Gregory C. Tucci
Half course (spring term). M., W., F., at 10 and a weekly section and lab to be arranged.
The Physical Sciences hold the key to solving unprecedented problems at the intersection of science, technology, and an array of rapidly emerging global scale challenges. The course emphasizes a molecular scale understanding of energy and entropy; free energy in equilibria, acid/base reactivity, and electrochemistry; molecular bonding and kinetics; catalysis in organic and inorganic systems; the union of quantum mechanics, nanostructures, and photovoltaics; and the analysis of nuclear energy. Case studies are used both to develop quantitative reasoning and to directly link these principles to global strategies.
Note: Physical Sciences 10 and Physical Sciences 11 may be taken in any order. The general chemistry requirement for medical students can be satisfied with any two of the following courses: Life and Physical Sciences A, Life Sciences 1a, Physical Sciences 1, Physical Sciences 10, or Physical Sciences 11. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. NOTE: Physical Sciences 1 and Physical Sciences 11 cannot both be taken for credit.
Prerequisite: A strong background in chemistry. Students are expected to have had Honors or AP-level high school chemistry preparation or a placement score of 650 or better on the Harvard Chemistry Placement exam. A few operations of calculus are developed and used. Fluency in pre-calculus secondary school mathematics is assumed.

Physical Sciences 12a. Mechanics from an Analytic, Numerical and Experimental Perspective
Catalog Number: 43244
Christopher Stubbs
Half course (spring term). Tu., Th., 9:30–11. EXAM GROUP: 11, 12
This is the first term of a two-semester introductory physical science and engineering course sequence. The focus is on quantitative scientific reasoning, with the first term's exploration framed in the context of basic mechanics. Students will gain competence in both analytic (using pencil, paper and single-variable calculus) and numerical (using computer modeling) approaches to modeling simple physical systems and for the analysis of experimental data. Topics include kinematics, linear and rotational motion, forces, energy, collisions, gravitation, simple fluids and a brief introduction to waves. Examples are drawn from across the physical sciences and engineering. The course is aimed at first year students who have an

interest in pursuing a concentration in the sciences and/or engineering. The course structure includes lecture, discussion and laboratory components.
Note: Physical Sciences 12a may not be taken for credit by students who have passed Physics 11a, 15a or 16. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A or Quantitative Reasoning, but not both.

Physical Sciences 12b. Electromagnetism and Statistical Physics from an Analytic, Numerical and Experimental Perspective - *(New Course)*
Catalog Number: 82209
Efthimios Kaxiras
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This is the second term of a two-semester introductory sequence that uses a combination of analytic and numerical methods to understand physical systems, to analyze experimental data, and to compare data to models. Topics include electrostatics and magnetostatics, electromagnetic fields, optics [all topics illustrated with applications to current technological and societal challenges], and an introduction to the physics of many-body systems and their aggregate properties such as entropy, temperature and pressure. The course is aimed at second year students who have an interest in pursuing a concentration in the sciences and/or engineering. The course structure includes lecture, discussion and laboratory components.
Note: May not be taken for credit by students who have passed Physics 15b or Physics 15c. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A.
Prerequisite: Physical Sciences 12a

Physics 15a. Introductory Mechanics and Relativity
Catalog Number: 1984
Joao Pedro Guimaraes da Costa and Amir Yacoby (fall term), Howard M. Georgi and Robert M. Westervelt (spring term)
Half course (fall term; repeated spring term). Tu., Th., 11:30-1, and a weekly section to be arranged. EXAM GROUP: 13, 14
Newtonian mechanics and special relativity. Topics include vectors; kinematics in three dimensions; Newton's laws; force, work, power; conservative forces, potential energy; momentum, collisions; rotational motion, angular momentum, torque; static equilibrium, oscillations, simple harmonic motions; gravitation, planetary motion; fluids; special relativity.
Note: Principles of Scientific Inquiry (PSI) is the laboratory component of Physics 15a. Topics include experimental design, model testing, error analysis, basic programming, oral presentations, and scientific writing. PSI will meet weekly throughout the semester. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Mathematics preparation at least at the level of Mathematics 1b concurrently is required. However, some elementary ideas from multivariable calculus may be used and students are encouraged to take Mathematics 21a concurrently.

Physics 15b. Introductory Electromagnetism
Catalog Number: 2701
Girma Hailu and Mara Prentiss (fall term), and David J. Morin and Amir Yacoby (spring term)
Half course (fall term; repeated spring term). Tu., Th., 11:30-1. EXAM GROUP: 13, 14
Electricity and magnetism. Topics include electrostatics, electric currents, magnetic field, electromagnetic induction, Maxwell's equations, electromagnetic radiation, and electric and magnetic fields in materials.

Note: Principles of Scientific Inquiry (PSI) is the laboratory component of Physics 15b. Topics include experimental design, model testing, error analysis, basic programming, oral presentations, and scientific writing. PSI will meet weekly throughout the semester. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Physics 15a, Physics 16, or written permission of the Head Tutor in Physics. Mathematics preparation at least at the level of Mathematics 21a taken concurrently is required. Vector calculus, (div, grad and curl) are used extensively--in principle, this is taught in the course. Students taking Mathematics 21a concurrently will likely find that some concepts are introduced in Physics 15b before they have seen them in Mathematics 21a. Some students may wish to postpone Physics 15b until they have completed Mathematics 21a.

Physics 15c. Wave Phenomena
Catalog Number: 8676
Daniel Louis Jafferis and Markus Greiner (fall term), and Joao Pedro Guimaraes da Costa and Mara Prentiss (spring term)
Half course (fall term; repeated spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Forced oscillation and resonance; coupled oscillators and normal modes; Fourier series; Electromagnetic waves, radiation, longitudinal oscillations, sound; traveling waves; signals, wave packets and group velocity; two- and three-dimensional waves; polarization; geometrical and physical optics; interference and diffraction. Optional topics: Water waves, holography, x-ray crystallography, and solitons.
Note: Principles of Scientific Inquiry (PSI) is the laboratory component of Physics 15c. Topics include experimental design, model testing, error analysis, basic programming, oral presentations, and scientific writing. PSI will meet weekly throughout the semester. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Physics 15a, Physics 15b, or written permission of the Head Tutor in Physics. Mathematics preparation at least at the level of Mathematics 21b taken concurrently is required. Some prior knowledge of complex numbers (for example as taught in Mathematics 1b) is helpful. Linear algebra and differential equations are used extensively. Students taking Mathematics 21b concurrently will likely find that some concepts are introduced in Physics 15c before they have seen them in Mathematics 21b. Some students may wish to postpone Physics 15c until they have completed Mathematics 21b.

Physics 16. Mechanics and Special Relativity
Catalog Number: 2019
Howard Georgi
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Newtonian mechanics and special relativity for students with good preparation in physics and mathematics at the level of the advanced placement curriculum. Topics include oscillators damped and driven and resonance (how to rock your car out of a snow bank or use a swing), an introduction to Lagrangian mechanics and optimization, symmetries and Noether's theorem, special relativity, collisions and scattering, rotational motion, angular momentum, torque, the moment of inertia tensor (dynamic balance), gravitation, planetary motion, and a quantitative introduction to some of the mind-bending ideas of modern cosmology like inflation and dark energy.
Note: Principles of Scientific Inquiry (PSI) is the laboratory component of Physics 16. Topics include experimental design, model testing, error analysis, basic programming, oral presentations, and scientific writing. PSI will meet weekly throughout the semester. Emphasis is placed on collaborative teaching and learning. Many class materials are Mathematics notebooks. This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or Empirical and

Mathematical Reasoning, but not both. This course, when taken for a letter grade, meets the Core area requirement for Science A.
Prerequisite: Score of 5 on the mechanics section of the Physics C Advanced Placement exam, or equivalent. Mathematics preparation at least at the level of Mathematics 21a taken concurrently is required. Thorough knowledge of calculus of one variable and vectors plus some mathematical sophistication. The mathematical level will be significantly higher than that of Physics 15a.

***Physics 90r. Supervised Research**
Catalog Number: 2460
David J. Morin and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Primarily for selected concentrators in Physics, or in Chemistry and Physics, who have obtained honor grades in Physics 15 and a number of intermediate-level courses. The student must be accepted by some member of the faculty doing research in the student's field of interest. The form of the research depends on the student's interest and experience, the nature of the particular field of physics, and facilities and support available. Students wishing to write a senior thesis can do so by arranging for a sponsor and enrolling in this course.
Note: A list of possible faculty sponsors and their fields is available in Lyman 238 and on the Physics Department Web page. Course enrollment forms may be obtained from Lyman 238.

***Physics 91r. Supervised Reading Course for Undergraduates**
Catalog Number: 1218
David J. Morin and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Open to selected concentrators in Physics, Chemistry and Physics, and other fields who wish to do supervised reading and studying of special topics in physics. Ordinarily such topics do not include those covered in a regular course of the Department. Honor grades in Physics 15 and a number of intermediate-level courses are ordinarily required. The student must be accepted by a member of the faculty.
Note: A list of possible faculty sponsors and their fields is available in Lyman 238 and on the Physics Department's website. Course enrollment forms may be obtained from Lyman 238.

***Physics 95. Topics in Current Research**
Catalog Number: 2806 Enrollment: Limited to 10.
Melissa Franklin
Half course (fall term; repeated spring term). M., 2:45-4:15; W., 7 p.m.-9 p.m. EXAM GROUP: Fall: 7, 8, 9
The goal of this tutorial is twofold. First, students will learn about a range of modern physics research topics from experts at Harvard as well as from one another. Every Wednesday evening a faculty member speaks on his/her area of research, preceded by assigned reading and a student presentation designed to introduce the basic physics, as well as important developments and burning problems at the frontiers of that particular research area. Second, the tutorial provides structured activities to help students develop practical skills for their future careers, expanding knowledge on unfamiliar subjects, participating in discussions, presenting and writing clearly about complex topics, and engaging in self and peer evaluation.
Note: Primarily for junior and senior concentrators, however interested sophomores are welcome. First class meeting Wednesday, September 4 at 7:30 pm in Jefferson 453. Monday class time to be rescheduled to fit everyone's schedule.

Cross-listed Courses

Earth and Planetary Sciences 52. Introduction to Global Geophysics
[Science of the Physical Universe 13. Why You Hear What You Hear: The Science of Music and Sound]
Science of the Physical Universe 18 (formerly Science A-39). Time
[Science of the Physical Universe 20. What is Life? From Quarks to Consciousness]
Science of the Physical Universe 22. The Unity of Science: From the Big Bang to the Brontosaurus and Beyond
Science of the Physical Universe 26. Primitive Navigation

For Undergraduates and Graduates

Certain physics courses are offered in several other departments. See especially the offerings of the Division of Engineering and Applied Sciences.

Physics 123. Laboratory Electronics
Catalog Number: 0864 Enrollment: Limited to 22.
Thomas C. Hayes, Masahiro Morii (fall term), and Thomas C. Hayes (spring term)
Half course (fall term; repeated spring term). Fall: Tu., Th., 1:30–5:30; W., F., 1:30–5:30; Spring: Tu., Th., 1:30–5:30. EXAM GROUP: 15, 16, 17, 18
A lab-intensive introduction to electronic circuit design. Develops circuit intuition and debugging skills through daily hands-on lab exercises, each preceded by class discussion, with minimal use of mathematics and physics. Moves quickly from passive circuits, to discrete transistors, then concentrates on operational amplifiers, used to make a variety of circuits including integrators, oscillators, regulators, and filters. The digital half of the course treats analog-digital interfacing, emphasizes the use of microcontrollers and programmable logic devices (PLDs).
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A.

Physics 125. Widely Applied Physics
Catalog Number: 6990
L. Mahadevan
Half course (spring term). M., W., F., at 1. EXAM GROUP: 6
Applies elementary physics to the real world and fundamental phenomena, across the physical and biological sciences, engineering, medicine and the social sciences. Emphasis is on developing physical intuition and the ability to do order-of-magnitude calculations. New physical concepts are introduced as necessary. Example topics include: Randomness in natural physical, biological and engineered systems. General relativity, atomic clocks and global positioning systems. Magnetic resonance imaging and medicine. Matter, energy and phase transitions. Information theory, statistical mechanics and computation. Patterns of space and time in nature. Ultimate physical limits in engineering, medicine and life itself. Physics outside the box. Thermodynamics, economics and other collective behaviors in society. Example estimation techniques include dimensional analysis and scaling laws, symmetries and conservation laws, dynamical systems.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A.
Prerequisite: Physics 15a,b,c, and mathematics at the level of Mathematics 21a. Physics 143a and 181 are very helpful, and may be taken concurrently.

Physics 129. Energy Science
Catalog Number: 42157
Lene V. Hau

Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Non-fossil energy sources and energy storage are important for our future. We cover four main subjects to which students with a background in physics and physical chemistry could make paradigm changing contributions: photovoltaic cells, nuclear power, batteries, and photosynthesis. Fundamentals of electrodynamics, statistical/thermal physics, and quantum mechanics are taught as needed to give students an understanding of the topics covered.
Prerequisite: Physics 15a (or 16), 15b,c or 11a,b. Pre/co-requisite Physics 143a or Chemistry 160 or equivalent.

[Physics 136. Physics of Medical Imaging]
Catalog Number: 0182
Instructor to be determined
Half course (fall term). Hours to be arranged.
This course presents the underlying physics of modern medical diagnostic imaging techniques. We will explore the physics of diagnostic imaging from a unified electromagnetics' viewpoint ranging from a simple mapping of radiation attenuation coefficients in X-ray, to resonance absorption in a nuclear magnetic resonance (NMR) induced inhomogeneously broadened RF absorber. The bulk of the course will focus on the powerful technique of NMR imaging. Flexibility exists to vary the depth of each area depending on background and experience of the students.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Physics 15b or 11b and mathematics preparation at least to the level of Mathematics 21b taken concurrently. Physics 143a and b are recommended but not essential.

[Physics 140. Physical Biology and Biological Physics]
Catalog Number: 5394
Aravinthan D. T. Samuel
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
We will discuss how theoretical and experimental tools derived from physics--in particular, statistical mechanics, fluid mechanics, optics and imaging--have been used to gain insight into molecular and cellular biology. We will also discuss a few cases where the study of biological materials (e.g. polymers and membranes) has inspired new developments in physics. In all cases, the relevant topics in physics and biology will be taught from first principles.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. Given in alternate years. Lectures, problem sets, discussions. May not be taken for credit by students who have taken MCB 140.
Prerequisite: Physics 15a.b.

[Physics 141. The Physics of Sensory Systems in Biology]
Catalog Number: 1284 Enrollment: Limited to 15.
Aravinthan D. T. Samuel
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Living organisms use sensory systems to inform themselves of the sights, sounds, and smells of their surrounding environments. Sensory systems are physical measuring devices, and are therefore subject to certain limits imposed by physics. Here we will consider the physics of sensory measurement and perception, and study ways that biological systems have solved their underlying physical problems. We will discuss specific cases in vision, olfaction, and hearing from a physicist's point of view.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Physics 11a,b or 15 a,b, required.

Physics 143a. Quantum Mechanics I
Catalog Number: 1050

John S. Townsend (fall term) and Cumrun Vafa (spring term)
Half course (fall term; repeated spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Introduction to nonrelativistic quantum mechanics: uncertainty relations; Schrödinger equation; Dirac notation; matrix mechanics; one-dimensional problems including particle in box, tunneling, and harmonic oscillator; angular momentum, hydrogen atom, spin, Pauli principle; time-independent perturbation theory; scattering.
Prerequisite: Linear algebra including matrix diagonalization; Physics 15c or written permission of the Head Tutor.

Physics 143b. Quantum Mechanics II
Catalog Number: 0253
Subir Sachdev (fall term) and Girma Hailu (spring term)
Half course (fall term; repeated spring term). Fall: Tu., Th., 10–11:30 and a weekly section to be arranged; Spring: Tu., Th., 11:30–1 and a weekly section to be arranged. EXAM GROUP: Fall: 12, 13; Spring: 13, 14
Time independent perturbation theory and its application to fine and hyperfine structure of atoms. Hartree-Fock theory, many electron theory, and the periodic table. Time dependent perturbation theory: two level systems, emission and absorption of radiation. Quantum theory of electromagnetism: the photon, Relativistic quantum mechanics: the Dirac equation. Scattering theory. Einstein-Podolsky-Rosen "paradox", Bell's inequality, and introduction to quantum information theory.
Prerequisite: Physics 143a.

Physics 144. Symmetries and Geometry in Quantum Mechanics - *(New Course)*
Catalog Number: 94978
Eugene A. Demler
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
This course will review the role of symmetries in quantum mechanics. Topics include atomic and molecular symmetries, crystallographic symmetries, spontaneous symmetry breaking and phase transitions, geometrical Berry phases, topological aspects of condensed matter systems. Mathematical basics of group theory will be taught as needed to give students an understanding of the topics covered.

Physics 145. Elementary Particle Physics
Catalog Number: 6057
Masahiro Morii
Half course (spring term). M., W., 9:30–11. EXAM GROUP: 2, 3
Introduction to elementary particle physics. Emphasis is on concepts and phenomenology rather than on a detailed calculational development of theories. Starts with the discovery of the electron in 1897, ends with the theoretical motivation for the Higg's boson, and attempts to cover everything important in between. Taught partly in seminar mode, with each student presenting a classic paper of the field.
Prerequisite: Physics 143a. Physics 143b or equivalent is useful.

Physics 151. Mechanics
Catalog Number: 2068
Arthur M. Jaffe
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Fundamental ideas of classical mechanics including contact with modern work and applications. Topics include Lagrange's equations, the role of variational principles, symmetry and conservation laws, Hamilton's equations, Hamilton-Jacobi theory and phase space dynamics. Applications to celestial mechanics, quantum mechanics, the theory of small oscillations and classical fields, and nonlinear oscillations, including chaotic systems presented.

Prerequisite: Physics 15a, 15b or written permission of the Head Tutor; Mathematics 21a, b or equivalent.

Physics 153. Electrodynamics
Catalog Number: 0264
Mikhail D. Lukin
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Aimed at advanced undergraduates. Emphasis on the properties and sources of the electromagnetic fields and on the wave aspects of the fields. Course starts with electrostatics and subsequently develops the Maxwell equations. Topics: electrostatics, dielectrics, magnetostatics, electrodynamics, radiation, wave propagation in various media, wave optics, diffraction and interference. A number of applications of electrodynamics and optics in modern physics are discussed.
Prerequisite: Physics 15a, b, and c, or written permission of the Head Tutor; Mathematics 21a, b or equivalent.

[Physics 165. Modern Atomic, Molecular, and Optical Physics]
Catalog Number: 16952
John M. Doyle
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Includes the use of coherent electromagnetic radiation to probe and control atomic systems, use of traps to isolate atoms, molecules, and elementary particles for studies of ultracold quantum degenerate matter and precision tests of the standard model; resonance methods. Goals of course include acquainting student with these and other modern research topics while providing the foundations of modern atomic, molecular and optical physics research.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Physics 143a and 143b.

Physics 175. Laser Physics and Modern Optical Physics
Catalog Number: 9076
Markus Greiner
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Introduction to laser physics and modern optical physics aimed at advanced undergraduates. Review of electromagnetic theory and relevant aspects of quantum mechanics. Wave nature of light. Physics of basic optical elements. Propagation of focused beams, optical resonators, dielectric waveguides. Interaction of light with matter, introduction to quantum optics. Lasers. Physics of specific laser systems. Introduction to nonlinear optics. Modern applications.
Prerequisite: Physics 15b, 15c, 143a, or permission of the instructor.

Physics 181. Statistical Mechanics and Thermodynamics
Catalog Number: 6346
Girma Hailu
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Entropy and temperature; Boltzmann distribution; Planck distribution, thermal radiation, Debye theory of solids; chemical potential and Gibbs distribution; ideal gas; Fermi and Bose gases, Bose-Einstein condensation; heat and work; phase transitions, Ising model, mean field method, Landau theory; kinetic theory; propagation of heat and sound.
Note: May not be taken for credit in addition to Engineering Sciences 181.
Prerequisite: Physics 143a or equivalent.

***Physics 191r. Advanced Laboratory**
Catalog Number: 7711 Enrollment: Together with Physics 247r, limited to a total of 24 students.
Isaac F. Silvera, Robert M. Westervelt (fall term), and Isaac F. Silvera, Peter S. Pershan, and Ronald L. Walsworth (spring term)
Half course (fall term; repeated spring term). Tu., Th., 1–5. EXAM GROUP: 15, 16, 17, 18
Students carry out three experimental projects selected from those available representing condensed matter, atomic, nuclear, and particle physics. Included are pulsed nuclear magnetic resonance, microwave spectroscopy, optical pumping, Raman scattering, scattering of laser light, nitrogen vacancies in diamond, neutron activation of radioactive isotopes, Compton scattering, relativistic mass of the electron, recoil free gamma-ray resonance, lifetime of the muon, studies of superfluid helium, positron annihilation, superconductivity, the quantum Hall effect, properties of semiconductors. The facilities of the laboratory include several computer controlled experiments as well as computers for analysis.
Note: A substantial amount of outside reading is expected.
Prerequisite: Physics 15a or 16, 15b, 15c. Physics 143a is highly recommended.

Physics 195. Introduction to Solid State Physics
Catalog Number: 2978
Federico Capasso
Half course (fall term). W., F., 1-2:30. EXAM GROUP: 6, 7
Free electron Fermi gas. Crystals. Band structure. Metals, insulators, semiconductors. Phonons; thermal properties. Electron transport. PN junctions. Heterojunctions. Low dimensional systems. Transistors. Optical properties of solids. Optoelectronic devices. Magnetism. Spintronics.
Note: Designed as a first course in solid state physics for students with knowledge of elementary quantum mechanics, for example, Physics 143a. Some knowledge of statistical physics is also helpful, but not a formal prerequisite. Students who propose to take Applied Physics 295a in the spring term, and who have not previously taken a formal course in solid state physics, are strongly advised to take this course first.

Cross-listed Courses

Applied Mathematics 147. Nonlinear Dynamical Systems
Astronomy 191. Astrophysics Laboratory
Astronomy 200 (formerly Astronomy 150). Radiative Processes in Astrophysics
Chemistry 160. Quantum Chemistry
Chemistry 161. Statistical Thermodynamics
Chemistry 163. Frontiers in Biophysics
***Chemistry 165. Experimental Physical Chemistry**
Earth and Planetary Sciences 131. Introduction to Physical Oceanography and Climate
Earth and Planetary Sciences 135. Physics and Chemistry: In the Context of Energy and Climate at the Global and Molecular Level
[Earth and Planetary Sciences 161 (Global Tectonics). Planetary Physics and Global Tectonics]
Engineering Sciences 120. Introduction to the Mechanics of Solids
Engineering Sciences 123. Introduction to Fluid Mechanics and Transport Processes
Engineering Sciences 154. Electronic Devices and Circuits
Engineering Sciences 173. Introduction to Electronic and Photonic Devices
Engineering Sciences 181. Engineering Thermodynamics
Engineering Sciences 190. Introduction to Materials Science and Engineering
[MCB 131. Computational Neuroscience]

Primarily for Graduates

The courses primarily for graduates are open to undergraduates provided they have passed the prerequisites with a grade of C or higher; in each case, special permission by the instructor is needed. In cases where students do not have the listed prerequisites, the written approval of the Head Tutor is required.

Physics 210. General Theory of Relativity
Catalog Number: 4840
Andrew Strominger
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An introduction to general relativity: the principle of equivalence, Riemannian geometry, Einstein's field equation, the Schwarzschild solution, the Newtonian limit, experimental tests, black holes.
Prerequisite: Physics 151 and 153, and Mathematics 21 or equivalents.

Physics 211r. Cosmology
Catalog Number: 0469
Lisa Randall
Half course (spring term). W., 10–12. EXAM GROUP: 3, 4
This course will be about particle physics and cosmology, focusing on those aspects of cosmology most relevant to people studying particle model building and phenomenology. Topics will include inflation, dark matter, dark energy, and attempts at anthropic bounds. The course will be seminar style, with presentations by the lecturer and by students. The aim is to gear up for topics relevant to current research.
Prerequisite: General relativity at level of Physics 210 or equivalent. Physics 253a helpful, but not required.

***Physics 215. Biological Dynamics**
Catalog Number: 90876 Enrollment: Open to undergraduates with instructor permission.
Erel Levine
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Develops theoretical basis for modeling and quantitative analysis of biological problems. Emphasis on contemporary research topics, including molecular, cellular and tissue dynamics; development and differentiation; signal- and mechano-transduction; individuals, populations and environments.
Note: It is suggested that students may wish to take AP215 when this course is bracketed. May not be taken for credit in addition to AP215.
Prerequisite: Knowledge of differential equations and statistical mechanics at undergraduate level.

Physics 216. Mathematics of Modern Physics
Catalog Number: 85954
Arthur M. Jaffe
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Introduction to functional analytic methods relevant for problems in quantum and statistical physics. Properties of linear transformations on Hilbert space. Generators of continuous groups and semigroups. Properties of Green's functions and matrices. Uniqueness and non-uniqueness of ground states and equilibrium states. Heat kernel methods. Index theory, invariants, and related algebraic structure. The KMS condition and its consequences.
Note: Expected to be omitted in 2012–13.
Prerequisite: Familiarity with quantum theory at an undergraduate level.

Physics 220. Fluid Dynamics - *(New Course)*
Catalog Number: 25828
L. Mahadevan

Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 13
Continuum mechanics; conservation of mass and momentum, energy; stress, kinematics, and constitutive equations; vector and tensor calculus. Dimensional analysis and scaling. Navier-Stokes equations, Reynolds number. Solutions for simple flow states. Low Reynolds number flows; porous media flows; lubrication theory; gravity currents. Inviscid flows, Kelvin circulation theorem, Bernoulli integrals, Vortical flows. Waves in fluids; acoustics, shocks, water waves. Airfoil theory. Boundary layers. Flow instabilities. Mixing, and turbulence in unbounded and bounded flows.
Note: For 2013-14, students who enroll in Physics 220 may not enroll concurrently in Engineering Sciences 220.
Prerequisite: Familiarity with dynamics, vectors, multivariable calculus, and partial differential equations. An undergraduate course in fluid dynamics or other continuum mechanics is strongly recommended.

Physics 223. Electronics for Scientists
Catalog Number: 97765 Enrollment: Limited to 22.
Thomas C. Hayes, Masahiro Morii (fall term), and Thomas C. Hayes (spring term)
Half course (fall term; repeated spring term). Fall: Tu. through F., 1:30–5:30; Spring: Tu., Th., 1:30–5:30. EXAM GROUP: Fall: 6, 7, 8, 9, 15, 16, 17, 18; Spring: 15, 16, 17, 18
An introduction to electronic circuit design intended to develop circuit intuition and debugging skills through daily design exercises, discussion and hands-on lab exercises. The approach is intensely practical, minimizing theory. Moves quickly from passive circuits to discrete transistors, then concentrates on operational amplifiers, used to make a variety of circuits including integrators, oscillators, regulators, and filters. The digital half of the course treats analog-digital interfacing, emphasizes the use of microcontrollers and programmable logic devices (PLDs).

Physics 232. Advanced Classical Electromagnetism
Catalog Number: 4885
Jacob Barandes
Half course (spring term). W., F., 2:30–4. EXAM GROUP: 7, 8
Special relativity, relativistic field theories, gauge invariance, the Maxwell equations, conservation laws, time-independent phenomena, multipole expansions, electrodynamics and radiation theory, radiation from rapidly-moving accelerating charges, scattering and diffraction, and macroscopic averaged fields and propagation in matter. Additional topics may include relativistic particles with spin, coherent states, superconductors, accelerator physics, renormalization, and magnetic monopoles.
Prerequisite: Prerequisites: Physics 153 and Physics 143a, or equivalent.

***Physics 247r. Laboratory Course in Contemporary Physics**
Catalog Number: 8665 Enrollment: Together with Physics 191r, limited to a total of 24 students.
Isaac F. Silvera and Robert M. Westerfelt (fall term), Peter S. Pershan and Isaac F. Silvera (spring term)
Half course (fall term; repeated spring term). Tu., Th., 1–5. EXAM GROUP: 15, 16, 17, 18
Three experimental projects are selected representing condensed matter, atomic, nuclear, and particle physics. Examples: experiments on pulsed nuclear magnetic resonance, microwave spectroscopy, optical tweezers, and non-linear optics, optical pumping, Raman scattering, scattering of laser light, nitrogen vacancies in diamond, neutron activation of radioactive isotopes, Compton scattering, relativistic mass of the electron, recoil free gamma-ray resonance, lifetime of the muon, studies of superfluid helium, positron annihilation, superconductivity, the quantum Hall effect, properties of semiconductors. The facilities of the laboratory include several computer controlled experiments as well as computers for analysis.
Note: A substantial amount of outside reading may be required.



Physics 248r (formerly Physics 248). Phenomena of Elementary Particle Physics
Catalog Number: 5431
Tai T. Wu
Half course (fall term). M., W., F., at 12. EXAM GROUP: 5
Recently, the Higgs particle was discovered experimentally by the ATLAS and the CMS Collaborations at CERN; it is the first spin-0 elementary particle ever observed. It is the purpose of this course to discuss various topics related to this particle.
Prerequisite: Prerequisite: Physics 145 or equivalent.

Physics 251a. Advanced Quantum Mechanics I
Catalog Number: 2191
Cumrun Vafa
Half course (fall term). W., F., 1:30–3. EXAM GROUP: 6, 7
Basic course in nonrelativistic quantum mechanics. Review of wave functions and the Schrödinger Equation; Hilbert space; the WKB approximation; central forces and angular momentum; scattering; electron spin; measurement theory; the density matrix; time-independent perturbation theory.
Prerequisite: Physics 143a, b or equivalent, or permission of instructor.

Physics 251b. Advanced Quantum Mechanics II
Catalog Number: 2689
David R. Nelson
Half course (spring term). M., W., F., at 12. EXAM GROUP: 5
Potential topics include Heisenberg picture; time-dependent perturbations; inelastic scattering; electrons in a uniform magnetic field; quantized radiation field; absorption and emission of radiation; identical particles and second quantization; nuclear magnetic resonance; Feynman path integrals for quantum spins.
Prerequisite: Physics 251a.

Physics 253a. Quantum Field Theory I
Catalog Number: 8050
Matthew Reece
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Introduction to relativistic quantum field theory. This course covers quantum electrodynamics. Topics include canonical quantization, Feynman diagrams, spinors, gauge invariance, path integrals, ultraviolet and infrared divergences, renormalization and applications to the quantum theory of the weak and gravitational forces.
Prerequisite: Physics 143a,b or equivalents.

Physics 253b. Quantum Field Theory II
Catalog Number: 5250
Daniel Louis Jafferis
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
A continuation of Physics 253a. Non-Abelian gauge theories, renormalization group, spontaneous symmetry breaking, effective field theory, anomalies, electroweak theory and the standard model, monopoles and instantons.
Prerequisite: Physics 253a.

Physics 253cr. Quantum Field Theory III
Catalog Number: 4000
Girma Hailu

Half course (fall term). W., F., 10–11:30. EXAM GROUP: 3, 4
Introduction to some of the tools for studying the exact nonperturbative dynamics of supersymmetric gauge theories, supergravity, and gauge/gravity duality.
Prerequisite: Quantum field theory at the level of Physics 253a.

Physics 254. The Standard Model
Catalog Number: 29114
Matthew Reece
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
The Standard Model of particle physics: theory and experimental implications. Topics include nonabelian gauge theory, spontaneous symmetry breaking, anomalies, the chiral Lagrangian, QCD and jets, collider physics and simulation, the Higgs at the LHC.
Prerequisite: Introductory relativistic field theory, at the level of Physics 253a.

Physics 262. Statistical Physics
Catalog Number: 1157
Erel Levine
Half course (fall term). Tu., Th., 10–11:30; W., at 4. EXAM GROUP: 12, 13
Basic principles of statistical physics and thermodynamics, with applications including: the equilibrium properties of classical and quantum gases, phase transitions and critical phenomena, as illustrated by the liquid-gas transition and simple magnetic models. Universality, scaling and renormalization group. Introduction to non-equilibrium physics.
Note: Students may wish to take Applied Physics 284 when this course is bracketed.
Prerequisite: Physics 143a and Physics 181 or Engineering Sciences 181.

Physics 268r. Special Topics in Condensed Matter Physics. Topological States of Matter
Catalog Number: 7951
Bertrand I. Halperin
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Notions of topology have been invoked to clarify the properties of a variety of quantum systems and to classify the possible ground states of such systems. We shall explore in depth examples such as two-dimensional quantized Hall states, and topological insulators in two and three dimensions. Discussions will include effects of disorder and localization phenomena, and practical issues of measurement that may have only marginal relation to topological concepts.
Prerequisite: Physics 251b, Applied Physics 295a and Physics 262, or equivalents.

[Physics 269r. Topics in Statistical Physics and Physical Biology]
Catalog Number: 6214
David R. Nelson
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Introduction to strongly interacting soft condensed matter and biophysical systems. We begin with the physics of cells and related single molecule experiments on bio-polymers such as DNA, RNA and proteins. A major part of the course will then focus on genetic engineering, and the non-equilibrium statistical dynamics of genetic circuits and neural networks.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Physics 262, Applied Physics 284 or equivalent.

[Physics 270. Mesoscopic Physics and Quantum Information Processing]
Catalog Number: 0788
Instructor to be determined

Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Introduces the subject of quantum effects in electronic systems, including conductance fluctuations, localization, electron interference, and many-body effects such as the Kondo effect. This year, we will also focus on solid state implementations of quantum information processing systems.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15. The reading list focuses primarily on the experimental literature, augmented by recent texts and reviews. The format of the course is a combination of lectures and journal-club-style presentations. A term paper on a topic within mesoscopic condensed matter physics or quantum information will allow for deeper exploration. Given in alternate years.
Prerequisite: Basic familiarity with quantum mechanics and solid state physics at the level of undergraduate courses.

[Physics 271. Topics in the Physics of Quantum Information]
Catalog Number: 7647
Mikhail D. Lukin
Half course (fall term). M., W., 12–1:30. EXAM GROUP: 5, 6
Introduction to physics of quantum information, with emphasis on ideas and experiments ranging from quantum optics to condensed matter physics. Background and theoretical tools will be introduced. The format is a combination of lectures and class presentations.
Note: Expected to be given in 2014–15.
Prerequisite: Quantum mechanics at the level of introductory graduate courses.

[Physics 283b. Beyond the Standard Model]
Catalog Number: 7153
Instructor to be determined
Half course (fall term). Hours to be arranged.
Covers current advances in particle physics beyond the Standard Model. Topics could include supersymmetry, the physics of extra dimensions, experimental searches, including for T violation, and connections between particle physics and cosmology.
Note: Expected to be given in 2014–15.

[Physics 284. Strongly Correlated Systems in Atomic and Condensed Matter Physics]
Catalog Number: 4673
Eugene A. Demler
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Explores an emerging interface involving strongly correlated systems in atomic and condensed matter physics. Topics include bosonic and fermionic Hubbard models, strongly interacting systems near Feshbach resonances, magnetism of ultracold atoms, quantum spin systems, low dimenstional systems, non-equilibrium coherent dynamics.
Note: Expected to be given in 2014–15.
Prerequisite: Graduate quantum mechanics or permission of instructor.

[Physics 285a. Modern Atomic and Optical Physics I]
Catalog Number: 8204
Gerald Gabrielse
Half course (spring term). M.,W., 12-1:30. EXAM GROUP: 5, 6
Introduction to modern atomic physics. The fundamental concepts and modern experimental techniques will be introduced. Topics will include two-state systems, magnetic resonance, interaction of radiation with atoms, transition probabilities, spontaneous and stimulated emission, dressed atoms, trapping, laser cooling of “two-level” atoms, structure of simple atoms, fundamental symmetries, two-photon excitation,

light scattering and selected experiments. The first of a two-term subject sequence that provides the foundations for contemporary research.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: One course in quantum mechanics (143a and b, or equivalent).

Physics 285b. Modern Atomic and Optical Physics II
Catalog Number: 4195
Mikhail D. Lukin
Half course (fall term). M., W., 12-1:30. EXAM GROUP: 5, 6
Introduction to quantum optics and modern atomic physics. The basic concepts and theoretical tools will be introduced. Topics will include coherence phenomena, non-classical states of light and matter, atom cooling and trapping and atom optics. The second of a two-term subject sequence that provides the foundations for contemporary research.
Note: Expected to be omitted in 2012–13.
Prerequisite: A course in electromagnetic theory (Physics 232a or equivalent); one half-course in intermediate or advanced quantum mechanics.

Physics 287a. Introduction to String Theory
Catalog Number: 2012
Xi Yin
Half course (fall term). W., F., 3–4:30. EXAM GROUP: 8, 9
Introduction to the perturbative formulation of string theories and dualities. Quantization of bosonic and superstrings, perturbative aspects of scattering amplitudes, supergravity, D-branes, T-duality and mirror symmetry. Also a brief overview of recent developments in string theory.
Prerequisite: Physics 253a, b or equivalent.

[Physics 287br. Topics in String Theory]
Catalog Number: 4555
Cumrun Vafa
Half course (spring term). W., F., 3–4:30. EXAM GROUP: 8, 9
A selection of topics from current areas of research on string theory.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Physics 287a.

[Physics 289r. Euclidean Random Fields, Relativistic Quantum Fields and Positive Temperature]
Catalog Number: 6400
Arthur M. Jaffe
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The course will give the reconstruction of relativistic quantum fields from Euclidean fields as well as the relation between representations of the Poincaré group to those of Euclidean group. Related topics are reflection positivity and Osterwalder-Schrader quantization, and supersymmetry, some of which will be covered.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Physics 253a

Physics 295a. Introduction to Quantum Theory of Solids
Catalog Number: 10292
Efthimios Kaxiras
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Properties of solids, electrical, optical, thermal, magnetic, mechanical, are treated based on an atomic

scale picture and using the single electron approximation. Metals, semiconductors, and insulators are covered. including special topics such as superconductivity.
Prerequisite: Applied Physics 195 or equivalent, and one full quantum mechanics graduate level course similar to Physics 251a. Physics 251b may be taken concurrently.

Physics 295b. Quantum Theory of Solids
Catalog Number: 98229
Eugene A. Demler
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Presents theoretical description of solids focusing on the effects of interactions between electrons. Topics include Landau Fermi liquid theory, dielectric response and RPA approximation, ferro and antiferromagnetism, RKKY interactions and Kondo effect, electron-phonon interactions and superconductivity.
Note: Prerequisite: Physics 251a,b, an introductory course in solid state physics, or permission of instructor.
Prerequisite: Physics 251a,b, an introductory course in solid state physics, or permission of instructor.

Cross-listed Courses

Applied Mathematics 201. Physical Mathematics I
Applied Mathematics 202. Physical Mathematics II
Applied Mathematics 205. Advanced Scientific Computing: Numerical Methods
Applied Physics 216. Electromagnetic Interactions with Matter
[Applied Physics 217. Applications of Modern Optics]
[Applied Physics 284. Statistical Thermodynamics]
Applied Physics 295a. Introduction to Quantum Theory of Solids
[Applied Physics 295b. Quantum Theory of Solids]
[Applied Physics 298r. Interdisciplinary Chemistry, Engineering and Physics: Seminar]
Engineering Sciences 220. Fluid Dynamics
Engineering Sciences 274. Quantum Technology I
Engineering Sciences 275. Nanophotonics
[MCB 212. Topics in Biophysics]

Graduate Courses of Reading and Research

Courses of preliminary reading or experimental research are designated by "a." Thesis research are designated by "b" and these courses are to be used only when an instructor has agreed to supervise a student's research for the PhD. Reading and Research courses largely concerned with physics are offered under the sponsorship of several other departments, particularly Astronomy, Chemistry, and Earth and Planetary Sciences; and of the Division of Engineering and Applied Sciences (Applied Mathematics, Applied Physics, Computer Science, and Engineering Sciences).

***Physics 301a,301b. Experimental Atomic and Elementary Particle Physics**
Catalog Number: 1735,1736
Gerald Gabrielse 1768 (on leave 2013-14)

***Physics 302. Teaching and Communicating Physics**
Catalog Number: 51609 Enrollment: Limited to 36. Priority will be given to first-year graduate students.
Jacob Barandes 3363
Half course (spring term). W., or Th., 4-6. EXAM GROUP: 9

Hands-on, experienced-based course for graduate students on teaching and communicating physics, conducted through practice, observation, feedback, and discussion. Departmental rules for teaching fellows, section and laboratory teaching, office hours, assignments, grading, and difficult classroom situations.

***Physics 303a,303b. Sensory and Behavioral Neuroscience**
Catalog Number: 1727,1792
Aravinthan D. T. Samuel 4625 (on leave spring term)

Physics 304a,304b. Topics in Field Theory and String Theory - *(New Course)
Catalog Number: 40521,11572
Daniel Louis Jafferis 7360

***Physics 305a,305b. Experimental High Energy Physics**
Catalog Number: 7929,0855
John Huth 3506

***Physics 307a,307b. Atomic/Bio-physics, Quantum Optics**
Catalog Number: 7534,3277
Lene V. Hau 2151

***Physics 309a,309b. Topics in Elementary Particle Theory**
Catalog Number: 4556,4561
Cumrun Vafa 2069

***Physics 311a,311b. Experimental Atomic, Molecular, and Low-Energy Particle Physics**
Catalog Number: 6839,6838
John M. Doyle 3507 (on leave spring term)

***Physics 313a,313b. Experimental Condensed Matter Physics**
Catalog Number: 7154,6363
Amir Yacoby 5596

***Physics 315a,315b. Topics in Theoretical Atomic, Molecular, and Condensed Matter Physics**
Catalog Number: 7387,8871
Eric J. Heller 1074

***Physics 317a,317b. Topics in Biophysics**
Catalog Number: 8345,0990
Xiaowei Zhuang 3991

***Physics 319a,319b. Topics in Experimental High Energy Physics**
Catalog Number: 4520,4521
Melissa Franklin 2500

***Physics 321a,321b. Experimental Soft Condensed Matter Physics**
Catalog Number: 9963,7098
David A. Weitz 2497

***Physics 327a,327b. Topics in Condensed Matter Physics**
Catalog Number: 5969,6524
David R. Nelson 5066 (on leave fall term)

***Physics 329a,329b. Condensed Matter and Statistical Theory**
Catalog Number: 6198,6373
Bertrand I. Halperin 4755 (on leave spring term)

***Physics 331a,331b. Topics in String Theory**
Catalog Number: 1624,9280
Xi Yin 6162

***Physics 333a,333b. Experimental Atomic Physics**
Catalog Number: 2902,2904
Mara Prentiss 2741

***Physics 335a,335b. Topics in the History and Philosophy of Physics**
Catalog Number: 6697,4276
Gerald Holton 1883

***Physics 337a,337b. Topics in Experimental High Energy Physics**
Catalog Number: 1809,6368
Masahiro Morii 3798

***Physics 339a,339b. Condensed Matter and Atomic Physics**
Catalog Number: 5096,6843
Subir Sachdev 5252 (on leave spring term)

***Physics 341a,341b. Topics in Experimental Atomic and Condensed Matter Physics**
Catalog Number: 1990,6602
Markus Greiner 5344

***Physics 343a,343b. Observational Cosmology and Experimental Gravitation**
Catalog Number: 4253,6881
Christopher Stubbs 4856

***Physics 345a,345b. Experimental Gravitation: Radio and Radar Astronomy**
Catalog Number: 5067,5072
Irwin I. Shapiro 7660

***Physics 347a,347b. Topics in Quantum Optics**
Catalog Number: 8010,1627
Mikhail D. Lukin 3990

***Physics 349a,349b. Topics in Theoretical Particle Physics**
Catalog Number: 4124,9866
Matthew D. Schwartz 6194



***Physics 351a,351b. Experimental Soft Condensed Matter and Materials Physics**
Catalog Number: 6533,5661
Vinothan N. Manoharan 5251 (on leave 2013-14)

***Physics 353a,353b. Topics in Statistical Physics and Quantitative Molecular Biology**
Catalog Number: 66502,81609
Erel Levine 6304

***Physics 355a,355b. Theory of Elementary Particles**
Catalog Number: 1213,7654
Roy J. Glauber 2113

***Physics 357a,357b. Experimental Condensed Matter Physics**
Catalog Number: 4430,5227
Robert M. Westervelt 6148

***Physics 359a,359b. Topics in Condensed Matter Physics**
Catalog Number: 8238,7560
Eugene A. Demler 3847

***Physics 361a,361b. Topics in Experimental High Energy Physics**
Catalog Number: 21181,51395
Joao Pedro Guimaraes da Costa 5698

***Physics 363a,363b. Topics in Condensed Matter Theory**
Catalog Number: 2957,2958
Efthimios Kaxiras 3050

***Physics 365a,365b. Topics in Mathematical Physics**
Catalog Number: 5170,1567
Arthur M. Jaffe 2095

***Physics 367a,367b. Experimental Astrophysics**
Catalog Number: 1075,1274
Paul Horowitz 3537

***Physics 369a,369b. Experimental Condensed Matter: Synchrotron Radiation Studies**
Catalog Number: 1538,1539
Peter S. Pershan 1105 (on leave fall term)

***Physics 371a,371b. Topics in Experimental High Energy Physics**
Catalog Number: 2519,6461
Gary J. Feldman 2599 (on leave spring term)

***Physics 373a,373b. Historical and Philosophical Approaches to Modern and Contemporary Physics**
Catalog Number: 6140,6143
Peter L. Galison 3239 (on leave spring term)

***Physics 377a,377b. Theoretical High Energy Physics**
Catalog Number: 1436,2007
Tai T. Wu 1051

***Physics 379a,379b. Topics in Elementary Particle Research and String Theory**
Catalog Number: 7523,7524
Andrew Strominger 3700

***Physics 381a,381b. Experimental Condensed Matter Physics**
Catalog Number: 1281,2355
Jennifer E. Hoffman 4888 (on leave 2013-14)

***Physics 383a,383b. Low Temperature Physics of Quantum Fluids and Solids; Ultra High Pressure Physics**
Catalog Number: 3851,4395
Isaac F. Silvera 7468

***Physics 385a,385b. Topics in Biophysics**
Catalog Number: 5901,5902
Howard C. Berg 1377 (on leave spring term)

***Physics 387a,387b. Applied Photonics**
Catalog Number: 5772,5774
Eric Mazur 7952

***Physics 389a,389b. Topics in Field Theory: The Standard Model and Beyond**
Catalog Number: 4393,2571
Lisa Randall 4255

***Physics 391a,391b. Experimental Atomic Physics, Biophysics, and Soft Matter Physics**
Catalog Number: 1006,2753
Ronald L. Walsworth 2263

***Physics 393a,393b. Topics in Elementary Particle Theory**
Catalog Number: 6051,6218
Howard Georgi 4754

***Physics 395a,395b. Topics in Theoretical High Energy/String Theory**
Catalog Number: 11641,56022
Matthew Reece 7173

***Physics 397a,397b. Experimental Condensed Matter Physics**
Catalog Number: 7355,7356
Jene A. Golovchenko 1986

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Political Economy and Government

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Political Economy and Government

Torben Iversen, Harold Hitchings Burbank Professor of Political Economy *(Chair)*
James E. Alt, Frank G. Thomson Professor of Government *(on leave spring term)*
Christopher N. Avery, Roy E. Larsen Professor of Public Policy and Management at the John F. Kennedy School of Government *(Kennedy School)*
Robert H. Bates, Eaton Professor of the Science of Government and Professor of African and African American Studies
Daniel P. Carpenter, Allie S. Freed Professor of Government
Raj Chetty, William Henry Bloomberg Professor of Economics
Suzanne J. Cooper, Edith M. Stokey Senior Lecturer in Public Policy *(Kennedy School)*
Jeffry Frieden, Stanfield Professor of International Peace *(on leave spring term)*
Edward L. Glaeser, Fred and Eleanor Glimp Professor of Economics
Michael J. Hiscox, Clarence Dillon Professor of International Affairs
William W. Hogan, Raymond Plank Professor of Global Energy Policy *(Kennedy School)*
Sendhil Mullainathan, Professor of Economics
Joseph P. Newhouse, John D. MacArthur Professor of Health Policy and Management, Professor of Health Care Policy *(Kennedy School, Public Health, Medical School)*
J. Mark Ramseyer, Mitsubishi Professor of Japanese Legal Studies *(Law School)*
James Robinson, David Florence Professor of Government
Beth A. Simmons, Clarence Dillon Professor of International Affairs
Robert N. Stavins, Albert Pratt Professor of Business and Government at the John F. Kennedy School of Government *(Kennedy School)*
Dustin Tingley, Associate Professor of Government
Richard J. Zeckhauser, Frank Plumpton Ramsey Professor of Political Economy in the John F. Kennedy School of Government *(Kennedy School)*

The Doctoral Program in Political Economy and Government (PEG) is intended for scholars interested in academic or policy making careers requiring advanced knowledge of both Economics and Political Science. It is appropriate for students whose academic interests are not fully served by doctoral studies in Economics or Political Science alone. In Political Economy and Government, candidates have intellectual interests in the impact of politics on economic processes and outcomes, and the reciprocal influence of economic conditions on political life. This interest is often applied to such diverse areas as international political economy, political development, political and economic institutions, institutional transition and reform, environmental resource policies, and social policy.

Candidates for the PEG degree are typically in residence for two years before undertaking the oral examination. Satisfactory completion of the oral examination is a prerequisite for writing a dissertation. Continuation of candidacy is contingent upon suitable progress and achievement during each academic year.

Applicants to this program must present their academic credentials, career plans, and a tentative outline of

their proposed program research. All applicants must specify whether they are applying to the Economics track or the Political Science track. For a full description of the track requirements, visit the PEG website at *www.hks.harvard.edu.* Recent scores from the aptitude portion of the Graduate Record Examination (GRE) are required, as are transcripts for all prior study and three letters of recommendation. Application forms and leaflets describing field and other requirements are available at the Graduate School of Arts and Sciences. For further information on faculty, programs, and courses in the John F. Kennedy School of Government, see the school's catalog and courses of instruction.

For more information about the doctoral program, visit the program website at *www.hks.harvard.edu/degrees/phd/peg.*

Psychology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Psychology

Ken Nakayama, Edgar Pierce Professor of Psychology *(Chair)*
Brandon R. Abbs, Lecturer on Psychology
George Angelo Alvarez, John L. Loeb Associate Professor of the Social Sciences *(on leave spring term)*
Elinor Amit, College Fellow in Psychology
Mahzarin R. Banaji, Richard Clarke Cabot Professor of Social Ethics *(Head Tutor)*
Joshua William Buckholtz, Assistant Professor of Psychology *(on leave spring term)*
Randy L. Buckner, Professor of Psychology and of Neuroscience
Alfonso Caramazza, Daniel and Amy Starch Professor of Psychology
Susan E. Carey, Henry A. Morss, Jr. and Elisabeth W. Morss Professor of Psychology
Daniel T. Gilbert, Edgar Pierce Professor of Psychology
Joshua D. Greene, John and Ruth Hazel Associate Professor of the Social Sciences
Güven Güzeldere, Senior Lecturer on Philosophy and Psychology
Moshe H. Hoffman, Lecturer on Psychology
Christine Hooker, Associate Professor of Psychology
Jill M. Hooley, Professor of Psychology *(on leave fall term)*
Justin Anthony Junge, Lecturer on Psychology
Sasha Y. Kimel, College Fellow in Psychology
Max Krasnow, Assistant Professor of Psychology
Ellen J. Langer, Professor of Psychology *(on leave spring term)*
Justin J. Lehmiller, College Fellow in Psychology
Richard J. McNally, Professor of Psychology *(on leave spring term)*
Jason P. Mitchell, Professor of Psychology
Matthew K. Nock, Professor of Psychology
Nicole E. Noll, Lecturer on Psychology
Holly A. Parker, Lecturer on Psychology

Steven Pinker, Johnstone Family Professor of Psychology *(on leave 2013-14)*
Ian Reed, College Fellow in Psychology
Nicole M. Rosa, College Fellow in Psychology
Daniel L. Schacter, William R. Kenan, Jr. Professor of Psychology
Allison Elizabeth Seitchik, Lecturer on Psychology
James Sidanius, Professor of Psychology and of African and African American Studies
Jesse Snedeker, Professor of Psychology *(Director of Graduate Studies)*
Leah Somerville, Assistant Professor of Psychology
Elizabeth S. Spelke, Marshall L. Berkman Professor of Psychology *(on leave fall term)*
Danielle Truxaw, Lecturer on Psychology
Felix Warneken, Associate Professor of Psychology
John R. Weisz, Professor of Psychology
Yaoda Xu, Assistant Professor of Psychology
Erez Yoeli, Lecturer on Psychology

Other Faculty Offering Instruction in the Department of Psychology

Gennaro Chierchia, Haas Foundations Professor of Linguistics
Amy J. C. Cuddy, Assistant Professor *(Business School)*
Kurt W. Fischer, Charles Bigelow Professor of Education *(Faculty of Education)*
Francesca Gino, Associate Professor *(Business School)*
Scott E. Lukas, Professor of Psychiatry *(Medical School)*
Patrick Mair, Lecturer on Psychology
Diego Pizzagalli, Associate Professor of Psychiatry *(Medical School)*
Todd T. Rogers, Assistant Professor of Public Policy *(Kennedy School)*
Lauren Cristina Santucci, Lecturer on Psychology

For a list of other courses which automatically count for undergraduate concentration credit, please see the note under the cross-listed courses for Undergraduates and Graduates.

Primarily for Undergraduates: Introductory Course

Science of Living Systems 20. Psychological Science

Primarily for Undergraduates: Foundational Courses

MCB 80. Neurobiology of Behavior
Science of Living Systems 15 (formerly Science B-60). Developmental Psychology: Origins of Knowledge
[Psychology 13. Cognitive Psychology]
Catalog Number: 8706 Enrollment: This course meets foundational requirements and should be taken before courses at the 1000 level or higher.
Instructor to be determined
Half course (spring term). Hours to be arranged.
An introduction to the study of human cognition. Topics include perception, attention, memory, categorization, language, and consciousness. We will consider how human thought processes are organized, how they affect our everyday behavior, and the biological mechanisms that underlie them.
Note: Expected to be given in 2014–15. This course counts toward the Psychology foundational requirement.
Prerequisite: Science of Living Systems 20, or permission of instructor.

Psychology 14. Cognitive Neuroscience
Catalog Number: 5607
Daniel L. Schacter and George Angelo Alvarez
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
How do our brains give rise to our minds? Specifically, how are mental processes related to neural activity? This course will explore these questions, as well as the methods by which cognitive neuroscience seeks to answer them. We will focus on processes within perception, attention, memory, language, action, emotion, and social cognition, and methods including neuroimaging, neuropsychology, and electrophysiology.
Note: This course counts toward foundational requirements for Psychology and should be taken before courses at the 1000 level or higher.
Prerequisite: Science of Living Systems 20.

Psychology 15. Social Psychology
Catalog Number: 4760
Joshua D. Greene
Half course (spring term). M., W. 1-2:30, and a one-hour section to be arranged. EXAM GROUP: 6, 7
An introduction to social psychological research and theory regarding everyday behavior, incorporating methods from the life sciences (neuroscience, genetics, evolutionary biology). Topics include: attitudes and social influence; obedience to authority; stereotyping, prejudice, and intergroup relations; emotion; interpersonal attraction; morality and prosocial behavior; and errors of everyday human judgment
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of Living Systems. This course counts toward the foundational requirement for Psychology and should be taken before courses at the 1000 level or higher.
Prerequisite: Science of Living Systems 20, for all freshmen and for all students completing a concentration or secondary field in psychology.

Psychology 18. Abnormal Psychology
Catalog Number: 8560
Diego Pizzagalli (Medical School)
Half course (spring term). Tu., Th., 1-2:30 and a weekly section to be arranged. EXAM GROUP: 15, 16
Introduction to the study of psychopathology. Focuses on theoretical models of abnormal behavior as they relate to the definition, etiology, and treatment of mental disorders. Diagnostic classification, behavioral, and biological features of the major syndromes of psychopathology emphasized.
Note: This course counts toward foundational requirements for Psychology and should be taken before courses at the 1000 level or higher.
Prerequisite: Science of Living Systems 20.

Primarily for Undergraduates

***Psychology 910r. Supervised Research**
Catalog Number: 1472
Mahzarin R. Banaji and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Independent empirical research (laboratory or field) conducted under the supervision of a departmental faculty member. Research report or equivalent paper required. May be taken up to three times for College credit; limits on research courses for concentration credit apply.
Note: An Application is required for admission; due to the Psychology Undergraduate Office the day before Study Cards are due.

***Psychology 950. Psychology Live**
Catalog Number: 5195 Enrollment: Limited to 25.
Justin Anthony Junge
Half course (fall term). W., 1:30–4.
Faculty will each lecture about their main area of research: its history, methods, and discoveries, focusing on contemporary research topics including perception, memory, cognitive development, animal cognition, social cognition, moral decision-making, consciousness, language, and psychopathology. Includes a view of methods to study the mind, brain and behavior involving neuroscientific techniques, evolutionary psychology, web-based experimentation, traditional laboratory experiments, and field studies. Emphasis is primarily human, as well as nonhuman primates.
Prerequisite: Science of Living System 20 or equivalent..

***Psychology 971. Contemporary Issues in Psychology: Intensive Cross-level Analyses**
Catalog Number: 3498
Mahzarin R. Banaji and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Examines selected issues and phenomena in contemporary psychological research. Special attention to examining topics from a variety of perspectives, to reading primary sources in the field, and to developing thinking, writing, research, and discussion skills. This tutorial, or Psychology 975, is required of concentrators upon entering the concentration, normally in the sophomore year. Letter graded.
Note: This course is taught entirely in sections, so a required first meeting of this course will be held the first day of classes; see Registrar's first meeting list for time and location. Students may take this course before formally declaring Psychology as their concentration.
Prerequisite: Science of Living Systems 20 (or equivalent) or concurrent enrollment. Stat 101 or PSY 1900 as a pre- or corequisite.

***Psychology 975. Contemporary Issues in Psychology: Intensive Cross-level Analyses for Cognitive Neuroscience and Evolutionary Psychology**
Catalog Number: 9063
Mahzarin R. Banaji and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Examines selected issues of relevance to social and cognitive neuroscience addressed in contemporary psychological research, and is normally required for students in the Social and Cognitive Neuroscience track of Psychology. Special attention to examining topics from a variety of perspectives, to reading primary sources in the field, and to developing thinking, writing, research, and discussion skills. This tutorial, or Psychology 971, is required of concentrators upon entering the concentration, normally in the sophomore year. Letter-graded.
Note: This course is taught entirely in sections, so a required first meeting of this course will be held the first day of classes; see Registrar's first meeting list for time and location. Students may take this course before formally declaring Psychology as their concentration.
Prerequisite: Science of Living Systems 20 (or equivalent) or concurrent enrollment. Stat 101 or PSY 1900 as a pre- or corequisite.

***Psychology 980b. Developmental Disabilities**
Catalog Number: 33231 Enrollment: Limited to 16.
Mahzarin R. Banaji and members of the Department
Half course (spring term). F., 10–12. EXAM GROUP: 3, 4
Introduction to developmental disorders through theory, research, and practice. In this course we will focus on the most frequently identified developmental difficulties in areas such as language, math, and executive functions. The approach will be integrative by considering each topic through the lens of

cognitive neuroscience, clinical presentation, and theoretical frameworks.
Note: Typically meant for Junior and Senior Psychology concentrators.
Prerequisite: Science of Living Systems 20 or its predecessors and one foundation course.

***Psychology 980f. Animal Cognition**
Catalog Number: 89069 Enrollment: Limited to 16.
Mahzarin R. Banaji and members of the Department
Half course (fall term). Tu., 3–5.
This course is an introduction to the study of animal cognition and thought processes. Topics include categorization, memory, number concepts, insight, and language-like behavior. The course requires reading and critiquing original journal articles.
Note: Not open to students who have taken PSY 1351.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

***Psychology 980k. Growing Up and Growing Old: Cognitive Changes in Childhood and Aging**
Catalog Number: 76843 Enrollment: Limited to 16.
Mahzarin R. Banaji and members of the Department
Half course (fall term). M., 6–8 p.m.
This seminar will focus on the profound cognitive changes of early childhood and old age. We will be especially interested in what such changes tell us about how the adult mind -- perched between childhood and old age -- is organized. Topics include: theories of development and theories of aging, changes in the neural substrate; the rise and fall of executive functions; conceptual gain and conceptual loss; expertise and wisdom; healthy aging and dementias.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

[*Psychology 980n. Nonverbal Communication]
Catalog Number: 25145 Enrollment: Limited to 16.
Mahzarin R. Banaji and members of the Department
Half course (spring term). Hours to be arranged.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

Psychology 980p. Social Factors in the Development of Psychopathology - *(New Course)
Catalog Number: 16581 Enrollment: Limited to 16.
Mahzarin R. Banaji and members of the Department
Half course (fall term). W., 6–8 p.m.
This course will review the role social factors (social support, social interactions, social functioning, and the broader social context of communities) relate to the development and maintenance of psychopathology. In the context of disorders such as schizophrenia, depression (including suicide), eating disorders, and post-traumatic stress disorder, this course will look at how social factors might contribute to the development of mental illness, as well as how social factors might be indicators of mental illness, and finally how social factors might mediate the severity of or even prevent the development of mental illness.
Prerequisite: Science of Living Systems 20 and Psychology 18.

Psychology 980q. Television and Tablets: The Influence of Screen Media on Cognitive and Social Development - *(New Course)

Catalog Number: 67256 Enrollment: Limited to 16.
Mahzarin R. Banaji
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
In this course, we will explore the influence of screen media (e.g., television, tablets, online video streaming) on children's cognitive and social development. To what extent does exposure to screen media positively or negatively influence development? We will begin by discussing the type of evidence needed to answer these questions. Then, for each case study (e.g., language development, executive function, social learning), we will discuss whether and how exposure to screen media impacts children's learning.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

***Psychology 985. Junior Tutorial: Honors Thesis Preparation**
Catalog Number: 2343
Mahzarin R. Banaji and members of the Department
Half course (fall term; repeated spring term). Fall: Hours to be arranged; Spring: M., at 11.
Supervised reading and research with a faculty supervisor normally resulting in a thesis prospectus. Required, supplemental group meetings to discuss topic and supervisor selection, study methodology, prospectus writing, and the prospectus meeting. Graded SAT/UNS. Full prospectus or term paper required.
Note: Normally limited to junior psychology concentrators. Admission to course by way of application.
Prerequisite: Psychology 1901 or concurrent enrollment.

Senior Tutorial

***Psychology 990. Senior Tutorial: Honors Thesis in Psychology**
Catalog Number: 3553
Mahzarin R. Banaji and members of the Department
Full course. Hours to be arranged.
Individual supervised thesis research supplemented with occasional group meetings to discuss major aspects of the thesis process (e.g., organizing, conducting, and presenting research). Graded Sat/Unsat. Prospectus meeting required for fall term credit, as well as a paper for students who divide course at mid-year. Submission of thesis required for full year credit.
Note: Required of and limited to senior psychology concentrators in the general psychology Honors-eligible thesis track.
Prerequisite: Approved thesis application and Psychology 1901.

***Psychology 992. Senior Tutorial: Honors Thesis (Mind/Brain/Behavior)**
Catalog Number: 4990
Mahzarin R. Banaji and members of the Department
Full course. Hours to be arranged.
Individual supervised thesis research supplemented with occasional group meetings to discuss major aspects of the thesis process (e.g., organizing, conducting, and presenting research). Graded Sat/Unsat. Prospectus meeting required for fall term credit, as well as a paper for students who divide course at mid-year. Submission of thesis required for full year credit.
Note: Required of and limited to senior psychology concentrators in the Cognitive Science thesis track, who will take this course in lieu of Psychology 990.Prerequisite: Approved thesis application and Psychology 1901.
Prerequisite: Approved thesis application and Psychology 1901.

***Psychology 993. Senior Tutorial: Honors Thesis (Social and Cognitive Neuroscience)**
Catalog Number: 5567
Mahzarin R. Banaji and members of the Department.
Full course. Hours to be arranged.
Individual supervised research supplemented with occasional group meetings to discuss major aspects of the thesis process (e.g., organizing, conducting, and presenting research). Graded Sat/Unsat. Prospectus meeting required for fall term credit, as well as a paper for students who divide course at mid-year. Submission of thesis required for full year credit.
Note: Required of and limited to senior honors psychology concentrators in the Social and Cognitive Neuroscience track, who will take this course in lieu of Psychology 990.
Prerequisite: Approved thesis application and Psychology 1901.

***Psychology 995. Senior Seminar: General Psychology**
Catalog Number: 5201 Enrollment: Limited to 12.
Elinor Amit
Half course (fall term). Tu., 1:30–3:30.
A capstone course aimed at an integrated review of the field through seminar discussions, oral reports, field experience, practitioner interviews, and independent research projects. Focus is upon the perspectives and prescriptions in contemporary psychology.
Note: Designed for senior concentrators not engaged in an honors thesis.

Cross-listed Courses

African and African American Studies 141x. Prejudice and Racism in Modern Society - *(New Course)*
***Freshman Seminar 23s. The Seven Sins of Memory**
***Freshman Seminar 49n. Measurements of the Mind: The Creation and Critique of the Psychological Test**
***Mind, Brain, and Behavior 980a (formerly *Mind, Brain, and Behavior 93). Conscious States: Waking, Sleeping, and Dreaming**
***Mind, Brain, and Behavior 980b (formerly *Mind, Brain, and Behavior 908b). Addiction, Choice, and Motivation**
***Mind, Brain, and Behavior 980c (formerly *Mind, Brain, and Behavior 96). The Science of Happiness**
***Mind, Brain, and Behavior 980d (formerly *Mind, Brain, and Behavior 92). A Systems Neuroscience Approach to Conscious Perceptual Experience**
***Mind, Brain, and Behavior 980e (formerly *Mind, Brain, and Behavior 91z). Music, Mind, and Brain**
***Mind, Brain, and Behavior 980f (formerly *Mind, Brain, and Behavior 99z). Creativity Research: Madmen, Geniuses, and Harvard Students**
Mind, Brain, and Behavior 980g. The Origins and Evolution of Cognition: A Comparative Study of Human and Nonhuman Abilities - *(New Course)
Mind, Brain, and Behavior 980h. What Disease Teaches about Cognition - *(New Course)
Mind, Brain, and Behavior 980ir. Topics in the Mind/Brain Sciences: How the Mind/Brain Represents the World - *(New Course)

For Undergraduates and Graduates

[Psychology 1005. Health Psychology]
Catalog Number: 62039

Ellen J. Langer
Half course (spring term). Hours to be arranged.
This course will examine psychological and physical health from the perspective of Positive Psychology. A major focus will be on mindfulness theory and its relationship to stress/coping; illness/wellness; decision-making; placebos. The medical model, the bio social model, and a unified mind/body model will be compared to examine their relationship to achieving resilience.
Note: Expected to be given in 2014–15.
Prerequisite: SLS 20 and at least one course from Psy 13, Psy 14, Psy 15, Psy 18, or SLS 15.

Psychology 1007. Psychology of Peak Performance in Athletics and its Consequences - *(New Course)
Catalog Number: 91486 Enrollment: Limited to 30.
Allison Elizabeth Seitchik
Half course (fall term). Tu., Th., 1–2:30.
This course seeks to understand the physical and psychological behaviors as well as the mental training components necessary to achieve peak sport performance. Students will also gain an understanding of the physical, affective, and cognitive consequences of competitive sport participation. This includes the psychological factors that influence sport performance (e.g., self-confidence, arousal), methods for enhancing sport performance (e.g., goal-setting, imagery), and the negative consequences of becoming an elite athlete (e.g., burnout, concussions).
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

Psychology 1008. Impediments to Excelling: Social Threat, Ostracism, Anxiety, and Choking - *(New Course)
Catalog Number: 98611 Enrollment: Limited to 16.
Allison Elizabeth Seitchik
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
The purpose of the course is to understand the effects of social threat, ostracism, anxiety, and choking on performance, and how to overcome them. This includes understanding the different types of impediments to excelling, how these impediments influence performance, and ultimately, how understanding these impediments lead to interventions to overcome them. Past and present empirical research and theory will be examined.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

Psychology 1009. Psychology of Women - *(New Course)*
Catalog Number: 57367
Nicole E. Noll
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
How does being a woman or man affect our behavior, our evaluations of ourselves, and our interactions with others? This course examines psychological science on women and girls in western industrialized societies, addressing such topics as gender stereotypes, girlhood, women and work, relationships, pregnancy and motherhood, mental health, violence against women, and women in later adulthood. We will consider these topics through an understanding of gender as a social construction, being mindful of the intersections of gender, sexuality, class, and race. Although focused on women's lives and experiences, this course is also highly relevant to men.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15

Psychology 1010. Game Theory and Psychology - *(New Course)
Catalog Number: 42132 Enrollment: Limited to 80.
Erez Yoeli and Moshe H. Hoffman
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Game theory is a mathematical model typically used to analyze behavior of firms and other "rational agents," but here we will apply this tool to psychological questions such as why people speak indirectly and where our moral intuitions or sense of beauty come from. Models of learning and evolution will be used to justify the applicability of game theory. Problem sets will involve rudimentary math and programming, but can be done in groups and no prerequisite knowledge is required. Students will also be required to read and discuss research papers and conduct original research as a final project.
Prerequisite: Science of Living Systems 20 or the equivalent.

[*Psychology 1051. MATLAB: Introduction to Programming for Behavioral Research]
Catalog Number: 25165 Enrollment: Limited to 10.
George Angelo Alvarez
Half course (spring term). Hours to be arranged.
This course will introduce students to the basics of the MATLAB user interface and programming language, for the purpose of using MATLAB to conduct behavioral research. In the first half of the course, you will learn about MATLAB syntax, general programming concepts such as functions, loops, and conditional statements, and how to analyze and visualize data in MATLAB. In the second half of the course, you will learn to program psychology experiments with the Psychophysics toolbox (a set of MATLAB functions), including displaying stimuli (visual and auditory), and collecting responses from participants.
Note: Expected to be given in 2014–15. All students are required to bring a laptop computer to class. Open to graduate and undergraduate students with permission of instructor.

***Psychology 1052. The application of fMRI in cognitive neuroscience research**
Catalog Number: 91794 Enrollment: Limited to 18.
Yaoda Xu
Half course (fall term). M., 10–12. EXAM GROUP: 3, 4
Functional magnetic resonance imaging (fMRI) is one of the most widely used methods in cognitive neuroscience research. In this course, students will learn the basics of fMRI research and gain hands-on experience in conducting fMRI experiments. In the first part of the course, students will have an overview of the fMRI methods, including how fMRI works, basic designs of fMRI experiments, fMRI data collection, analysis and interpretation, and current applications of fMRI in cognitive neuroscience research. In the second part of the course, students will design and conduct fMRI experiments and analyze fMRI data.
Note: Open to graduate students and advanced undergraduates with permission of instructor.
Prerequisite: Science of Living Systems 20 or its predecessors and one foundational course.

Psychology 1053. Sex, Evolution, and Human Behavior
Catalog Number: 41863
Ian Reed
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
Evolutionary Psychology can be conceptualized as the study of: 1) the conditions in ancestral populations that rendered certain behaviors adaptive and others non-adaptive, 2) the mechanisms natural selection shaped to produce the adaptive behaviors, and 3) the ways in which these evolved mechanisms function now. Evolutionary Psychology provides a new and often insightful perspective to all areas of psychology, with particular success so far in cognitive psychology, social psychology, personality psychology, developmental psychology, and the psychology of emotions, to name a few areas. This course will cover

how Evolutionary Psychology sheds light on the phenomena traditionally studied in these areas.
Prerequisite: SLS 20 and at least one course from Psy 13, Psy 14, Psy 15, Psy 18, or SLS 15.

Psychology 1054. Psychology of Sexual Orientation - *(New Course)
Catalog Number: 27075 Enrollment: Limited to 16.
Justin J. Lehmiller
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
This course examines the science of sexual orientation from a biopsychosocial perspective. We will emphasize empirical research on a range of topics, including variations in sexual identity (particularly homosexuality, bisexuality, and asexuality), the concepts of sexual fluidity and erotic plasticity, measurement and prevalence of sexual minorities, origin theories, prejudice and discrimination (including homophobia and heterosexism), minority stress and health disparities, social change and collective action, cultural variations in attitudes toward sexual minorities, same-sex relationships and parenting, as well as lifespan issues (e.g., sexual identity development, aging).
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15

Psychology 1150. Perception and Imagination
Catalog Number: 1199 Enrollment: Not open to students who have previously taken PSY 980o.
Justin Anthony Junge
Half course (spring term). Th., 2–5. EXAM GROUP: 16, 17, 18
Perception is required to have a mind like yours. How does perceiving work? How are streams of sensory input processed into rich and useful models of the world around you? This course will converge on the 5 senses from many informative angles, explaining how perception tracks and shapes reality, then gives rise to imagination.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS 15.

Psychology 1201. Your Brain on Drugs: Psychopharmacology
Catalog Number: 6717
Scott E. Lukas (Medical School)
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An introduction to how drugs affect mood, sensation, consciousness, and other psychological and behavioral functions in both healthy and disease states. Introduces concepts in neuroscience and pharmacology to understand how drugs are used to treat drug abuse, psychiatric disorders and why individuals use recreational drugs. Covers all CNS drugs, including antidepressants, antipsychotics, alcohol, and both licit and illicit drugs of abuse. Debates controversial topics such as research with psychiatric populations, diagnosing ADHD, teenage suicide, marijuana legalization, and needle exchange programs.
Note: This course, when taken for a letter grade, meets the Core area requirement for Science B.
Prerequisite: Science of Living Systems 20 or its predecessors and at least one from Psych 13, Psych 14, Psych 18, or MCB 80.

***Psychology 1303. The Human Brain Then and Now**
Catalog Number: 72663 Enrollment: Limited to 20.
Randy L. Buckner
Half course (spring term). M., 4–6.
This course will explore the "mismatch" between our ancestral brain and the modern world. After covering the evolution of the human brain, the bulk of the course will focus on case studies including how drugs hijack the normal function of brain systems, how the Facebook age places stresses on social

systems that evolved to handle close-knit groups of 25 or so individuals, and how the brain degenerates as we live unexpectedly long.
Prerequisite: Science of Living Systems 20 or MCB 80.

Psychology 1304. Brain Damage as a Window into the Mind: Cognitive Neuropsychology
Catalog Number: 2419
Alfonso Caramazza
Half course (spring term). M., 1:30–4. EXAM GROUP: 6, 7, 8
Examines the patterns of perceptual, motor, cognitive, and linguistic impairments resulting from brain damage. The focus is on the implications of the various types of neuropsychological deficits (such as visual neglect, dyslexia, and aphasia) for theories of the mind and the functional organization of the brain.
Prerequisite: Science of Living Systems 20 and Psych13, Psych 14, or MCB 80.

[Psychology 1307. Brain Genomics]
Catalog Number: 63133
Randy L. Buckner
Half course (spring term). Hours to be arranged.
Genetics provides a powerful approach for exploring human behavioral variation and learning how dysfunction in neural circuits influences cognition. This course will cover the basics of genetic inheritance and genomic sequencing to understand brain function. Topics include autistic disorders, schizophrenia, and normal cognitive variation. The goals of the class will be (1) to debate the potential of bridging genomics and human neuroscience, and (2) to survey recent successes in brain genomics.
Note: Expected to be given in 2014–15.
Prerequisite: Life Science 1A; MCB 80 or Science of Living Systems 20 desirable.

[*Psychology 1352. Foundations of Cognitive Neuroscience Research]
Catalog Number: 9399 Enrollment: Limited to 12.
Randy L. Buckner
Half course (fall term). F., 10–11:30 and a weekly section to be determined.
Intended for undergraduates or those with limited background in cognitive neuroscience. Students will attend and participate in laboratory research and in a seminar that includes discussion of active scientific projects, recent important journal articles, and didactic lecture on technical aspects of methods central to cognitive neuroscience research. Readings will be assigned that survey basic principles of system neuroscience, cognitive science, and methods including functional MRI, MEG, and single unit physiology.
Note: Expected to be given in 2014–15. Limited to students involved in research.
Prerequisite: Science of Living Systems 20 or its predecessors or MCB 80, or permission of instructor. For graduate students, permission of instructor.

[*Psychology 1354. Classic Papers on Memory (and the Ones that Got Away!)]
Catalog Number: 5684
Randy L. Buckner
Half course (spring term). Hours to be arranged.
Classic articles in memory will be discussed in the context of why they are seminal to the field. Topics will include amnesia, LTP, levels of processing, implicit memory, brain imaging, and prospection. Within each topic, articles that are less seminal, but reported earlier, will also be discussed. A goal will be to debate what specifically allowed the classic articles to change the way we think. What sets them apart?
Note: Expected to be given in 2014–15.
Prerequisite: For undergraduates: Science of Living Systems 20 or its predecessors or MCB 80 required, or permission of instructor. For graduate students, permission of instructor.

Psychology 1355. The Adolescent Brain - *(New Course)
Catalog Number: 30065 Enrollment: Limited to 16.
Leah Somerville
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
This course will introduce students to the dynamics of brain development during during the second decade of life. This course will examine key changes in structural, functional, connectivity, and neurochemical changes that take place in the brain during adolescence. We will assess how these changes influence several domains of the adolescent mind, including self-control, risky decision making, changes in daily emotions and moods, the onset of psychiatric illnesses (such as mood and anxiety disorders), and sensitivity to social evaluation.
Prerequisite: For undergraduates, Science of Living Systems 20 and one of MCB 80, SLS 15, Psy 13, Psy 14, Psy 15, or Psy 18

[*Psychology 1357. Puzzles of the Mind: Humans, Animals, Robots: Seminar]
Catalog Number: 87888 Enrollment: Limited to 25.
Güven Güzeldere
Half course (spring term). Hours to be arranged.
An interdisciplinary comparative study of human, animal, and robot minds. Particular emphasis on philosophical questions that frame the problems, and recent work in psychology, cognitive science, and neuroscience that attempt to tackle them empirically. Relation between consciousness and cognition, language and thought, conscious versus unconscious information processing, Manifestations of mental capacities in different underlying substrates: the human brain, nervous systems of non-human animals, and silicon-based computational systems. Additional readings from cognitive ethology and artificial intelligence.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 and one from Psychology 13, 14, 15, 16, or 18, or MCB 80, or Science of Living Systems 15, or coursework in philosophy.

[*Psychology 1358. Is there more to thought than muscle twitches? Cognitive and neural aspects of object and action knowledge]
Catalog Number: 83581 Enrollment: Limited to 15.
Alfonso Caramazza
Half course (fall term). Hours to be arranged.
Knowledge of objects and actions encompasses their perceptual and motor properties as well as more abstract properties such as information about their function (e.g., what they are used for, the goal of an action). In this seminar, we will explore the relationship between the sensory-motor processes involved in the perception of objects and the execution of actions and the organization and representation of the conceptual knowledge associated with objects and actions. We will review critically the relevant behavioral, neuroimaging and neuropsychological research.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 or its predecessors plus Psychology 13 or Psychology 14 or MCB 80, or permission of instructor.

Psychology 1360. Psychological Issues in Brain Injury - *(New Course)
Catalog Number: 11758 Enrollment: Limited to 20.
Nicole M. Rosa
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
This course will explore the social, behavioral, emotional, and cognitive effects of traumatic and acquired brain injury. Students will have the opportunity to learn from and engage in discussions around empirical research as well as related literature. Topics will include issues related to individual and family

adjustment, communication difficulties, education challenges, treatment and rehabilitation.
Prerequisite: Science of Living Systems 20 and one fromf PSY 13, PSY 14, PSY 15,PSY 18, SLS 15 or MCB 80

[Psychology 1430. Human Memory and Amnesia]
Catalog Number: 8922
Daniel L. Schacter
Half course (spring term). Hours to be arranged.
Surveys current data and theory concerning human memory and amnesia from cognitive, neuroimaging, and neuropsychological perspectives. Topics considered include short-term memory, encoding and retrieval processes, forgetting, memory distortion, implicit memory, drug effects on memory, amnesic syndromes, and aging memory.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 plus one from Psychology 13, 15, 16, 18, Science B 29 or MCB 80.

***Psychology 1452. The Human Face**
Catalog Number: 11513 Enrollment: Limited to 25.
Ken Nakayama
Half course (fall term). M., W., 2:30–4.
Your face contains a hidden code that instantly communicates who you are, how you're feeling, and what your intentions may be. Whether accurate or inaccurate, human brains extract information in a fraction of a second from faces and use it to make simple and complex judgments about people. Perceived facial attractiveness can be hugely consequential in real world encounters. The media surrounds us with images of faces and hidden cameras record our own faces many times a day. We will explore "decoding" the human face from computational, psychological and biological perspectives, providing comprehensive review of this highly interdisciplinary field
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

[Psychology 1453. Consciousness Explored]
Catalog Number: 17059
Ken Nakayama
Half course (spring term). Hours to be arranged.
In recent decades, the study of consciousness has been pushed to the forefront of scientific investigation. Because of its importance, it provides a unique opportunity for an integrative approach to the study of mind, brain, and behavior. In this course, we will discuss the philosophical debates, the psychological phenomena, and the relevant neurophysiological findings.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 or its predecessors and either MCB 80 or Psychology 14 Cognitive Neuroscience.

***Psychology 1502. Cultural Psychology**
Catalog Number: 46453 Enrollment: Limited to 40.
Sasha Y. Kimel
Half course (fall term). M., W., 1–2:30.
How does your nationally, social class, race/ethnicity, gender, faith and politics change the way you think, feel and behave? This course explores how your cultural background shapes your sense of self, emotions, motivation, decision-making and relationships. We will talk about God, sex, politics, violence and how our culture impacts the names we give our children. The goal of this course is to help you gain a better

understanding of the ways in which human culture and the human psyche interact while enhancing your ability to promote greater intercultural harmony and to thrive in our increasingly multicultural and globalized world.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

***Psychology 1503. Psychology of Close Relationships**
Catalog Number: 32801 Enrollment: Limited to 70.
Holly A. Parker
Half course (spring term). M., W., 7:30–9 p.m.
This course is an in-depth exploration of close relationships. Examples of topics to be covered include the biological bases of attraction; relationship formation; the end of relationships through break-up, divorce, or death; relationship satisfaction; deception; gender roles; same-sex relationships; loneliness; relationships and well-being; and public perceptions about relationships. You will have an opportunity to explore these topics primarily through critical examination of the empirical literature as well as through popular press.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

[*Psychology 1505. Social Cognition: The Psychology of Thinking about Other People]
Catalog Number: 3334 Enrollment: Limited to 20.
Jason P. Mitchell
Half course (spring term). Hours to be arranged.
This course will examine how one person infers the thoughts and feelings of others, predicts what they will do in certain situations, forms impressions of others' personalities, and manages to engage in culturally-appropriate social behavior. In doing so, we will examine a range of topics, including research on stereotypes and prejudice, knowledge about the self, the development of social skills in children, social deficits in autism and related disorders, and the underlying neural basis of these abilities.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 and either Psychology 13, Psychology 14, or Psychology 15.

Psychology 1509. Self and Identity - *(New Course)*
Catalog Number: 86216
Nicole M. Rosa
Half course (fall term). Tu., Th., 10–11:30.
What is the "self"? What factors have played a role in your own identity and sense of "self"? We will explore self-related research and theory within the field of psychology from social and clinical perspectives. Students will gain an understanding of how we come to develop a sense of self and how this sense of self changes over the lifespan, how the self functions and develops in a social context and how the self impacts behavior.
Prerequisite: Science of Living Systems 20 and one foundational course.

Psychology 1512. Changing Minds: Persuasion and Communication
Catalog Number: 76667
Nicole E. Noll
Half course (fall term). Tu., Th., 2:30–4.
Have you ever tried to influence a friend's stance on a political issue or finagled relatives into supporting a charity walk/run you were participating in? If so, you've engaged in persuasion. After a background review of attitudes, including their measurement and relation to behavior, we will explore psychological theories of persuasion. We will also examine applied examples of persuasive communication in such

areas as advertising/consumer behavior, politics/voting, and social change (e.g., health behaviors and prejudice).
Prerequisite: Science of Living Systems 20 and at least one course from Psy 13, Psy 14, Psy 15, Psy 18, or SLS 15.

***Psychology 1514. Us and Them: Challenges and Possibilities in Intergroup Relations**
Catalog Number: 78278 Enrollment: Limited to 40.
Elinor Amit
Half course (spring term). Tu., 3–5. EXAM GROUP: 17, 18
Why are we so tribal? How do stereotypes arise? When do we act altruistically? What challenges arise from interactions between groups? And what can be done about that? We will address these and other questions, using both theoretical discussions and participatory in-class interactions, modeled after facilitation techniques employed in Palestinian-Israeli dialogue groups. We will consider topics such as social identity, social power and hierarchy, prejudice, perspective taking, and inter-group reconciliation processes.
Prerequisite: Science of Living Systems 20 or its predecessors and one foundational course.

Psychology 1515. Psychology of Groups at Work - *(New Course)
Catalog Number: 26285 Enrollment: Limited to 30.
Allison Elizabeth Seitchik
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course seeks to understand the psychological dynamics of groups in work settings. This includes understanding the cohesion and development of groups (e.g., learning, satisfaction, commitment), interpersonal processes and relationships that occur between group members as they work together (e.g., information sharing, competition and conflict, conformity) and motivational factors that influence group performance (e.g., groupthink, social facilitation). Past and present empirical research and theory will be examined.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

***Psychology 1552. Styles of Thought**
Catalog Number: 26756 Enrollment: Limited to 20.
Elinor Amit
Half course (fall term). W., at 4.
What are thoughts made of? Do we think in pictures or in words? When you're hungry, do you think about "food" or about "almond pancakes with Vermont maple syrup"? Do children think differently from adults? Who is more creative, a verbal thinker or a visual thinker, and why? Is abstract thinking "deeper" or "better" than concrete thinking? Are pictures more "emotional" than words? And do situational factors play a role in the way we think, or is it all about stable individual differences? In the current seminar, we will think about thinking, and consider the implications of style of thought for perceptions, judgments, predictions, and our actions in the social world.
Prerequisite: Science of Living Systems 20 or its predecessors and one foundational course.

***Psychology 1556r. Research Seminar in Implicit Social Cognition**
Catalog Number: 78884
Mahzarin R. Banaji
Half course (fall term; repeated spring term). Hours to be arranged.
An introduction to research on implicit social cognition, with special focus on attitudes, beliefs, and identity and in some cases its applications to law, business, medicine, and government. Students will be paired with individual researchers to work on ongoing projects that can turn into more independent

projects. In addition to weekly work in the laboratory, students are expected to attend biweekly discussion groups focusing on current issues and directions in the laboratory as a whole.

Psychology 1558. The Psychology of Left and Right - *(New Course)
Catalog Number: 61125 Enrollment: Limited to 20. Limited to undergraduate students only.
Sasha Y. Kimel
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
What are the origins of the culture war between the political Left and Right? How do psychobiology, upbringing, temperament and moral values shape this difference in political orientations? In this course, we will explore the psychological factors underlying political divisions as well as the role of our social networks and desire for group identity in maintaining and widening the divide. The goal of this course is to develop your empirical, theoretical and methodological understandings of psychological research underlying the Left-Right conflict while providing you with tools to detect partisanship and to promote the cooperation and connection necessary for a well-functioning democracy.
Prerequisite: SLS 20 and at least one course from Psy 13, Psy 14, Psy 15, Psy 18, or SLS 15.

[Psychology 1601. Developmental Disabilities]
Catalog Number: 10038
Joanna A. Christodoulou
Half course (fall term). Hours to be arranged.
Introduction to developmental disorders through theory, research, and practice. In this course we will focus on the most frequently identified developmental difficulties in areas such as language, math, and executive functions. The approach will be integrative by considering each topic through the lens of cognitive neuroscience, clinical presentation, and theoretical frameworks.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

Psychology 1604. Social Development
Catalog Number: 92302
Felix Warneken
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
How do we develop as social beings from infancy to adulthood? What are the biological, cultural, and individual factors that influence this development? How does human social development differ from that of other primates? In exploring these and other questions, this course will take a developmental and evolutionary approach to topics that include: attachment; cultural learning; cooperation and competition; theory of mind; social categorization; moral reasoning; friendship; peers; parent-child interaction.
Prerequisite: Science of Living Systems 20 plus either Psychology 15 or Science of Living Systems 15.

Psychology 1605. Psychology of Language - *(New Course)*
Catalog Number: 48568
Jesse Snedeker and Gennaro Chierchia
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
How do children manage to learn the sounds, the words and the grammar of their native language in three years or less? Does the language that we speak change how we think? What happens in the mind (and brain) that allows us to convert sound into meaning during language comprehension (and meaning into motor movements during language production)? Why are human languages similar to each other in some ways, and what allows them to vary in others? We will explore these questions integrating the perspectives of linguistics, psychology and cognitive neuroscience.
Prerequisite: For psychology concentrators, Science of Living Systems 20. For linguistics concentrators:

this course may be substituted for Linguistics 83 or Linguistics 101 as a requirement for the concentration.

***Psychology 1607a. Cognitive Development, Education, and the Brain: Theory and Practice**
Catalog Number: 33358 Enrollment: Limited to 15.
Kurt W. Fischer (Faculty of Education)
Half course (spring term). M., W., 10–12. EXAM GROUP: 3, 4
Provides an integrative, interactive, and collaborative introduction to Mind, Brain, and Education. Students will draw upon knowledge from Cognitive Psychology, Biology, and Education to explore the theoretical foundations, methods, and applications of MBE. The course will connect diverse theoretical orientations including Piaget, Vygotsky, cognitive/affective science, neuroscience, dynamic skill theory, and universal design for learning. Guest lecturers will include leading scholars in the field. Students will complete a research or design project in the course.
Note: Offered jointly with the Graduate School of Education as HT 100A. Not open to students who have previously taken PSY 1607.
Prerequisite: Science of Living Systems 20 plus any foundational course.

***Psychology 1651r. Language Development: Undergraduate Laboratory Course: Research Seminar**
Catalog Number: 6484
Jesse Snedeker
Half course (fall term; repeated spring term). Hours to be arranged.
Students participate in research on language acquisition, language comprehension, and language production. Each student has responsibility for a project. Weekly meeting to discuss student projects and readings that are relevant to them. Ten hours a week commitment (includes lab meeting).
Note: For undergraduates seeking research experience, especially in preparation for undergraduate theses.
Prerequisite: Science of Living Systems 20 or its predecessors plus either Psychology 13 or Psychology 16.

***Psychology 1652r. Laboratory in Early Cognitive Development**
Catalog Number: 9913
Elizabeth S. Spelke
Half course (fall term; repeated spring term). Hours to be arranged. EXAM GROUP: Fall: 5
This is a laboratory methods course that provides students with hands-on experience in a cognitive development lab. The aim of the course is for students to engage in all aspects of the scientific process - from experimental design to data collection and interpretation - by working in a lab, and by participating in weekly meetings where key questions and findings in the field are discussed.
Note: Interested students may contact Lab Coordinator Ellyn Schmidt, ellyn.schmidt@gmail.com.

***Psychology 1655r. Conceptual Development: Undergraduate Laboratory Course**
Catalog Number: 1865
Susan E. Carey
Half course (fall term; repeated spring term). Hours to be arranged.
Students participate in research on conceptual development and language acquisition. Each student has responsibility for a project. Weekly lab meeting to discuss student projects and readings relevant to them. Ten hours a week commitment (includes lab meeting).
Note: Open to undergraduates seeking research experience, especially in preparation for undergraduate theses.

Psychology 1702. The Emotional Mind
Catalog Number: 7521
Leah Somerville
Half course (fall term). M., W., 2:30–4. EXAM GROUP: 7, 8
Not only do emotions permeate our everyday lives, they have aided in the survival of the human species. But what are emotions, and what are they good for? What causes us to experience an emotion? And how do emotional responses, in turn, influence our perception, memory, decision-making, and psychological well-being? This course will address these questions by drawing on key advances from historical, philosophical, psychological, and neuroscientific perspectives.
Prerequisite: Science of Living Systems 20 and one of MCB 80, SLS 15, Psy 13, Psy 14, Psy 15, or Psy 18

Psychology 1703. Human Sexuality
Catalog Number: 7683
Justin J. Lehmiller
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
This course examines the development and expression of sexual behavior as a complex psychological, socio-cultural, and biological phenomenon. Students explore topics including: historical perspectives on sexuality; sexology research methods; biological bases of sexual behavior; sexual arousal and response; gender identity and gender roles; sexual orientation; romantic attraction and love; sexual dysfunctions and sex therapy; safer sex and STD prevention; typical and atypical sexual behaviors; and pornography and prostitution.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

***Psychology 1750 (formerly *Psychology 2751). Free Will, Responsibility, and Law**
Catalog Number: 7235 Enrollment: Limited to 15.
Joshua D. Greene
Half course (fall term). M., 2:30–4:30. EXAM GROUP: 7, 8, 9
Examines the issues of free will and responsibility from philosophical, psychological, and neuroscientific perspectives, with special attention paid to potential legal applications.
Prerequisite: For undergraduates: Science of Living Systems 20 or its predecessors; plus Psychology 13, 14, 15, 16, 18, or Science of Living Systems 15.

[Psychology 1801. Anxiety Disorders]
Catalog Number: 4906
Richard J. McNally
Half course (spring term). Hours to be arranged.
Concerns current theory and research on the etiology and treatment of anxiety disorders (e.g., panic disorder, obsessive-compulsive disorder, social phobia, post-traumatic stress disorder). Cognitive, behavioral, and biological approaches are emphasized.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 and Psychology 18.

Psychology 1803. Vulnerability, Stress, and Mental Health
Catalog Number: 11649
Brandon R. Abbs
Half course (spring term). Tu., Th., 4–5:30.
Physical and mental stress can affect human brain development and physical health from gestation to adulthood, but how and when does it affect one's mental health? Can events before you are born affect

how your brain responds to stress? What is "resilience" and what personality types are resilient? What are effective mental health treatments when stress is a factor? We focus on links between stress, brain development, and mental illness, asking students to think about causality and developmental events separated by decades. Students may also review available treatments and begin to develop one that might counteract the effects of stress.
Prerequisite: Science of Living Systems 20 and Psychology 18.

Psychology 1804. Personality Disorders
Catalog Number: 93385
Ian Reed
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
What is personality? What differentiates person's character from another person's? What is it about you that makes you... you? In what ways do you get in the way of yourself? These types of questions are easily posed, but remain some of the most difficult to answer in all of psychology. This class examines these questions and applies them to styles ranging from normal to abnormal variants. Moreover, there will be a focus on understanding abnormal personality styles from varying perspectives as well as the ways in which they influence therapy.
Prerequisite: Science of Living Systems 20 and Psy 18.

[*Psychology 1851. Clinical Psychology: Science and Practice]
Catalog Number: 6392 Enrollment: Limited to 15.
Jill M. Hooley
Half course (spring term). Hours to be arranged.
Extends the material covered in Psychology 18 in a more clinical direction. Provides students with an opportunity to approach issues in clinical psychology from a scientist-practitioner perspective. Focuses on how research-based approaches to the study and treatment of psychopathology can translate into high quality ethical care for patients with major psychiatric problems.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 or its predecessors; Psychology 18; and at least one other course in psychopathology strictly required.

Psychology 1852. Clinical Psychology in Everyday Life - *(New Course)
Catalog Number: 65987 Enrollment: Limited to 20.
Lauren Cristina Santucci
Half course (fall term). W., 3–5.
This course is designed to give you exposure to treatment outcome research, behavioral principles, evidence-based psychological interventions, and the application of these principles/interventions to everyday phenomena such as food aversion, sadness, anxiety, insomnia, pain-management, weight-loss, or why your younger brother keeps interrupting you. This seminar is not intended as a self-help program, nor will it prepare you to provide therapeutic services to others. The weekly discussions, exercises, and assignments will ideally help you view the world through the lens of a scientist-practitioner, and apply what you've learned in a scientific manner.
Prerequisite: Science of Living Systems 20 and Psychology 18.

[*Psychology 1853. Self-Destructive Behaviors]
Catalog Number: 0615 Enrollment: Limited to 25.
Matthew K. Nock
Half course (fall term). Hours to be arranged.
Why do some individuals intentionally engage in behaviors that cause themselves direct bodily harm, such as suicide and self-mutilation? We explore past and current models for understanding self-harm

behaviors. We consider the classification, etiology, assessment, and treatment of self-harm behaviors from psychological, developmental, contextual, and biological perspectives.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 and Psychology 18.

[Psychology 1854. Schizophrenia: Seminar]
Catalog Number: 2771 Enrollment: Limited to 20.
Jill M. Hooley
Half course (spring term). Hours to be arranged.
Examines schizophrenia and schizophrenia-spectrum disorders from biological, psychological, and psychosocial perspectives. Focuses on early (e.g., Kraepelin) and modern (e.g., DSM-IV) perspectives, clinical case descriptions of the disorder, and recent theoretical and empirical developments in understanding etiology, phenomenology, and treatment.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 and Psychology 18.

***Psychology 1861. Developmental Psychopathology**
Catalog Number: 1325 Enrollment: Limited to 25.
John R. Weisz
Half course (fall term). Th., 2:30–5:30. EXAM GROUP: 4
An overview of psychological problems and mental disorders in childhood and adolescence. Topics include internalizing conditions (e.g., anxiety, depression), externalizing conditions (e.g., conduct disorder and ADHD), eating disorders, autism, and child responses to maltreatment and other forms of trauma. Theoretical perspectives, diagnostic criteria, etiology, and treatment approaches are examined.
Prerequisite: Science of Living Systems 20 and Psychology 18.

Psychology 1900. Introduction to Statistics for the Behavioral Sciences
Catalog Number: 4016
Max Krasnow (spring term) and Patrick Mair (fall term)
Half course (fall term; repeated spring term). M, W, F 10-11, and an additional lab to be arranged. EXAM GROUP: Spring: 3
Provides a conceptual and practical introduction to statistics used in psychology and other behavioral sciences. Covers basic topics in statistics including: measures of central tendency and variability; probability and distributions, correlations and regression, hypothesis testing, t-tests, analysis of variance, and chi-square tests. Includes a lab section with instruction in statistical analysis using a computer program.
Note: Open to freshmen with permission of instructor. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.

***Psychology 1901a. Methods of Behavioral Research**
Catalog Number: 99655 Enrollment: Limited to 25.
Justin J. Lehmiller
Half course (fall term). M., at 12, and an additional lab section Tu., 2:30–5 or Tu., 7–9:30 p.m. EXAM GROUP: 16, 17, 18
Theoretical and practical introduction to planning, conducting, reporting, and evaluating psychological research. Topics include experimental design, hypothesis generation and testing, experimental artifacts, and analysis of published research.
Prerequisite: One of: Psychology 1900, Statistics 100, 101, 102, 104, or the equivalent.

***Psychology 1901b. Methods of Behavioral Research**
Catalog Number: 48133 Enrollment: Limited to 25.
Sasha Y. Kimel
Half course (spring term). M., 10, and a weekly lab Tu., 7 p.m.-9:30 p.m., or Th., 1:30-4. EXAM GROUP: 3
Theoretical and practical introduction to planning, conducting, reporting, and evaluating psychological research. Topics include experimental design, hypothesis generation and testing, experimental artifacts, and analysis of published research.
Prerequisite: One of: Psychology 1900, Statistics 100, 101, 102, 104, or the equivalent.

***Psychology 1950. Intermediate Statistical Analysis in Psychology**
Catalog Number: 4889
Patrick Mair
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
This course offers intense, foundational exposure to psychological statistics, focusing heavily on analysis of variance (one-way, factorial, repeated-measures, mixed-model). Other topics include: exploratory data analysis, sampling distributions, null hypothesis significance testing, t-tests, fixed versus random effects, post hoc and planned comparisons, correlation, simple regression, the general linear model, chi-square tests, nonparametric statistics, confidence intervals, and meta-analysis.
Note: Required of doctoral students in Psychology.
Prerequisite: Psychology 1900 or the equivalent.

***Psychology 1952. Multivariate Analysis in Psychology**
Catalog Number: 6191
James Sidanius
Half course (spring term). Lecture: M., W., 1-2:30; Lab: To be arranged. EXAM GROUP: 6, 7
This course introduces the empirical measurement of abstract constructs and multivariate analysis. Topics include: reliability and validity, multiple regression, exploratory and confirmatory factor analyses, discriminant function analysis and structural equation modeling.
Prerequisite: Psychology 1900.

Cross-listed Courses

[Linguistics 132. Psychosemantics]

Primarily for Graduates

***Psychology 2010. Contemporary Topics in Psychological Research**
Catalog Number: 6515
Ken Nakayama
Half course (fall term). M., Th., 4–6. EXAM GROUP: 9, 18
Advanced survey of research topics in cognition/brain/behavior, development, experimental psychopathology, clinical and social psychology.
Note: Required of, and limited to, first-year doctoral students in the department of Psychology.

***Psychology 2020ab. Cognition, Brain, and Behavior: Proseminar**
Catalog Number: 7860
Alfonso Caramazza and members of the Department
Full course (spring term). Tu., Th., 9:30–11:30.

Advanced survey of research topics in cognition, brain, and behavior.
Note: Limited to first-year doctoral students in Psychology.

***Psychology 2040. Contemporary Topics in Psychopathology**
Catalog Number: 4628
Jill M. Hooley
Half course (spring term). Hours to be arranged.
Advanced survey of current topics in experimental psychopathology.
Note: Required of first- or second-year graduate students in clinical. Doctoral students in clinical psychology only.

[*Psychology 2050. History of Psychology: Seminar]
Catalog Number: 3378
Richard J. McNally
Half course (spring term). Hours to be arranged.
Covers major issues, theories, schools of thought, and controversies integral to the development of psychology from the late 19th century to the middle of the 20th century. Readings include classic articles exemplifying these themes.
Note: Expected to be given in 2014–15. Open to undergraduates with permission of instructor.
Prerequisite: For undergraduates: SLS-20 or its predecessors plus any foundational course.

[*Psychology 2060. Reward and Self Control]
Catalog Number: 13358 Enrollment: Limited to 15. For graduate students and upper-level undergraduates with permission of instructor.
Joshua William Buckholtz
Half course (spring term). Hours to be arranged.
What's stopping you from doing absolutely everything that your devious heart desires? The ability to flexibly control our behavior - particularly when it comes to rewarding things like food, sex, and drugs - has huge consequences for our long-term happiness and success. Though we are reasonably good at this as a species, dramatic individual differences in the capacity for self-control are readily apparent. In this class, we will examine the cognitive construct of self-control, its neurobiological underpinnings and sources of individual variation, and relationships to psychopathology.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 and at least one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS15.

[*Psychology 2110. Emotional Development: Biology, Relationships, Culture]
Catalog Number: 1403
Gabrielle Rappolt Schlichtmann (Education School)
Half course (spring term). Th., at 9. EXAM GROUP: 11
The relationship between emotion and cognition is complex. Based in social interaction, emotions are biological processes that organize human behavior by constraining thought and action, while relationships evoke and shape emotions. This course examines foundational work from the classics through modern emotion research about attribution, development, culture, and neuroscience. Questions include: How do relationships and learning shape emotions, and vice versa? What are pathways in the development of emotions? What can emotion sciences bring to practical questions about teaching and learning? Attention to risk and resilience, including poverty, stigmatization, disability, and trauma. Class format combines discussion, case analysis, and lecture.
Note: Expected to be given in 2014–15. Offered jointly with the Graduate School of Education as H137.

Prerequisite: Science of Living Systems 20 or its predecessors and SLS 20 and at least one course from Psy 13, Psy 14, Psy 15, Psy 18, or SLS 15.

[*Psychology 2145. Developmental Cognitive Neuroscience]
Catalog Number: 27567 Enrollment: Undergraduates admitted only by permission of instructor.
Susan E. Carey
Half course (spring term). Hours to be arranged.
This course uses neuroscience methods to study the cognitive development of human infants and children. Case studies draw from research on face recognition, language, executive function, representations of objects, number and theory of mind.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 or its predecessors and one foundational course.

***Psychology 2150r. Social Cognitive Development: Research Seminar**
Catalog Number: 29628
Felix Warneken
Half course (fall term; repeated spring term). Hours to be arranged.
Year long lab course on children's social-cognitive development and the study of cooperation. Students develop and pilot experiments with children or participate in ongoing projects. In addition, students read and discuss papers on social cognition, understanding of norms, and cooperation from developmental and evolutionary psychology.
Note: Open to all undergraduates with permission of instructor.
Prerequisite: For undergraduates: SLS-20 and one from PSY 13, PSY 14, PSY 15, PSY 18, or SLS 15.

Psychology 2151. Empirical and computational approaches to early cognitive development - *(New Course)
Catalog Number: 63063 Enrollment: Limited to 18.
Susan E. Carey and Elizabeth S. Spelke
Half course (spring term). M., 6–9 p.m. EXAM GROUP: 9
Prerequisite: Science of Living Systems 20 plus any foundational course.

***Psychology 2160r. Laboratory for Affective and Developmental Neuroscience**
Catalog Number: 23846
Leah Somerville
Half course (fall term; repeated spring term). Th., 2:30–4. EXAM GROUP: 16, 17
Conduct research on emotion processing and/or adolescent socioemotional development, incorporating methods of cognitive neuroscience including functional brain imaging (fMRI). Read and discuss current issues in the fields of affective, cognitive, and developmental neuroscience.
Prerequisite: Science of Living Systems 20 or its prerequisites, and a foundational course.

[*Psychology 2170. Developmental Proseminar]
Catalog Number: 6883
Susan E. Carey and members of the Department
Half course (fall term). Hours to be arranged.
Proseminar in conceptual development and language acquisition.
Note: Expected to be given in 2014–15. Open to all graduate students in the department and counts as one of the required two major survey courses. Open to others by permission of the instructor.

***Psychology 2190. Topics in Language Acquisition**
Catalog Number: 2529

Jesse Snedeker
Half course (fall term). Tu., 1–4.
Seminar examining alternate theories of language acquisition and assessing their empirical validity. Focuses on speech perception, word learning, semantic and early syntactic development, interactions between language acquisition and cognitive development, and children's online language comprehension.

***Psychology 2310. Brain Mystery: What is so Special about the Primate Frontal Cortex**
Catalog Number: 85397
Yaoda Xu
Half course (spring term). M., 12–2. EXAM GROUP: 5, 6
Read and discuss papers to understand how the primate frontal cortex supports a wide range of cognitive operations, including attention, working memory, executive control functions, and decision making.
Note: Advanced graduate course not open to undergraduates. This course will only be given in spring 2014 and will not be offered again.

***Psychology 2335r. Concepts, Actions, Objects (CAOs): Research Seminar**
Catalog Number: 5121
Alfonso Caramazza
Half course (fall term; repeated spring term). Hours to be arranged.
Discussion of current research on the organization of conceptual and lexical knowledge. We will also discuss ongoing research by participants in the seminar.
Note: Open to graduate and undergraduate students involved in research in language. Open to undergraduates with permission of instructor.

***Psychology 2352r. Laboratory for Social Cognitive Neuroscience**
Catalog Number: 6187
Jason P. Mitchell
Half course (fall term; repeated spring term). W., 2:30–4. EXAM GROUP: 7, 8
Provides instruction and experience in conducting research on social cognition via the methods of cognitive neuroscience. Special focus on issues of mental state inference, stereotyping, and the self.
Note: Open to graduate and undergraduate students working in the instructor's laboratory.

[*Psychology 2353. Case Studies of Cognitive and Neural Models]
Catalog Number: 46791 Enrollment: Limited to 12. Undergraduates admitted with permission of instructor.
George Angelo Alvarez
Half course (spring term). Hours to be arranged.
What makes a successful cognitive or neural model? In this seminar, we will do a series of in depth case studies to address this question, exploring several of the more successful cognitive and neural models. While many examples will be drawn from the literature on human vision, the course will also draw on examples from language, development, and higher-level reasoning.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 or its predecessors plus Psychology 13 or Psychology 14 or MCB 80, or permission of instructor.

***Psychology 2354r. Advanced Laboratory in Cognitive Neuroscience**
Catalog Number: 0838
Randy L. Buckner
Half course (fall term; repeated spring term). Hours to be arranged.
Students work directly on a research project and get hands-on experience with neuroimaging and

cognitive neuroscience techniques, including functional MRI. MRI laboratory training consists of safety, instruction on running the scanner, and paradigm design. In addition to laboratory work, students attend a weekly research seminar where ongoing and proposed research projects are discusses.
Note: Open to graduate and undergraduate students working in the instructor's laboratory.

***Psychology 2356r. Visual Cognition: Research Seminar**
Catalog Number: 4407 Enrollment: Limited enrollment.
Yaoda Xu, George Angelo Alvarez, and Ken Nakayama
Half course (fall term; repeated spring term). Hours to be arranged.
Discussion of current research on visual cognition (how we perceive, attend to, and remember visual information). We will also discuss ongoing research by participants in the seminar.
Note: Open to graduate and undergraduates.

Psychology 2357r. Evolution of Human Cooperation: Research Seminar - *(New Course)*
Catalog Number: 30323
Max Krasnow
Half course (fall term; repeated spring term). Hours to be arranged.
Seminar on current research on the evolution of human cooperation and its cognitive basis. Includes readings, seminar discussion, and training in relevant research methodologies.
Note: Open to graduate and undergraduate students working in the instructor's laboratory.

***Psychology 2358r. Memory: Research Seminar**
Catalog Number: 0141
Daniel L. Schacter
Half course (fall term; repeated spring term). Hours to be arranged.
Topic to be announced.
Note: Limited to students involved in research.

[*Psychology 2400. Cognitive Psychology and Emotional Disorders]
Catalog Number: 6138
Richard J. McNally
Half course (fall term). Hours to be arranged.
Research and theory on the application of cognitive psychology methods applied to the understanding of anxiety and mood disorders.
Note: Expected to be given in 2014–15. Limited to graduate students.

Psychology 2410r. Laboratory Research on Emotional Disorders
Catalog Number: 12616
Richard J. McNally
Half course (fall term; repeated spring term). Hours to be arranged.
Involves readings, seminar discussion, and research on emotional disorders conducted in the instructor's laboratory (e.g., social anxiety disorder, complicated grief, obsessive-compulsive disorder).
Note: Open to graduate and undergraduate students working in the instructor's laboratory.

[*Psychology 2420. Cognitive-Behavioral Treatment of Psychological Disorders]
Catalog Number: 8446
Jill M. Hooley
Half course (fall term). Hours to be arranged.
Covers current cognitive-behavioral approaches to the treatment of common psychological disorders in adults. Emphasis is on the practical aspects of treatment, and on treatment outcome research. Includes

theoretical underpinnings of cognitive-behavioral therapy.
Note: Expected to be given in 2014–15. Limited to Harvard graduate students in clinical psychology.

***Psychology 2430. Cultural and Individual Diversity**
Catalog Number: 9756
Matthew K. Nock
Half course (fall term). M., 2–4.
Examines cultural, racial, ethnic, and other individual differences in human behavior which affect the practice of psychology. Reviews current science examining the relations between these factors and human behavior, psychopathology, and provision of psychological services.
Note: Limited to Harvard doctoral students in clinical psychology.

***Psychology 2436r. Social Neuroscience and Psychopathology Laboratory**
Catalog Number: 9962
Christine Hooker
Half course (fall term; repeated spring term). Spring: F., 4–6. EXAM GROUP: Spring: 9
Provides instruction and experience in conducting research on social cognitive processes as they relate to psychopathology. Cognitive neuroscience methods, such as fMRI, are emphasized.
Prerequisite: Psychology 18

***Psychology 2445. Psychological Treatment Research**
Catalog Number: 1835
Matthew K. Nock
Half course (spring term). M., 3–5. EXAM GROUP: 8, 9
Review theories of behavior change, methods of studying such change (single-case research designs, randomized clinical trials, etc.), and current evidence-based approaches to assessing and treating psychopathology. Examines historical, ethical, and cultural issues.
Note: Open to undergraduates with permission of instructor.
Prerequisite: SLS-20 or its predecessors and Psychology 18.

Psychology 2446r. Clinical Research Laboratory
Catalog Number: 5628
Jill M. Hooley
Half course (fall term; repeated spring term). Hours to be arranged.
Provides instruction and experience conducting clinical research in laboratory and clinical settings, with a special focus on severe psychopathology. Topics will include: Self-Injurious behaviors, depression, and adult attachment patterns in close relationships.
Note: Open to graduate and undergraduate students working in the instructor's laboratory.

***Psychology 2450. Affective and Social Neuroscience**
Catalog Number: 9796
Christine Hooker
Half course (fall term). Tu., 1–3.
Reviews two emerging fields in neuroscience, affective and social neuroscience. Through integration of human and animal data, the course focuses on mapping affect, motivation, and social cognition to brain function.
Note: Open to advanced undergraduates with permission of instructor.
Prerequisite: SLS-20 or its predecessors plus any foundational course.

[*Psychology 2451. Psychology of Racism, Prejudice, and Discrimination]
Catalog Number: 75368 Enrollment: Limited to 20. Undergraduates admitted with permission of instructor. May not be taken by people who have previously taken African and African American Studies 241
James Sidanius
Half course (fall term). Hours to be arranged.
This course provides an in-depth and comprehensive exposure to the theoretical and methodological issues within the social psychology of racism and prejudice research. Approaches will include sociology, political science, and anthropology.
Note: Expected to be given in 2014–15.
Prerequisite: For Psychology concentrators, Science of Living Systems 20 or its predecessors and one foundational course.

[*Psychology 2460. Diagnostic Interviewing]
Catalog Number: 4157 Enrollment: Limited to 12.
Instructor to be determined
Half course (fall term). Hours to be arranged.
Students develop clinical interviewing and diagnostic skills using the Structured Clinical Interview for DSM-III-R and other instruments. Examines issues in diagnosis and assessment; provides exposure to psychopathology syndromes via tapes and clinical interviews.
Note: Expected to be given in 2014–15. Graduate students only.
Prerequisite: Psychology 2040.

Psychology 2461r. Laboratory for Clinical and Developmental Research
Catalog Number: 8042
Matthew K. Nock
Half course (fall term; repeated spring term). Hours to be arranged.
Provides instruction and experience in conducting clinical research in laboratory and clinical settings, with a special focus on developmental psychopathology.
Note: Open to graduate and undergraduate students working in the instructor's laboratory.

***Psychology 2464r. Research Methods in Child & Adolescent Clinical Psychology**
Catalog Number: 4638
John R. Weisz
Half course (fall term). M., 11:30–1. EXAM GROUP: 4, 5
Advanced laboratory methods seminar on designing and conducting research related to child and adolescent mental health problems and interventions, especially in school and mental health care settings. Problem areas include depression, anxiety, and disruptive conduct.
Note: Organizational meeting Tues., Sept. 3 at 4 p.m. in the Wm. James 10th floor conference room.

[*Psychology 2475r. Laboratory for the Systems Neuroscience of Psychopathology]
Catalog Number: 46912 Enrollment: Open to graduate and undergraduate students working in the instructor's laboratory.
Joshua William Buckholtz
Half course (fall term; repeated spring term). Hours to be arranged.
Research seminar examines the neurobiology of disinhibitory psychopathology (aggression, antisocial behavior, substance abuse). Students participate first-hand in personality/behavioral testing and brain imaging, and in weekly discussions of the genetics and cellular/systems/cognitive neuroscience of disinhibitory psychopathology.
Note: Expected to be given in 2014–15.

***Psychology 2480. Human Neuropsychology/Neuroanatomy: Laboratory**
Catalog Number: 4335 Enrollment: Limited to 20.
Christine Hooker
Half course (spring term). Tu., 1–4. EXAM GROUP: 15, 16, 17
Introduction to the anatomical structure of the human brain. Emphasis on neuropsychological correlates and cortical representation of higher cognitive functions. Gross brain dissection laboratory and discussions of descriptive and theoretical aspects of clinical neuropsychological phenomena.
Note: Preference given to graduate students who have completed Psychology 2010; if space is available, qualified undergraduates may enroll with permission of instructor. First meeting Tuesday, January 28, 2014, 2:30pm; final class time to be arranged.
Prerequisite: For undergraduates: Science of Living Systems 20 and at least one course from Psy 13, Psy 14, Psy 15, Psy 18, or SLS 15. MCB 80 is recommended but not required.

***Psychology 2500. Proseminar in Social Psychology**
Catalog Number: 5094
Mahzarin R. Banaji
Half course (fall term). M., 9–12.
Advanced survey of classic and current research and theory in social psychology, including self, social cognition, attitudes, social influence, altruism and aggression, prejudice and discrimination, close relationships, and group dynamics.
Note: For doctoral students only.

Psychology 2550. The Psychology of Learning and Teaching - *(New Course)
Catalog Number: 26673 Enrollment: Limited to 18. Undergraduates may enroll with permission from the instructor and some prior coursework in psychology or education.
Samuel Taylor Moulton
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
As the pedagogical paradigms and practices of higher education are innovated at Harvard and beyond, what claims or assumptions about cognitive and social psychology are being tested? How can concepts, principles, and evidence from the psychological sciences inform university-level learning and teaching, and how can applied educational research inform our basic understanding of mental and social processes? In this seminar, the varied phenomena of higher education today–from MOOCs and flipped classrooms to grading and procrastination–will be used as a proving ground for understanding and evaluating major ideas and evidence from psychology.
Note: This course is intended for graduate students from any discipline who are interested in understanding the science behind teaching and learning.

***Psychology 2553r. Behavioral Insights Group Research Seminar**
Catalog Number: 4679
Francesca Gino (Business School) and Todd T. Rogers (Kennedy School) (Kennedy School)
Half course (fall term; repeated spring term). Hours to be arranged.
This seminar provides lab experience in behavioral approaches to decision making and negotiation.
Note: Open to students working on research in the instructors' laboratories. Offered jointly with the Business School as 4425.

***Psychology 2554r. Moral Cognition: Research Seminar**
Catalog Number: 9481
Joshua D. Greene
Half course (fall term; repeated spring term). Hours to be arranged.
Year long lab course for students engaged in research on moral cognition.

***Psychology 2570r. Intergroup Relations: Research Seminar**
Catalog Number: 4440
James Sidanius
Half course (fall term; repeated spring term). Fall: Tu., 2:30–4; Spring: Hours to be determined. EXAM GROUP: Spring: 4, 5
The seminar provides students with research experience concerning different forms of intergroup relations, including the social psychology of interracial and interethnic conflict and prejudice. Graduate and undergraduate students meet on a weekly basis to discuss ongoing research on psychological mechanisms involved in power, stereotyping, inequality, identity, and ideology. Undergraduate enrollees will work under the supervision of a graduate student in the design and conduct of lab-based and survey experiments, and the input, coding and early analysis of empirical data. Undergraduate enrollees will also attend biweekly critical discussions of research articles in the field, and will have the opportunity to develop and receive feedback on their own research ideas.

***Psychology 2580r. Affective Forecasting: Research Seminar**
Catalog Number: 4262
Daniel T. Gilbert
Half course (fall term; repeated spring term). Hours to be arranged.
Topic to be announced.
Note: Open to students working on research in the instructor's laboratory.

***Psychology 2640r. The Understand Seminar**
Catalog Number: 7865
Mahzarin R. Banaji
Half course (fall term; repeated spring term). W., 2:30–4:30. EXAM GROUP: Fall: 7, 8, 9
Topic to be announced.
Note: Open to graduate students involved in research in the instructor's laboratory, and to select juniors and seniors.

***Psychology 2650. Behavioral Approaches to Decision Making and Negotiation**
Catalog Number: 7147
Francesca Gino (Business School) and Amy J. C. Cuddy (Business School)
Half course (fall term). M., 1–4. EXAM GROUP: 6, 7, 8
Research overview of behavioral decision making and decision analytic perspectives to negotiation. Explores bounded rationality, decision biases, human decision making. Develops a behavioral decision perspective to negotiation, and examines how the field is currently evolving.
Note: Offered jointly with the Business School as 4420. Open to juniors and seniors in psychology and economics who are writing, or plan to write, a senior thesis.

***Psychology 2651. Social Cognition from a Developmental and Evolutionary Perspective**
Catalog Number: 31825 Enrollment: Limited to 15.
Felix Warneken
Half course (fall term). Th., 2–4.
The course addresses traditional questions about the role of social cognition in human evolution and development, integrating the newest findings from comparative and developmental psychology. The course is structured around three themes (cultural learning, cooperation, and competition), corresponding to the three main theoretical approaches that have given rise to the study of social cognition from an evolutionary perspective. This course is discussion-based, bringing some new ideas (your ideas!) to bear on tricky questions that are still unresolved in the field.
Note: Open to advanced undergraduates with permission of instructor.

[Psychology 2652. The Psychology of Cooperation]
Catalog Number: 52745 Enrollment: Open to advanced undergraduates with permission of instructor.
Felix Warneken
Half course (fall term). Hours to be arranged.
Why and how do humans cooperate? What are the origins of these behaviors in human development and evolution? In this course we discuss how research in psychology, behavioral economics and primatology can provide insight into the foundation of human cooperation. This includes the study of empathy, altruism, fairness, and collaboration.
Note: Expected to be given in 2014–15.
Prerequisite: Science of Living Systems 20 and one course from PSY 13, PSY 14, PSY 15, PSY 18, or SLS 15.

[Psychology 2653. Experimental Methods]
Catalog Number: 44307
Francesca Gino (Business School)
Half course (fall term). Hours to be arranged.
Provides concepts and tools needed for planning and designing laboratory experiments, and for collecting and analyzing behavioral data, in the study of individuals' behavior in business, including marketing, organizational behavior, and related disciplines. Includes discussion of methodologies that are used in field experiments and surveys. Provides the foundations for the methodological evaluation of other behavioral researchers' work. Covers the designs and analyses that are most often used by experimental researchers in psychology, organizational behavior, and marketing. Provides technical skills for the design and implementation of laboratory experiments, including overcoming possible pitfalls and common barriers.
Note: Expected to be given in 2014–15. Open to doctoral students only. Offered jointly with the Business School as 4435.

***Psychology 2660r. Research Seminar in Mindfulness Theory**
Catalog Number: 4909
Ellen J. Langer
Half course (fall term; repeated spring term). Fall: Tu., 1:30–3:30.
Mindlessness/mindfulness theory is compared/contrasted to relevant theories in social psychology, psychopathology, and cognitive psychology.
Note: Open to students doing research with Prof. Langer.

Psychology 2661r. Research Seminar in Nonverbal Behavior, Social Perception, and Psychophysiology - *(New Course)
Catalog Number: 63561
Amy J. C. Cuddy (Business School)
Half course (fall term; repeated spring term). Hours to be arranged.
Students will gain human subject research skills and experience in the lab and online. We will cover a range of topics in social psychology, including but not limited to: nonverbal behavior, social perception, personal power, hormones, emotions, and performance in stressful situations. In biweekly meetings, students will have the opportunity to provide and receive feedback on the work of the lab as well as discuss relevant papers. In addition, monthly trainings will be held covering research tools such as eye-trackers, physiological measures, Qualtrics, and Mechanical Turk.
Prerequisite: Science of Living Systems 20 plus one from Psychology 13, 15, 16, 18, Science B 29 or MCB 80.

***Psychology 2670a. Decision Making and the Psychology of Possibility**
Catalog Number: 1193 Enrollment: Limited to 15.
Ellen J. Langer
Half course (fall term). W., 9:30–11:30. EXAM GROUP: 2, 3, 4
Topics in decision making such as rationality, risk-taking, helplessness, and health are examined through the lens of mindfulness theory. Special emphasis given to the psychology of possibility in applied settings.
Note: Open to qualified undergraduates.
Prerequisite: An introductory psychology course and a foundational course.

[*Psychology 2670b. Decision Making and the Psychology of Possibility II]
Catalog Number: 3434
Ellen J. Langer
Half course (spring term). Hours to be arranged.
A deeper exploration into the theoretical and experimental issues pertaining to decision making and the psychology of possibility, raised in Psychology 2670a.
Note: Expected to be given in 2014–15. Open to qualified undergraduates.
Prerequisite: Psychology 2670a.

Cross-listed Courses

Graduate Courses of Reading and Research

***Psychology 3010. Special Reading and Research**
Catalog Number: 7858
George Angelo Alvarez 6093 (on leave spring term), Mahzarin R. Banaji 4258, Randy L. Buckner 5370, Alfonso Caramazza 1871, Susan E. Carey 4113, Daniel T. Gilbert 2359, Joshua D. Greene 5594, Christine Hooker 5768, Jill M. Hooley 1191 (on leave fall term), Max Krasnow 7252, Ellen J. Langer 4967 (on leave spring term), Richard J. McNally 2978 (on leave spring term), Jason P. Mitchell 5481, Ken Nakayama 2558, Matthew K. Nock 4645, Steven Pinker 4733 (on leave 2013-14), Daniel L. Schacter 2805, James Sidanius 5371, Jesse Snedeker 4118, Leah Somerville 7050, Elizabeth S. Spelke 3850 (on leave fall term), Felix Warneken 6303, John R. Weisz 6001, and Yaoda Xu 6094

***Psychology 3020. Direction of Doctoral Dissertations**
Catalog Number: 4492
Members of the Department and others listed under Psychology 3010

***Psychology 3050. Clinical Practicum**
Catalog Number: 6299
Jill M. Hooley 1191 (on leave fall term), Richard J. McNally 2978 (on leave spring term) and members of the clinical faculty.
Half course (fall term; repeated spring term). Hours to be arranged.
Students work in clinical settings locally and, under supervision, are directly involved in the treatment and clinical care of patients.
Note: Limited to Harvard doctoral students in clinical psychology.

***Psychology 3070. Clinical Assessment and Treatment Practicum**
Catalog Number: 4439
Jill M. Hooley 1191 (on leave fall term), Richard J. McNally 2978 (on leave spring term) and members of the clinical faculty.

Half course (fall term; repeated spring term). Hours to be arranged.
Faculty interview psychiatric inpatients to demonstrate establishing treatment alliances, gathering histories, and initial assessment. Group discussion will consider how theoretical principles are applied to clinical work.
Note: Limited to graduate students in clinical psychology.

***Psychology 3200. Research Seminar in Clinical Science**
Catalog Number: 6455
John R. Weisz 6001
Half course (fall term; repeated spring term). W., 4–5:30.
Provides a forum for presenting and discussing current research in experimental psychopathology/clinical psychology. Presenters include graduate students, faculty, and outside speakers.

***Psychology 3220. Developmental Studies: Seminar**
Catalog Number: 4672
Jesse Snedeker 4118 (spring term only) and Felix Warneken 6303 (fall term only)
Half course (fall term; repeated spring term). M., 2:30–4.
Research seminar open to graduate students conducting research in cognitive development.

***Psychology 3240. Research Seminar in Cognitive Development**
Catalog Number: 5142
Elizabeth S. Spelke 3850 (on leave fall term)
Half course (fall term; repeated spring term). Fall: Tu., 2–3:30; Spring: Tu., 2:30–4.

[*Psychology 3250. Psychological Testing]
Catalog Number: 7164
Christine Hooker 5768
Half course (spring term). Hours to be arranged.
This weekly seminar for graduate students in clinical psychology is designed to provide basic skills in administering and interpreting standardized tests in the areas of intellectual assessment and personality assessment.
Note: Expected to be given in 2014–15. Open to Harvard doctoral students in clinical psychology.

***Psychology 3260. Conceptual Development: Research Seminar**
Catalog Number: 6601
Susan E. Carey 4113
Half course (fall term; repeated spring term). Tu., 3:30–5.
Covers research methods for the study of conceptual development throughout the life span. All students must be currently engaged in experimental research.

***Psychology 3270. Language Acquisition: Research Seminar**
Catalog Number: 0770
Jesse Snedeker 4118
Half course (fall term; repeated spring term). Hours to be arranged.
Covers research methods for language acquisition and language comprehension throughout the life span. All students must be currently engaged in experimental research.

***Psychology 3340. Research Seminar in Cognition, Brain, and Behavior**
Catalog Number: 1754
Yaoda Xu 6094 (fall term only) and Leah Somerville 7050 (spring term only)

Half course (fall term; repeated spring term). Th., 12–1:30.
Researchers in CBB, including graduate students, postdoctoral fellows, and faculty, present and discuss current research in cognitive science. Topics include memory, language, vision, mental imagery, concepts, animal and infant cognition, and related areas.

***Psychology 3360. Current Topics in Vision and Sensory Processes**
Catalog Number: 0604
George Angelo Alvarez 6093 (on leave spring term), Ken Nakayama 2558, and Yaoda Xu 6094

***Psychology 3420. Research Workshop in Social Psychology**
Catalog Number: 7610
James Sidanius 5371
Half course (fall term; repeated spring term). Tu., 12–1:30.
Provides a forum for the presentation, discussion, and critique of current research in social psychology. Presenters include graduate students and faculty in social psychology plus visitors.

***Psychology 3490. Advanced Statistical Modeling and Psychometrics Using R**
Catalog Number: 8235
Patrick Mair 7427
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course introduces advanced statistical and modern psychometric methods such as Bayesian approaches (inference, predictions, MCMC), causal modeling (inference, moderator/mediator, graphical models), social network analysis (SNA measures, subgroups, visualization), multivariate exploratory methods (biplots, correspondence analysis, multidimensional scaling), item response theory, meta analysis, and machine/statistical learning (clustering, discriminant analysis support vector machines). All topics covered will be supported by corresponding computations in R. Lab sections will focus on Web Scraping, Text Mining, and data visualization.

[*Psychology 3500. Psychological Science: Talking Points]
Catalog Number: 5341
Steven Pinker 4733 (on leave 2013-14)
Half course (spring term). .
A graduate companion course to "Psychological Science," which explores the theories and controversies in greater depth. Topics include genetics, evolution, cognitive neuroscience, perception, development, consciousness, social psychology, personality, psychopathology, violence, sex, and morality.
Note: Expected to be given in 2014–15. Enrollment is limited to teaching fellows for "The Human Mind" and graduate students who have obtained the permission of the instructor.

***Psychology 3550. Teaching Psychology**
Catalog Number: 0853
Mahzarin R. Banaji 4258
Half course (fall term; repeated spring term). M., at 12.
Note: Limited to and required of Sophomore Tutors.

***Psychology 3555. Instructional Styles in Psychology**
Catalog Number: 6831
Jesse Snedeker 4118 and members of the Department.
Note: Normally required of and limited to department graduate students who are first-time teaching fellows.

***Psychology 3600. The Origins of Knowledge: Talking Points**
Catalog Number: 0489
Susan E. Carey 4113
Half course (fall term). Hours to be arranged.
Graduate companion course to Origins of Knowledge, which explores the theories and controversies in greater depth. Topics include the evolutionary, cultural, and ontogenetic origins of representational capacities, including space, number, objects, agents, language, and intuitive theories.
Note: Limited to students in the Psychology Department or to those who have obtained permission of the instructor.

***Psychology 3800. Psychometric Theory**
Catalog Number: 0607
Richard J. McNally 2978 (on leave spring term)
Half course (fall term). Hours to be arranged.
Covers basic psychometric theory and methods essential for reliable and valid measurement. Also covers conceptual issues in the assessment of individual differences (e.g., intelligence, personality).
Note: Limited to Harvard graduate students in clinical psychology.

[*Psychology 3900. Professional Ethics]
Catalog Number: 6702
Jill M. Hooley 1191 (on leave fall term)
Half course (spring term). .
Examines ethical principles and legal issues involved in the practice of psychology, with an emphasis on clinical psychology. Covers ethical principles and code of conduct; uses case examples to highlight the application of these principles.
Note: Expected to be given in 2014–15. Limited to graduate students.

Public Policy

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Public Policy

Robert N. Stavins, Albert Pratt Professor of Business and Government at the John F. Kennedy School of Government *(Kennedy School) (Chair)*
Joseph Edgar Aldy, Assistant Professor of Public Policy *(Kennedy School)*
Arthur I. Applbaum, Adams Professor of Political Leadership and Democratic Values at the John F. Kennedy School of Government *(Kennedy School)*
Matthew A. Baum, Marvin Kalb Professor of Global Communications *(Kennedy School)*
Iris Bohnet, Professor of Public Policy at the John F. Kennedy School of Government, and Director, Women and Public Policy Program *(Kennedy School)*
Amitabh Chandra, Professor of Public Policy *(Kennedy School)*

William C. Clark, Harvey Brooks Professor of International Science, Public Policy and Human Development, John F. Kennedy School of Government *(Kennedy School)*
Jeffrey A. Frankel, James W. Harpel Professor of Capital Formation and Growth at the John F. Kennedy School of Government *(Kennedy School)*
Ricardo Hausmann, Professor of the Practice of Economic Development at the John F. Kennedy School of Government *(Kennedy School)*
William W. Hogan, Raymond Plank Professor of Global Energy Policy *(Kennedy School)*
Dale W. Jorgenson, Samuel W. Morris University Professor
Asim I. Khwaja, Sumitomo-Foundation for Advanced Studies on International Development Professor of International Finance and Development *(Kennedy School)*
Jeffrey B. Liebman, Malcolm Wiener Professor of Public Policy at the John F. Kennedy School of Government *(Kennedy School)*
Brigitte C. Madrian, Aetna Professor of Public Policy and Corporate Management *(Kennedy School)*
Erich Muehlegger, Associate Professor of Public Policy *(Kennedy School)*
Rohini Pande, Mohamed Kamal Professor of Public Policy *(Kennedy School)*
Kenneth A. Shepsle, George D. Markham Professor of Government *(on leave 2013-14)*
Stephen Martin Walt, Robert and Renee Belfer Professor of International Affairs at the John F. Kennedy School of Government *(Kennedy School)*
Richard J. Zeckhauser, Frank Plumpton Ramsey Professor of Political Economy in the John F. Kennedy School of Government *(Kennedy School)*

The doctoral program in Public Policy trains qualified candidates to shape the direction of public policy research and to prepare the next generation of teachers for programs in public policy. It also qualifies individuals to perform high-level policy analysis and prepares them for positions of leadership in the public sector. Interested applicants should contact the John F. Kennedy School of Government for application material.

All PhD candidates must demonstrate mastery of six fields of study through a combination of course work and written and oral examinations. A sophisticated understanding of the core materials in the MPP program at the Kennedy School, and a demonstrated ability to apply analytic techniques to a field of policy are critical components of the faculty decision to recommend a student to the Graduate School of Arts and Sciences for the dissertation phase of study. Once admitted to GSAS, a student is expected to work closely with a faculty adviser and dissertation committee. Most dissertations involve the application of analytic techniques to the solution of a substantive problem. A few methodological theses concentrate on developing new analytic techniques, their usefulness to be demonstrated through explicit application to a policy issue.

For more information about the doctoral program, visit the program website at *www.hks.harvard.edu/degrees/phd*

The Study of Religion

Faculty of the Committee on the Study of Religion

Michael J. Puett, Walter C. Klein Professor of Chinese History *(Chair)*
Ryuichi Abe, Reischauer Institute Professor of Japanese Religions
M. Shahab Ahmed, Associate Professor of Islamic Studies
Ali S. Asani, Professor of Indo-Muslim and Islamic Religion and Cultures *(on leave fall term)*
Shaye J.D. Cohen, Nathan Littauer Professor of Hebrew Literature and Philosophy
Diana L. Eck, Fredric Wertham Professor of Law and Psychiatry in Society
Marla F. Frederick, Professor of African and African American Studies and of Religion
Luis M. Girón Negrón, Professor of Romance Languages and Literatures and of Comparative Literature
William Albert Graham, Murray A. Albertson Professor of Middle Eastern Studies, Harvard University Distinguished Service Professor
Janet Gyatso, Hershey Professor of Buddhist Studies *(Divinity School)*
Charles Hallisey, Yehan Numata Senior Lecturer in Buddhist Literatures *(Divinity School)*
David Neil Hempton, John Lord O'Brian Professor of Divinity, Alonzo L. McDonald Family Professor of Evangelical Theological Studies, and Dean of the Faculty of Divinity *(Divinity School)*
David Frank Holland, Associate Professor of North American Religious History *(Divinity School)*
Ousmane Kane, Professor of Near Eastern Languages and Civilizations *(FAS),* Prince Alwaleed Bin Talal Professor of Contemporary Islamic Religion and Society *(Divinity School)*
Courtney Bickel Lamberth, Lecturer on the Study of Religion *(Director of Undergraduate Studies)*
Kevin J. Madigan, Winn Professor of Ecclesiastical History, Harvard Divinity School *(Divinity School)*
Anne E. Monius, Professor of South Asian Religions *(Divinity School)*
Jacob Olupona, Professor of African and African American Studies and Professor of African Religious Traditions
Parimal G. Patil, Professor of Religion and Indian Philosophy *(Director of Graduate Studies)*
Kimberley C. Patton, Professor of the Comparative and Historical Study of Religion *(Divinity School)*
Jonathan Lee Walton, Pusey Minister in the Memorial Church, Plummer Professor of Christian Morals, and Assistant Professor of African American Religions *(Divinity School)*
Malika Zeghal, Prince Alwaleed Bin Talal Professor in Contemporary Islamic Thought and Life *(on leave 2013-14)*

Other Faculty Offering Instruction in the Study of Religion

Leila N. Ahmed, Victor S. Thomas Professor of Divinity *(Divinity School)*
Giovanni Battista Bazzana, Assistant Professor of New Testament *(Divinity School)*
Aisha Mahina Beliso-De Jesus, Assistant Professor of African American Religions *(Divinity School)*
François Bovon, Frothingham Professor of the History of Religion *(Divinity School)*
Ann D. Braude, Lecturer, Director of the Women's Studies in Religion Program *(Divinity School)*
Janet Browne, Aramont Professor of the History of Science, Harvard College Professor
Annalisa Butticci, Visiting Fellow *(Divinity School)*
Davíd L. Carrasco, Neil L. Rudenstine Professor for the Study of Latin America in the Faculty of Divinity and the Faculty of Arts and Sciences
Francis X. Clooney, Parkman Professor of Divinity and Professor of Comparative Theology *(Divinity School)*
Nancy F. Cott, Jonathan Trumbull Professor of American History
Harvey G. Cox, Jr., Professor of Divinity, Emeritus *(Divinity School)*
R. Michael Feener, Prince Alwaleed bin Talal Visiting Associate Professor of Islamic Studies
Francis Fiorenza, Charles Chauncey Stillman Professor of Roman Catholic Theological Studies *(Divinity School)*
David D. Hall, Professor of Divinity, Emeritus *(Divinity School)*

Helen Hardacre, Reischauer Institute Professor of Japanese Religions and Society
Jay M. Harris, Harry Austryn Wolfson Professor of Jewish Studies and Dean of Undergraduate Education
Albert Henrichs, Eliot Professor of Greek Literature
Evelyn Brooks Higginbotham, Victor S. Thomas Professor of History and of African and African American Studies *(on leave 2013-14)*
Amy Hollywood, Elizabeth H. Monrad Professor of Christian Studies *(Divinity School)*
Michael D. Jackson, Visiting Professor *(Divinity School)*
Baber Johansen, Professor of Islamic Religious Studies *(Divinity School)*
Beverly M. Kienzle, John H. Morison Professor of the Practice of Latin and Romance Languages, Lecturer on Medieval Christianity, Director of Language Studies *(Divinity School)*
Karen L. King, Hollis Professor of Divinity *(Divinity School)*
Arthur Kleinman, Esther and Sidney Rabb Professor of Anthropology in the Faculty of Arts and Sciences and Professor of Medical Anthropology in the Faculty of Medicine, Harvard College Professor
James T. Kloppenberg, Charles Warren Professor of American History
Helmut H. Koester, John H. Morison Research Professor of Divinity and Winn Research Professor of Ecclesiastical History *(Divinity School)*
David Lamberth, Professor of Philosophy and Theology *(Divinity School)*
Jon D. Levenson, Albert A. List Professor of Jewish Studies *(Divinity School)*
Shenghai Li, College Fellow in the Department of South Asian Studies and ACLS New Faculty Fellow
Ofrit Liviatan, Lecturer on Government, Lecturer on the Study of Religion
Peter Machinist, Hancock Professor of Hebrew and Other Oriental Languages *(on leave 2013-14)*
Daniel P. McKanan, Ralph Waldo Emerson Unitarian Universalist Association Senior Lecturer in Divinity *(Divinity School)*
Everett I. Mendelsohn, Professor of the History of Science, Emeritus
David G. Mitten, James Loeb Professor of Classical Art and Archaeology, Emeritus
Roy Mottahedeh, Gurney Professor of History *(on leave spring term)*
Laura S. Nasrallah, Professor of New Testament and Early Christianity *(Divinity School)*
Stephanie A. Paulsell, Amory Houghton Professor of the Practice of Ministry Studies *(Divinity School)*
Matthew Lawrence Potts, Assistant Professor of Ministry Studies *(Divinity School)*
Michael J. Puett, Walter C. Klein Professor of Chinese History
Mayra Rivera Rivera, Associate Professor of Theology and Latina/o Studies *(Divinity School)*
Bronwyn Conwell Roantree, Lecturer on the Study of Religion *(on leave 2013-14)*
Elisabeth Schüssler Fiorenza, Krister Stendahl Professor of Divinity *(Divinity School)*
Stephen Paul Shoemaker, Lecturer on the Study of Religion
P. Oktor Skjaervo, Aga Khan Professor of Iranian *(on leave spring term)*
Charles Stang, Associate Professor of Early Christian Thought *(Divinity School)*
D. Andrew Teeter, Associate Professor of Hebrew Bible/Old Testament *(Divinity School)*
Leonard W. J. van der Kuijp, Professor of Tibetan and Himalayan Studies
Mara Willard, Visiting Lecturer *(Divinity School)*
Preston N. Williams, Houghton Research Professor of Theology and Contemporary Change *(Divinity School)*

Courses listed in this section are offered by the Committee on the Study of Religion and by various departments. The Committee is responsible for the program of concentration for undergraduates in the Comparative Study of Religion and for the program of studies leading to the PhD in The Study of Religion. Undergraduate concentrators may, with the prior approval of the Director of Undergraduate Studies, take courses offered by other departments and by the Divinity School for credit toward concentration requirements. Candidates for higher degrees also should consult other sections of this catalog relevant to their programs and the catalog of the Divinity School. Cross registration is required for all Divinity School courses. Many courses have separate requirements for undergraduate, masters, and doctoral students, and wherever possible also have separate discussion sections.

All courses cross-listed from General Education are found in the Primarily for Undergraduates Cross-listed Courses sections. These courses, with some exceptions, may be taken by graduate students.

Courses numbered 10–999 are Primarily for Undergraduates; 1000–1999, For Undergraduates and Graduates; and 2000–2999, Primarily for Graduates. Courses numbered 11-20 are specially designed introductory courses to the Study of Religion, for potential concentrators and declared concentrators. Declared concentrators are required to complete one of these courses.

Courses are distributed according to their last three digits in the following sections:

000–099 General: Comparative and Methodological

100–199 Ancient Near Eastern and Israelite

200–299 Judaic

300–349 Greek, Hellenistic, and Roman

400–499 Christianity

500–599 Modern Western/Religions of the Americas

600–699 Hinduism and South Asia

700–799 Buddhism

800–899 Islam

900–949 African and Afro-Atlantic Religions

950-999 Chinese and Japanese Religions

Tutorials in the Comparative Study of Religion

Primarily for Undergraduates

***Religion 91r. Supervised Reading and Research**
Catalog Number: 8046
Courtney Bickel Lamberth
Half course (fall term; repeated spring term). Hours to be arranged.
Study of special topics in the history and comparative study of religion on an individual or small-group basis.
Note: May not be taken Pass/Fail. Normally open only to concentrators. Permission by Director of Undergraduate Studies required.

***Religion 97. Tutorial — Sophomore Year**
Catalog Number: 2313
Courtney Bickel Lamberth
Half course (spring term). M., W., 11–12:30.
Introduction to methods and theories in the study of religion, including major themes and arguments that have defined the field. Course emphasizes critical thinking and writing skills.
Note: Required of concentrators.

***Religion 98a. Tutorial — Junior Year**
Catalog Number: 2832
Courtney Bickel Lamberth
Half course (fall term; repeated spring term). Hours to be arranged.
Part of the sequence of small seminars focused on critical thinking and writing skills for concentrators, this course provides in-depth study of selected themes, texts, traditions or time periods.
Note: Required of concentrators.

***Religion 98b. Tutorial — Junior Year**
Catalog Number: 2922
Courtney Bickel Lamberth
Half course (fall term; repeated spring term). Hours to be arranged.
Part of the sequence of small seminars focused on critical thinking and writing skills for concentrators, this course provides in-depth study of selected themes, texts, traditions or time periods.
Note: Required of concentrators.

***Religion 99. Tutorial — Senior Year**
Catalog Number: 6498
Courtney Bickel Lamberth
Full course. W., 3–5. EXAM GROUP: 8, 9
A required component of the senior year tutorial is a biweekly seminar, led by the Assistant Director of Undergraduate Studies. Covers research methods and strategies in thesis writing.
Note: Required of concentrators writing a thesis.

Introductory Courses

Primarily for Undergraduates

Religion 12. Critical Issues in the Comparative Study of Religion
Catalog Number: 55486
Michael J. Puett
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The aim of this course is to introduce students to key categories in the study of religion, both within a comparative context and with significant attention to theoretical and methodological issues in the field. The specific topic of the course will vary from year to year. Topic examples include: scripture, ethics, ritual, body and practice, art, violence, gender and sexuality.
Note: Topic for 2014: Religion, Self and Society. This course examines the ways in which religion (broadly construed to include beliefs, texts and institutions) structures and mediates the relationship between the individual and the state in both productive and problematic ways. Reading works of fiction (novels, poetry) together with theoretical materials (scripture, philosophy), the course will engage traditions including Hinduism, Christianity, Buddhism, Jainism, Judaism, Islam and traditional African

religions comparatively across time and space. Texts will include: *Monkey*, *Things Fall Apart*, and *The Gods Will Have Blood*.

Religion 13. Scriptures and Classics - *(New Course)*
Catalog Number: 54506
William Albert Graham
Half course (fall term). Tu., Th., at 9-10 and an hour to be arranged. EXAM GROUP: 11
An introduction to the history of religion through selective reading in significant, iconic texts from diverse religious and cultural traditions. Considers important themes (e.g., suffering, death, love, community, transcendence) as well as problems of method and definition as they present themselves in the sources considered. Readings from texts such as the *Upanisads*, *Bhagavad Gita*, *Dhammapada*, *Lotus Sutra*, *Analects*, *Chuang Tzu*, *Gilgamesh*, *Black Elk Speaks*, *Aeneid*, *Torah*, *Talmud*, *New Testament*, and *Qur'an.*
Note: Offered jointly with the Divinity School as 3225.

[Religion 14. Regulating Belief: Orthodoxy and Power] - *(New Course)*
Catalog Number: 11746
Bronwyn Conwell Roantree
Half course (fall term). Tu., Th., at 10. EXAM GROUP: 12
The concept of orthodoxy, roughly translatable as "sound doctrine", is a central concept in religious studies. What constitutes sound doctrine within a given religious tradition, though, has long been a site of vigorous political, cultural and theological contestation. Engaging with both historical and theoretical material, the course will explore the concept of orthodoxy as it has been constructed and contested in various religion traditions, including Christianity, Islam, Confucianism, Sikhism and Judaism. Topics to be discussed include: orthodoxy and the law, orthodoxy and political (in)stability and the challenge of heresy.
Note: Expected to be given in 2014–15.

***Religion 20. Ethnographies of Religion, Texts and Contexts**
Catalog Number: 46043 Enrollment: Limited to 20.
Marla F. Frederick
Half course (fall term). W., 1–3; Tu., at 11:30; F., at 1. EXAM GROUP: 6, 7
The course presents ethnographic works on Religion in the humanities and social sciences and introduces students to the concept and practice of ethnography.
Note: Offered jointly with the Divinity School as 2001.

Religion 25. Introduction to Judaism - *(New Course)*
Catalog Number: 34366
Jon D. Levenson (Divinity School)
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An introduction to the Jewish religious tradition, from its inception in biblical Israel though its rabbinic, medieval, and modern iterations, with a focus on central theological claims and religious practices. Readings concentrate on classical sources and their various modes of interpretation but also include modern restatements, reformulations, and critiques of tradition.
Note: Open only to undergraduates.

Religion 50. Religion, Law and American Politics: Seminar
Catalog Number: 18768 Enrollment: Limited to 22.
Ofrit Liviatan
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7

The evolving relationship between law and religion has had a profound influence on American political life and discourse since the country's founding. This seminar explores the complex relationship between religion and the law from the earliest debates about the limitations of state power to compel conscience in the Massachusetts Bay Colony to the prominent role religious discourse about law - as well as legal discourse about religion - have played in the 2012 elections.
Note: Will draw on various primary sources, including Supreme Court decisions, public speeches and political pamphlets. This course, when taken for a letter grade, meets the General Education requirement for United States in the World or the Core area requirement for Literature and Arts C. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

Religion 57. Faith and Authenticity: Religion, Existentialism and the Human Condition - *(New Course)*
Catalog Number: 44656 Enrollment: Limited to 20.
Courtney Bickel Lamberth
Half course (fall term). Tu., 1–3 and an hour to be arranged. EXAM GROUP: 15, 16
What is an authentic individual life? How does one find meaning in light of modern challenges to claims about the nature of God, revelation and the soul? Is religious faith compatible with an understanding of historicity and the threat of nihilism? This course introduces central questions in Western philosophy of religion through close reading of fundamental texts in existentialism with some attention to their Christian theological sources. Reading and participatory discussion of text by Plato, Paul, Luther, Kierkegaard, Nietzsche, Dostoevsky, Sartre, de Beauvoir, Camus, Heidegger, Bultmann and Tillich.
Note: This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning.

Cross-listed Courses

Aesthetic and Interpretive Understanding 30. Love In A Dead Language: Classical Indian Literature and Its Theorists
Aesthetic and Interpretive Understanding 54 (formerly Culture and Belief 12). For the Love of God and His Prophet: Religion, Literature, and the Arts in Muslim Cultures
Culture and Belief 16. Performance, Tradition and Cultural Studies: An Introduction to Folklore and Mythology
[Culture and Belief 19 (formerly Foreign Cultures 70). Understanding Islam and Contemporary Muslim Societies]
Culture and Belief 25. Studying Buddhism, Across Place and Time
Culture and Belief 28. Hindu Worlds of Art and Culture
Culture and Belief 31. Saints, Heretics, and Atheists: An Historical Introduction to the Philosophy of Religion
Culture and Belief 32. Back Roads to Far Places: Literature of Journey and Quest
Culture and Belief 57. Animated Spirituality: Japanese Religion in *Anime, Manga,* and Film - *(New Course)*
Economics 1776. Religion and the Rise of Capitalism
***Freshman Seminar 43m. Psychology of Religion**
Societies of the World 22. Asia in the Making of the Modern World

General: Comparative and Methodological

Primarily for Undergraduates

[Religion 110. Religion and International Politics]
Catalog Number: 49158
Bronwyn Conwell Roantree
Half course (spring term). Tu., Th., at 2. EXAM GROUP: 16
Rather than slowly disappearing from the world stage as advocates of the secularization thesis predicted, religious actors and arguments are a vital - and often unpredictable - force the world over. This course grounds an investigation into thematic questions such as the relationship between religion and regime, religion and human rights and religion and the politics of identity in a series of case studies drawn from Africa, Europe, the United States and the Middle East.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or Societies of the World, but not both. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Cross-listed Courses

Aesthetic and Interpretive Understanding 54 (formerly Culture and Belief 12). For the Love of God and His Prophet: Religion, Literature, and the Arts in Muslim Cultures
[Culture and Belief 13. The Contested Bible: The Sacred-Secular Dance]
[Culture and Belief 14. Human Being and the Sacred in the History of the West]
Culture and Belief 23 (formerly Literature and Arts C-70). From the Hebrew Bible to Judaism, From the Old Testament to Christianity
Culture and Belief 28. Hindu Worlds of Art and Culture
Culture and Belief 32. Back Roads to Far Places: Literature of Journey and Quest
Culture and Belief 39 (formerly Literature and Arts A-93). The Hebrew Bible
Ethical Reasoning 20. Self, Serenity, and Vulnerability: West and East
***Freshman Seminar 42k. Comparative Law and Religion**
German 146 (formerly Ethical Reasoning 26). The Ethics of Atheism: Marx, Nietzsche, Freud
Religion 57. Faith and Authenticity: Religion, Existentialism and the Human Condition - *(New Course)*
***Social Studies 98li. Protest and Violence in Asia: Ethnicity, Religion, and Other Motivations**
***United States in the World 32 (formerly Religion 1007). The World's Religions in Multicultural America: Case Studies in Religious Pluralism**
[United States in the World 33 (formerly African and African American Studies 193). Religion and Social Change]

For Undergraduates and Graduates

***Religion 1003. Comparative Religion: History, Challenge, Potential**
Catalog Number: 1694 Enrollment: Limited to 15. By application at the first class meeting.
Kimberley C. Patton (Divinity School)
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
This seminar will offer an encounter with the comparative study of religion as a method, including contemporary discussions of its value, problems, and potential. Starting with a brief historical survey of important comparative approaches, we will read current theoretical works as well as representative works of application. The individual research project will feature the creation of a comparative course syllabus and accompanying rationale.
Note: Offered jointly with the Divinity School as 3828.

Religion 1006. Religion and Literature: An Introduction
Catalog Number: 61121

Anne E. Monius (Divinity School) and Stephanie A. Paulsell (Divinity School)
Half course (fall term). Tu., Th., at 10, and an hour to be arranged. EXAM GROUP: 12
This course introduces students to the cross-cultural study of religion and literature, considering both the literary dimensions of religious texts and the ways in which literature shapes its readers religiously, spiritually, and morally.
Note: Offered jointly with the Divinity School as 3162.

Religion 1008. Theories and Methods in the Study of Religion
Catalog Number: 78933
Charles Hallisey (Divinity School)
Half course (spring term). W., 2-4 and an hour to be arranged. EXAM GROUP: 7, 8
This course, required of all first-year MDiv students but open to all, serves as an introduction to various approaches to the academic study of religion, from the anthropological and sociological to the philosophical and theological.
Note: Offered jointly with the Divinity School as 4515. May only be taken for a letter grade.

Religion 1011. The Tree at the Center of the World
Catalog Number: 9064 Enrollment: Limited to 30. By application at the first meeting.
Kimberley C. Patton (Divinity School)
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
This comparative course will examine historical and contemporary traditions of primordial, cosmic, and sacred trees in religion, folklore, mythology, and ritual, including the ways in which the special natural characteristics of trees have been interpreted metaphorically and metaphysically.
Note: Offered jointly with the Divinity School as 3823. This course includes a field trip to the Arnold Arboretum.

Religion 1016. The Shock of the Old: Conference Course
Catalog Number: 12304 Enrollment: Limited to 30. By application at the first class meeting.
Kimberley C. Patton (Divinity School) and Michael D. Jackson (Divinity School)
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
This course is about the impact of the past on the "present" of historical time. Through the disciplinary lenses of anthropology and archaeology, we will explore how different peoples have encountered, imagined and appropriated earlier times-historical, prehistorical, mythical, ancestral, biographical, material and ideological. Key concepts include social time, memory, firstness, human temporality, the status of the dead, and eternal recurrence. We will also consider different conceptions and practices of transformation and rebirth, the nature of our thralldom to the past and our freedom to transcend it, and the modern West's relationship to the heritage of the classical world.
Note: Offered jointly with the Divinity School as 3253.

Religion 1018. African American Religions: An Introduction - *(New Course)*
Catalog Number: 99892
Jonathan Lee Walton (Divinity School)
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The purpose of this course is to introduce students to the religious practices, beliefs, and movements of African Americans from 17th century to present. Topics include, but not limited to, black religions in North America under slavery, black churches, black Muslims, Jews and conjuring traditions, the civil rights movement, and the relation of African American religion to literature and music. Readings will include Albert Raboteau, Michael Gomez, Evelyn Brooks-Higginbotham, Barbara Diane-Savage, Karen McCarthy Brown and others.
Note: Offered jointly with the Divinity School as 3200.

[*Religion 1020. Religion, Mediation and the Senses]
Catalog Number: 41326 Enrollment: Limited to 15.
Aisha Mahina Beliso-De Jesus (Divinity School)
Half course (spring term). Hours to be arranged.
This seminar will explore anthropology of mediation and theories of sensory perception. It will engage with the "hierarchy of the senses," the privileging of visual sensory perception within modernist notions of self, alongside dialogical and relational approaches to media, mediation and religion. By exploring theories of sight, sound, smell, touch and taste as "media," alongside new forms of media technologies, the course pays attention to sensorial and theoretical implications of religious subjectivities.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3106.

[Religion 1025a. Anthropology of "the Religious" Part 1: Theory]
Catalog Number: 57625
Aisha Mahina Beliso-De Jesus (Divinity School)
Half course (fall term). Tu., 12–2 and hour to be arranged. EXAM GROUP: 14, 15
Conducting fieldwork with groups and people based on their religious/spiritual beliefs requires a complex understanding as well as critical knowledge of both the theory and methods of the "field research" process. This year-long course will provide students interested in conducting anthropological style "field research" with religious/spiritual groups/peoples, an in-depth and critical survey of theory and methodological approaches towards an anthropology of "the religious." The first semester will focus primarily on the theoretical questions/problems in the study of religion in anthropology, including what is a field site, how is it constituted, and how do we understand our own research and theory in relation other academic projects? The second semester is a methodological workshop, where students will be required to conduct method-intensive weekly projects. Through different methodological modalities, students will be required to think about what their research means to the communities they intend to work with as well as questions of positionality, the divide between participant/observer, new forms of research methods and other problematics of research.
Note: Expected to be given in 2014–15. Expected to be given in 2014–15. Offered jointly with the Divinity School as 3103.

[*Religion 1025b. Anthropology of "the Religious" Part 2: Methods]
Catalog Number: 72732 Enrollment: Limited to 15.
Aisha Mahina Beliso-De Jesus (Divinity School)
Half course (spring term). W., 1–4. EXAM GROUP: 6, 7, 8
See description for Religion 1025a.
Note: Expected to be offered again in 2014-15. Offered jointly with the Divinity School as 3104.
Prerequisite: Satisfactory completion of Religion 1025a.

[Religion 1026. Introduction to Justice and Rights]
Catalog Number: 69236
Francis Fiorenza (Divinity School)
Half course (fall term). Tu., 1–4. EXAM GROUP: 15, 16, 17
This course seeks to give an introduction to contemporary discussions about justice, human rights, and religion. It will survey the conceptions of rights within political theology and within contemporary theories of justice. Special attention will be given to the work of Rawls, Habermas, Nussbaum, Sen, Walzer, Sandel, Motlmann, Woltersdorf, and Schmitt. It will seek to show how a conception of human rights relates to religion with the framework of a discourse ethics.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2801.

Religion 1042. Religious Tourism
Catalog Number: 82663 Enrollment: Limited to 20.
Aisha Mahina Beliso-De Jesus (Divinity School)
Half course (fall term). Th., 4–6. EXAM GROUP: 18
This seminar will explore the relationship between "religion" and "tourisms. "We will examine theories of "the tour" and the production of touristic moments in relation to contemporary modernist movements and subjectivities including cosmopolitanisms, emigration, travelogues and the notion of "the tourist." This engagement will juxtapose conceptions of "religion" encompassed broadly within ritual, spiritual, diasporic and esoteric practices-as-tours. We will read ethnographies of religious tourisms in different trans-local sites, exploring the engagement with issues of commodification and religion, religion and the state, religion and nationalisms, and the inciting of touristic desires.
Note: Offered jointly with the Divinity School as 3105.

Religion 1043. The Self Writing the Self: Autobiography and Religion
Catalog Number: 27714
Janet Gyatso (Divinity School)
Half course (spring term). W., 10–12. EXAM GROUP: 3, 4
This course explores the nature of selfhood as it is constituted in the writing of autobiography. Our questions include: What do autobiographies tell us about the relationship of personal identity, individuality, subjectivity, and alienation to religious truth? What can we say about the relationship of the lived life to what is remembered and written in autobiography? To whom are autobiographers telling their self-stories, and why? What constitutes such critical experiences as moments of conversion, enlightenment, or self-consciousness? Our interpretive methodology will draw from literary theory on autobiographical writing. Autobiographical writings to be studied include those by Augustine, Teresa of Avila, a Tibetan Buddhist hermitess, a Jewish Kabbalist mystic, a contemporary Chinese-American novelist, a 17th century Venetian Rabbi, an American freed slave, a Japanese pilgrim poet, and James Joyce.
Note: Offered jointly with the Divinity School as 3721. Students will keep autobiographical journals for the course, as an exercise in the practice of this genre of writing.

[Religion 1046. Introduction to Religion and Ecology] - *(New Course)*
Catalog Number: 16547
Daniel P. McKanan (Divinity School)
Half course (spring term). M., W., at 10 and hour to be arranged. EXAM GROUP: 3
This course will explore the intersection between religious traditions and ecological activism, with special attention to current conversations about "ethical eating." We will consider both the resources that religious traditions provide to ecological activists and the ways these activists have challenges aspects of traditional religion. The course will also function as a general introduction to the multiple ways of knowing that comprise the scholarly study of religion, with attention to scriptural interpretation, history, ethnography, theology, ethics, and comparative studies.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2798.

[Religion 1063. South Asian Religious Aesthetics: Seminar]
Catalog Number: 8607 Enrollment: Limited to 15.
Anne E. Monius (Divinity School)
Half course (spring term). Hours to be arranged.
An intensive examination of South Asian theories of aesthetics and their relevance for understanding Hindu, Buddhist, and Jain discourses of ethics, literature, and theology.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3925.
Prerequisite: Previous coursework in the religious history of South Asia.

[Religion 1088. Why They/We Hate Us/Them: Islam, History, Violence and Identity]
Catalog Number: 81355 Enrollment: Not open to auditors.
M. Shahab Ahmed
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
This course examines the relationship between the production of (binary) identities in relation to Islam and Muslims in the modern world (e.g. Islam/The West, them/us, terrorist/freedom-fighter, "clash of civilizations", etc), on the one hand, and the construction of the categories of legitimate and illegitimate violence (eg. just war/unjust war, collateral damage/terrorism, interrogation/torture, etc), on the other. The course will draw upon theoretical readings and historical case studies that investigate the relationship between violence and the values, narratives, moralities, meanings, truths and incoherences drawn from it.
Note: Expected to be given in 2014–15. This course is under review for General Education Credit.
Offered jointly with the Divinity School as 3970.

Cross-listed Courses

African and African American Studies 187. African Religions
[Anthropology 1935. Secularism in Question: Seminar]
[History 1326. The Frankfurt School and Religion: Conference Course]
[History of Science 101. Knowledge on the Move: Cultures of Science in the Medieval World]
[Islamic Civilizations 103. Orientalism: Old and New Perspectives]

Primarily for Graduates

***Religion 2001. The History of the Study of Religion**
Catalog Number: 0644 Enrollment: Limited to first-year doctoral students.
David Lamberth (Divinity School)
Half course (fall term). F., 12–2. EXAM GROUP: 5, 6
An examination of the study of religion from early modernity to the present, with attention to key thinkers, methods, and theories.
Note: Offered jointly with the Divinity School as 4599.

***Religion 2002. Contemporary Conversations in the Study of Religion: Seminar**
Catalog Number: 0803 Enrollment: Limited to 15.
Helen Hardacre
Half course (spring term). W., 4–6. EXAM GROUP: 9
An engagement with the theoretical and methodological issues that scholars of religion deem to be the most urgent and compelling in the discipline today, across the various research areas.
Note: Limited to second-year doctoral students in the Study of Religion.

[Religion 2030. Thinking About History in South Asia: Seminar]
Catalog Number: 0070 Enrollment: Limited to 15.
Anne E. Monius (Divinity School)
Half course (spring term). Hours to be arranged.
This seminar offers an intensive examination of Euro-American and South Asian approaches to time and history and considers their importance for the study of South Asian religions.
Note: Expected to be given in 2015–16. Limited to doctoral students and advanced masters-level students.
Offered jointly with Divinity School as 3930.

Cross-listed Courses

[Anthropology 2085. Archaeology of Ritual and Religion]
Comparative Literature 211. Mysticism and Literature

Graduate Courses of Reading and Research

***Religion 3005. Doctoral Colloquium in Religion, Gender, and Culture**
Catalog Number: 8016 Enrollment: Limited by instructor permission.
Aisha Mahina Beliso-De Jesus (Divinity School) 6426
Half course (spring term). Alternate Wednesdays, 4-6.
The Religion, Gender, and Culture Colloquium explores the intersections of feminist theory with feminist theologies and gender studies in religion.
Note: Required for doctoral students in Religion, Gender, and Culture. Interested ThM, MTS, and MDiv students please contact the instructor. May be taken on a Sat/Unsat basis only. Offered jointly with the Divinity School as 2690.

Ancient Near Eastern and Israelite

Primarily for Undergraduates

Cross-listed Courses

[Culture and Belief 48 (formerly Literature and Arts A-70). God, Justice, and the Book of Job]

For Undergraduates and Graduates

Cross-listed Courses

[Ancient Near East 100. History of the Ancient Near East]
[Ancient Near East 102. Introduction to Mesopotamian Religion]
[Ancient Near East 111. Law in the World of the Bible]
Ancient Near East 120a. Introduction to the Hebrew Bible/Old Testament 1: Pentateuch and Former Prophets
Ancient Near East 120b. Introduction to the Hebrew Bible/Old Testament 2: Latter Prophets and Writings
[Ancient Near East 126. History of the Religion of Ancient Israel]
[Ancient Near East 132. Ancient Jewish Wisdom Literature]
[Ancient Near East 134. Genesis: Narrative Artistry and Theological Meanings]
[Anthropology 1065. The Ancient Near East]
[Anthropology 1155. Before Baghdad: Cities of Ancient Mesopotamia]
[Sumerian 146. Sumerian Religious Literature]

Primarily for Graduates

Cross-listed Courses

[Ancient Near East 225. The Greek Bible in History and Theology: Seminar]
Comparative Literature 211. Mysticism and Literature
[*Hebrew 200r. Problems in the Literature, History, and Religion of Ancient Israel: Seminar]

Judaic

Primarily for Undergraduates

Cross-listed Courses

Aesthetic and Interpretive Understanding 29. Modern Jewish Literature
Culture and Belief 23 (formerly Literature and Arts C-70). From the Hebrew Bible to Judaism, From the Old Testament to Christianity
Culture and Belief 27. Among the Nations: Jewish History in Pagan, Christian and Muslim Context
Culture and Belief 39 (formerly Literature and Arts A-93). The Hebrew Bible
[Culture and Belief 48 (formerly Literature and Arts A-70). God, Justice, and the Book of Job]
***Freshman Seminar 49g. The Holocaust, History and Reaction**
History 1155. Early Modern Europe, 1450-1789
Societies of the World 35. Conditional Equality: The Case of the Jews of Europe in Modern Times

For Undergraduates and Graduates

[Religion 1212a. Judaism: The Liturgical Year]
Catalog Number: 5679
Jon D. Levenson (Divinity School)
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An introduction to the Jewish tradition through an examination of its liturgical calendar. The ancient Near Eastern affinities and biblical forms of the Jewish holidays; the observance of the holidays in rabbinic law, their characteristic themes as developed in rabbinic non–legal literature, their special biblical readings, the evolution of the holidays over the centuries, contemporary theological reflection upon them. Emphasis on classic texts, focus on theological and literary issues.
Note: Offered jointly with the Divinity School as 1667a.

[Religion 1212b. Judaism: The Liturgical Year]
Catalog Number: 8074
Jon D. Levenson (Divinity School)
Half course (spring term). Tu., Th., at 11:30. EXAM GROUP: 13, 14
A continuation of Religion 1212a.
Note: Offered jointly with the Divinity School as 1667b.
Prerequisite: Religion 1212a.

Religion 1255. Selected Works of Twentieth Century Jewish Theology
Catalog Number: 49889
Jon D. Levenson (Divinity School)
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
A close reading of selected works of Jewish theology from the twentieth century, with special attention to the questions of God, Torah, and Israel in light of modernity and to the thinkers' understanding of Christianity in relation to Judaism. Authors read will be drawn mostly from the following: Baeck, Buber, Rosenzweig, Kaplan, Soloveitchik, Berkovitz, Heschel, Fackenheim, and Wyschogrod.
Note: Offered jointly with the Divinity School as 3668.

[Religion 1260. Midrash: Jewish Biblical Interpretation in the Rabbinic Period]
Catalog Number: 2424
Jon D. Levenson (Divinity School)

Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An introduction to the way the rabbis of the Talmudic period interpreted their Bible. Close reading in English of a range of midrashic literature: halakhic and aggadic, exegetical and homiletical, Tannaitic and Amoraic. Emphasis will be placed on literary assumptions and theological affirmations. Some consideration will be given to the affinities and contrasts of midrash with early Christian biblical interpretation and with contemporary literary theory.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 3669.

Cross-listed Courses

History 1083. American Jewish History - *(New Course)*
History 1983. Judaism Confronts America: Conference Course - *(New Course)
[Jewish Studies 129. Josephus]
[Jewish Studies 136. Jews and Greeks, Judaism and Hellenism]
[Jewish Studies 139 (formerly History 1020). Jews and Judaism in the Ancient World]
Jewish Studies 149. Topics in the Dead Sea Scrolls: Exegesis at Qumran
[*Jewish Studies 170. Job and the Problem of Suffering]

Primarily for Graduates

Cross-listed Courses

Comparative Literature 211. Mysticism and Literature
[*Hebrew 200r. Problems in the Literature, History, and Religion of Ancient Israel: Seminar]
[Hebrew 208r. Literature of Israel: Seminar]
[Hebrew 217. The Medieval Torah Commentary: A Practical Introduction: Seminar]
[Hebrew 218. Joseph and Esther: Seminar]
[Hebrew 235. The Binding of Isaac (*Aqedah*): Seminar]
Hebrew 236. Song at the Sea: Seminar
Jewish Studies 207. Rewriting Scripture in Jewish Antiquity: Seminar
[Jewish Studies 215. Jewish Law from Qumran to the Mishnah: Seminar]

Greek, Hellenistic, Roman

Primarily for Undergraduates

Cross-listed Courses

Culture and Belief 22. Concepts of the Hero in Classical Greek Civilization

For Undergraduates and Graduates

Religion 1310. Ancient Greek Sanctuaries: Oracles - *(New Course)*
Catalog Number: 64052 Enrollment: Limited to 15. By application at the first meeting.
Kimberley C. Patton (Divinity School)
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Using three renowned sanctuaries--Dodona, Delphi, and Didyma--as foci, this seminar will consider the role of oracles in ancient Greece in the wider context of divination. We will attend to the archaeological and literary evidence as well as to relevant secondary scholarship.
Note: Offered jointly with the Divinity School as 3804.

Cross-listed Courses

[Jewish Studies 136. Jews and Greeks, Judaism and Hellenism]

Primarily for Graduates

[*Religion 2348ab. Archaeology and the World of the New Testament: Seminar]
Catalog Number: 4069 Enrollment: Limited to 12.
Laura S. Nasrallah (Divinity School)
Full course (spring term). Hours to be arranged.
The first half of the course introduces students to archaeological data from the Graeco-Roman world (inscriptions, architecture, sculpture, coins). The second half consists of seminars in Greece and Turkey during May and on-site meetings with archaeologists.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1870.
Prerequisite: Greek and French or German; two half-courses in the study of ancient Christianity and/or Greco-Roman religion, history, and archaeology. Course may be divided with permission of instructor.

Christianity

For additional courses on Christian Studies, see the catalog of the Divinity School.

Primarily for Undergraduates

Cross-listed Courses

Culture and Belief 31. Saints, Heretics, and Atheists: An Historical Introduction to the Philosophy of Religion
[Culture and Belief 38 (formerly Literature and Arts C-28). Apocalypse Then! Forging the Culture of Medieval Rus']
Culture and Belief 39 (formerly Literature and Arts A-93). The Hebrew Bible
[Culture and Belief 48 (formerly Literature and Arts A-70). God, Justice, and the Book of Job]
***Freshman Seminar 31n. Beauty and Christianity**

For Undergraduates and Graduates

Religion 1400. Introduction to the New Testament
Catalog Number: 4486
Giovanni Battista Bazzana (Divinity School)
Half course (fall term). M., W., at 10 and hour to be arranged. EXAM GROUP: 3
The course will offer a historical-critical introduction to the Greco-Roman and Jewish contexts in which the New Testament texts were composed with an additional reference to hermeneutical approaches for their interpretation and to their ideological stakes.
Note: Offered jointly with the Divinity School as 1202.

[Religion 1401. Early Christian Thought 1: The Greek Tradition]
Catalog Number: 4950
Charles Stang (Divinity School)
Half course (fall term). Tu., Th., 11:30–1 and hour to be arranged. EXAM GROUP: 13, 14
This introductory course will focus on the major Greek authors of the late antique Christian East (third through eighth centuries). Authors will include Origen, Antony the Great, Athanasius, Basil of Caesarea,

Gregory of Nazianzus, Gregory of Nyssa, Evagrius of Pontus, Cyril of Alexandria, Pseudo-Dionysius the Areopagite, Maximus the Confessor, and John of Damascus.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 1749.

[Religion 1402. Early Christian Thought 2: The Latin Tradition]
Catalog Number: 2577
Charles Stang (Divinity School)
Half course (spring term). Tu., Th., 11:30–1 and hour to be arranged. EXAM GROUP: 13, 14
This introductory course will focus on the major Latin authors of the late antique Christian West (second through ninth centuries). Authors will include Tertullian, Ambrose, Jerome, Augustine, Cassian, Gregory the Great, Boethius, and John Scottus Eriugena.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 1750.

[Religion 1404. Early Christianity in the Roman Empire]
Catalog Number: 9800 Enrollment: Field trips will be scheduled in addition to regular course meeting times.
Laura S. Nasrallah (Divinity School)
Half course (fall term). Hours to be arranged, and hour to be arranged.
We shall read New Testament and early Christian literature to explore topics such as Paul and empire, early Christian apologetics, and martyrdom. These will in turn be explored in relation to the literature and especially the art and archaeology of the Roman Empire. Special focus will be given to materials of the first and second centuries CE. Key themes will include gender, colonialism, violence, spectacle, the body, justice, and ancient definitions of religion and piety.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 1518.

***Religion 1408. Martyrdom: Bodies, Death and Life in Ancient Christianity**
Catalog Number: 9871 Enrollment: Limited to 20.
Karen L. King (Divinity School)
Half course (spring term). Tu., 2–5. EXAM GROUP: 16, 17, 18
This course will consider newly discovered works, as well as engage critical readings of well-known sources, around such topics as the politics of martyrdom, performance and ritual, gender, and intra-Christian controversies.
Note: Offered jointly with the Divinity School as 1501.

[Religion 1413. The Letters of Paul: Ethnicity, Sex, Ethics, and the End of the World]
Catalog Number: 8015
Laura S. Nasrallah (Divinity School)
Half course (fall term). W., at 10; F., at 11; M., at 2.
This introductory course focuses on 1) the Pauline epistles in their first-century sociopolitical context, and their earliest interpretations; 2) what "work" Paul's letters do today in debates regarding homosexuality, women's leadership, Jewish-Christian relations, and ideas of universalism (i.e., how has Paul become a new hero for some European philosophers, such as Badiou and Zizek?). Special attention will be given to what the Pauline letters say about women and slaves, ethnicity in antiquity (Romans, Greeks, Jews, those "in Christ"), as well as their arguments about ethics and the formation of the self, especially in view of the impending eschaton.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1544. Former course title: Paul's Letters and Their Interpreters: Ethnicity, Empire, the Body, and the End of the World. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Literature and Arts C. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[Religion 1414. Gospel Stories of Wo/men]
Catalog Number: 6902
Elisabeth Schüssler Fiorenza (Divinity School)
Half course (spring term). Hours to be arranged.
The course will introduce a critical feminist rhetorical reading of "gospel" stories about wo/men in order to assess whether they are "good news" for wo/men. Special attention will be given to the significance of social locations, critical methods, and historical imagination for the interpretation and significance of these stories about Jewish wo/men for contemporary religious self-understandings and ministerial praxis. Lectures, group discussions, and group projects seek to foster a participatory, democratic style of learning.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1503.

Religion 1416. Feminist Biblical Interpretation
Catalog Number: 3002
Elisabeth Schüssler Fiorenza (Divinity School)
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
This course is an introduction to the emerging field of feminist biblical studies. We will discuss different biblical texts, hermeneutical approaches, methods of interpretation, and theoretical perspectives. Special attention will be given to the ethics of interpretation, and the significance of feminist hermeneutics for contemporary theological reflection and religious leadership. Lectures, group discussions, and presentations seek to foster a participatory, democratic style of learning.
Note: Offered jointly with the Divinity School as 1504.

Religion 1420. Early Christian Thought 3: The Syriac Tradition - *(New Course)*
Catalog Number: 16459
Charles Stang (Divinity School)
Half course (fall term). Tu., 2–4 and an hour to be arranged. EXAM GROUP: 16, 17
The aim of this course is to introduce students to the Syriac Christian tradition in the late antique and medieval periods. Syriac-speaking Christians constitute an ancient community that stretched from the Eastern Mediterranean to China, a community diverse in its beliefs and practices, prolific and accomplished in its literary output, and bound by a common language (Syriac, a dialect of Aramaic). This course will cover the early, diverse period of Syriac literature (2nd and 3rd centuries); the subsequent "golden" age of Syriac literature, associated with such authors as Ephrem and Jacob of Serug; some forms of asceticism and spirituality peculiar to Syriac Christianity; and finally, the stretch of Syriac Christianity eastward, to India and China
Note: Offered jointly with the Divinity School as 1751.

[Religion 1427. Orthodoxy and Heresy in Ancient Christianity]
Catalog Number: 3574
Karen L. King (Divinity School)
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
An examination of the dynamics of early Christian identity formation, including the development of discourses of orthodoxy and heresy, practices of interpreting Scripture, selected theological disputes, sex/gender, and categories of religious identity. The course will focus on reading the primary literature, with special attention to those types of early Christianity which later were deemed heretical (including texts such as *The Gospel of Thomas*, *The Gospel of Mary*, *The Apocryphon of James*, *The Gospel of Judas*, *The Gospel of Truth*, and *The Secret Revelation of John*).
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1700.
Prerequisite: Introduction to the New Testament or History of Ancient Christianity, or the equivalent.

[Religion 1429. Augustine and His Heretics]
Catalog Number: 59969 Enrollment: Limited to 15.
Charles Stang (Divinity School)
Half course (spring term). Th., 4–6. EXAM GROUP: 18
This course will survey Augustine of Hippo's theological career through the lens of his encounters with three "heresies" of Roman North Africa: Manichaeism, Donatism, and Pelagianism. Particular attention will be paid to following themes: evil, freedom, the will, and selfhood.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 1752.

[*Religion 1430. Origen, Evagrius, and Cassian]
Catalog Number: 39871 Enrollment: Limited to 15.
Charles Stang (Divinity School)
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
This course examines the writings of three early Christian thinkers from the third through fifth centuries: Origen of Alexandria, Evagrius of Pontus, and John Cassian. Particular attention will be paid to the following themes: theological anthropology (with special attention to the concept of the nous), protology (creation and the fall), eschatology (apokatastasis or universal salvation), prayer, practical and contemplative asceticism, and the so-called "allegorical" interpretation of scripture.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 2608.

[*Religion 1441. Greek Exegesis of 1 Corinthians]
Catalog Number: 84499 Enrollment: Limited to 25. This course also fulfills the study of fourth-semester Greek.
Laura S. Nasrallah (Divinity School)
Half course (fall term). Hours to be arranged.
The course is devoted to close reading and interpretation of 1 Corinthians. Discussion of the Greek text of 1 Corinthians will focus on literary style, use of rhetoric, philology, and the social and theological issues of the text.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1551.

Religion 1445. Religion, Ethics, and Politics: Key Texts of the Western Tradition - *(New Course)*
Catalog Number: 93954
Mara Willard (Divinity School)
Half course (spring term). M., W., at 10. EXAM GROUP: 3
Reading from Plato to Arendt, this introductory course will investigate major works that have shaped normative arrangements of religion, ethics, and politics in Europe, North America, and beyond. Throughout the term, we will be considering texts with disproportionate influence on religious and social institutions, including ideas of natural law and positive law, political and religious belonging, ecclesiastical and state or national citizenship, and the relationship among individual, faith community, and polity. We will consider a variety perspectives on the issue of "Who rules?," from patriarch, to the gods, and philosopher to the people. Throughout, we will attend to how ostensibly universal discourses implicitly and/or explicitly structure arrangements of gender, race, sexuality, and economic status-including slave, colonized, and master.
Note: Offered jointly with the Divinity School as 2369.

Religion 1454. History of Ancient Christianity
Catalog Number: 58387
Helmut H. Koester (Divinity School)
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
Christian history from the beginnings to the end of the fourth century in its political and cultural context.

The course will discuss Jesus and Paul and the diversity of Christian beginnings, the process of institutionalization, establishment of offices and of the canon of the Holy Scriptures, orthodoxy and heresy, Montanism and Gnosticism, philosophy and the theology of the Church Fathers, persecutions and martyrdoms, and the controversies and ecumenical councils of the fourth century.
Note: Offered jointly with the Divinity School as 1545.

[Religion 1467. Historical Jesus]
Catalog Number: 61179
Giovanni Battista Bazzana (Divinity School)
Half course (spring term). M., W., at 10. EXAM GROUP: 3
The course will introduce the students to the history of the quest for the historical Jesus by examining the most relevant methodological issues and by reviewing the ideological and socio-political stakes in this enterprise that has been intertwined to the cultural history of the western world from the XVIII to the XXI century.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 1277.

Religion 1472. The Ethical and Religious Thought of Martin Luther King, Jr.
Catalog Number: 8761
Preston N. Williams (Divinity School)
Half course (spring term). M., 4–6. EXAM GROUP: 9
A study of the life, thought, and actions of Martin Luther King, Jr. An ethical analysis of his primary concepts, ideas, and strategies based upon a reading and discussion of his writings and their sources.
Note: Expected to be offered annually. Offered jointly with the Divinity School as 2721.

[Religion 1484. Catholicism Faces Modernity: Classics of Twentieth Century Roman Catholicism]
Catalog Number: 50272 Enrollment: Limited to 12.
Francis Fiorenza (Divinity School)
Half course (spring term). Hours to be arranged.
This seminar will analyze the major classics of Twentieth Century Roman Catholic Theology. The seminar will seek to introduce major religious thinkers primarily through an analysis of the arguments of a major work that has become a classic. It will discuss the unique contribution of the work, the reasons for its significance and the extent of its impact. Among those considered will be Maurice Blondel, Alfred Loisy, Jacques Maritain, Henri de Lubac, Yves Congar, Bernard Lonergan, John Courtney Murray, Karl Rahner, and Gustavo Gutierrez. Others to be considered.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2477.

Religion 1490. Christianity and Capitalism - *(New Course)*
Catalog Number: 45769 Enrollment: Limited to 12.
Marla F. Frederick
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
Using history and anthropology, this course explores the role of Capitalism in the growth and development of Christianity in the 20th and 21st centuries.

Religion 1493. Contemporary Roman Catholic Theology
Catalog Number: 6926
Francis Fiorenza (Divinity School)
Half course (spring term). W., 1–4. EXAM GROUP: 6, 7, 8
A survey of contemporary Roman Catholic theology that discusses issues in the interpretations of God, Jesus, and the church with reference to theological method. The broad spectrum of present-day Roman Catholic theology will be covered through an analysis of diverse theologians and approaches: existential,

transcendental, liberationist, feminist, analytical, and hermeneutical.
Note: Offered jointly with the Divinity School as 2479. Last hour of course is a required discussion section.

[Religion 1496. Histories, Theologies and Practices of Christianity]
Catalog Number: 46072
Daniel P. McKanan (Divinity School) and Emily Ann Click (Divinity School)
Half course (fall term). Tu., Th., at 9 and an hour to be arranged. EXAM GROUP: 11
This course offers a historical, theological, and practice-based introduction to Christianity. We will explore key episodes in Christian history and central themes of Christian theology, highlighting the diversities of culture, ideology, gender, and practice that have characterized Christianity throughout its history. We will use integrative case studies as well as readings from the disciplines of church history, systematic theology, and practical theology to discover the many insights that emerge at the intersections of these disciplines.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2600.

Cross-listed Courses

[Celtic 151. The Literature of Medieval Celtic Christianity: The Hagiographical Tradition]
[History 1167 (formerly Historical Study B-18). The Protestant Reformation]
[History 1214. Encountering of the Other: The Expansion of the Christian West, 1650-1830]

Primarily for Graduates

[*Religion 2420. Papyrology and the New Testament]
Catalog Number: 76286 Enrollment: Limited to 10.
Giovanni Battista Bazzana (Divinity School)
Half course (fall term). Th., 12–2. EXAM GROUP: 14, 15
The course will introduce students to papyrology through the reading of literary and documentary papyri, with a particular emphasis placed on materials pertaining to religious history in the Greco-Roman world.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 1534.
Prerequisite: Three semesters of Greek are required.

Religion 2422. Witchcraft in Early Christianity - *(New Course)*
Catalog Number: 44557 Enrollment: Limited to 15.
Giovanni Battista Bazzana (Divinity School)
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
The course will examine the phenomena of witchcraft in selected early Christian texts to explore its socio-cultural and rhetorical implications by positing them within the broader context of Greco-Roman culture and society.
Note: Offered jointly with the Divinity School as 1555.
Prerequisite: Two semesters of Greek are required.

Religion 2424. Greek Exegesis of Mark - *(New Course)
Catalog Number: 17034 Enrollment: Limited to 15.
Giovanni Battista Bazzana (Divinity School)
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
The course will be devoted to a close reading and interpretation of the Gospel of Mark. The Greek text will be discussed with specific attention paid to literary structures, textual critical issues, historical context, and history of interpretation.

Note: Offered jointly with the Divinity School as 1527.
Prerequisite: Two semesters of Greek are required. The course might fulfill the requirement for a fourth semester of Greek.

Religion 2428. Apocalyptic Literature of the Second Temple Period - *(New Course)*
Catalog Number: 51709
Giovanni Battista Bazzana (Divinity School)
Half course (spring term). M., W., at 10 and hour to be arranged. EXAM GROUP: 3
The main focus of this course will be on the apocalyptic literature of the Second Temple and early Christian periods through the close reading in translation of four representative texts (1 Enoch, Daniel, the Apocalypse of John, and 4 Ezra). The course will not be limited to the reading of apocalyptic texts, but it intends to address the main themes that characterize historical research on and the exegesis of this subject, as the definition of the apocalyptic genre, the counter-hegemonic elements in the texts, or the role of violence, which often informs apocalyptic imagery.
Note: Offered jointly with the Divinity School as 1536.

Religion 2431 (formerly Religion 1431). Neoplatonism 1: Plotinus
Catalog Number: 13857 Enrollment: Limited to 18.
Charles Stang (Divinity School)
Half course (fall term). M., 4–6. EXAM GROUP: 9
A close reading of the *Enneads* of Plotinus, the 3rd century Greek philosopher widely regarded as the founder of "Neoplatonism." Attention will be given to the development of his views over time, based largely on the composition chronology given by his student Porphyry.
Note: Offered jointly with the Divinity School as 1757.

[Religion 2450. New Testament Ethics and Theology]
Catalog Number: 97093 Enrollment: Limited to 10.
Elisabeth Schüssler Fiorenza (Divinity School)
Half course (spring term). Hours to be arranged.
This seminar will explore the problem of N*T Ethics and The*logy and focus on both the ethics of interpretation and the reconstruction of the*ethical discourses in the N*T. Special attention will be given to how the rhetoric of empire as well as of democracy has shaped the ethos, symbolic worlds, and rhetorical practices of early Christians and still shape political and religious practices today.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 1882.

Religion 2464. Radical Religion in England and America, 1560-1750: Seminar
Catalog Number: 5810 Enrollment: Limited to 15.
David D. Hall (Divinity School)
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
Encompassing the politics of religious and social reform in England, Scotland, and New England from c. 1560 to c. 1700, this course explores the arguments on behalf of a "further" reformation and the "radical" outcomes of that enterprise in the mid-seventeenth century.
Note: Offered jointly with the Divinity School as 2270.

Religion 2477. God
Catalog Number: 8838 Enrollment: Limited to 12.
Francis Fiorenza (Divinity School)
Half course (fall term). Tu., 12–2. EXAM GROUP: 14, 15
An analysis of select theologians in their approach to the knowledge and the nature of God. Special

attention will be paid to their theological method and philosophical presuppositions.
Note: Offered jointly with the Divinity School as 2634.

Cross-listed Courses

Comparative Literature 211. Mysticism and Literature
***History 2340hf. Readings in American Intellectual History**
***Medieval Studies 202. Latin Palaeography and Manuscript Culture: Seminar**
[Medieval Studies 223. Preaching and the Sermon in the Middle Ages]
[Medieval Studies 227. Hildegard of Bingen and the Gospels: Seminar]

Graduate Courses of Reading and Research

***Religion 3420hf. Seminar for Advanced New Testament Students**
Catalog Number: 6026 Enrollment: Limited to 12.
Elisabeth Schüssler Fiorenza (Divinity School) 3193
Half course (throughout the year). Tu., 12–2. Meets biweekly. EXAM GROUP: Fall: 14, 15
Topic for 2013-14: to be determined.
Note: A course available to ThM, ThD, and PhD candidates, and qualified MTS and MDiv students with permission of the instructor. Required for ThM candidates in the field and for ThD and PhD candidates until the term following successful completion of general exams. Offered jointly with the Divinity School as 1980.
Prerequisite: Intermediate competency in at least one of the following ancient languages is required: Greek, Latin, Coptic.

***Religion 3425hf. New Testament Seminar for Doctoral Dissertations**
Catalog Number: 8507 Enrollment: Limited to 8.
Elisabeth Schüssler Fiorenza (Divinity School) 3193
Half course (throughout the year). Tu., 12–2. Meets biweekly. EXAM GROUP: 14, 15
Topic for 2013-14: to be determined. Biweekly presentation of research projects.
Note: Offered jointly with the Divinity School as 1995.

Modern Western/Religions of the Americas

Primarily for Undergraduates

Cross-listed Courses

[Culture and Belief 20. Reason and Faith in the West]
[Ethical Reasoning 15 (formerly Moral Reasoning 54). "If There is No God, All is Permitted:" Theism and Moral Reasoning]
German 146 (formerly Ethical Reasoning 26). The Ethics of Atheism: Marx, Nietzsche, Freud
[*History 84i. Secularization in Europe and the United States, c. 1780-2000]
Societies of the World 30. Moctezuma's Mexico: Then and Now (2012)!
***United States in the World 32 (formerly Religion 1007). The World's Religions in Multicultural America: Case Studies in Religious Pluralism**
[United States in the World 33 (formerly African and African American Studies 193). Religion and Social Change]

For Undergraduates and Graduates

Religion 1500. Character of God in Early America - *(New Course)*
Catalog Number: 78291
David Frank Holland (Divinity School)
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
From the arbitrary sovereign of the Calvinists to the predictable creator of the Deists, perceptions of God ran the spectrum in early America. Many of the key debates of the period?about science and slavery, monarchy and poverty, scripture and disestablishment?fell back on assumptions about the character of Deity. This course will examine the most prominent positions on the divine character and consider the ways they shaped the cultural developments of the period.
Note: Offered jointly with the Divinity School as 2383.

Religion 1513. Harvard's History and Evolving Religious Identity (formerly History of Harvard and Its Presidents)
Catalog Number: 1233
Stephen Paul Shoemaker
Half course (spring term). W., F., at 11, and hour to be arranged. EXAM GROUP: 4
An examination of the intellectual and institutional history of the University that leads students through a chronological exploration of key events and significant presidents. Among themes to be considered are European antecedents, developments in faculty, changes in student life, curricular alterations, as well as the maturation of the built environment. Significant attention is paid to the evolution of the religious context of the school, which was a vital component of the University's identity for several centuries.
Note: Offered jointly with the Divinity School as 2297.

Religion 1518. American Religious History to 1865 - *(New Course)*
Catalog Number: 96883
David Frank Holland (Divinity School)
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Beginning with the religious cultures of Native Americans, and concluding with the religious implications of the American Civil War, this course will survey four centuries of religious history. It will focus on the evolutions of religious thought, the interplay of religious practice with secular culture, religious lives in both mainstream and marginalized groups, and the relationship of church and state. It will also consider the denominational development of numerous movements (e.g., Congregationalists, Friends, Baptists, Shakers, Disciples of Christ, Seventh-day Adventists).
Note: Offered jointly with the Divinity School as 2367.

Religion 1520. Introduction to Hermeneutics and Theology
Catalog Number: 6184
Francis Fiorenza (Divinity School)
Half course (fall term). M., W., at 11 and hour to be arranged. EXAM GROUP: 4
General introduction to hermeneutical theory and theology. It surveys the development of theories of interpretation from classical to modern and contemporary times and shows the relation between the theory of interpretation and the understanding of theology. The course will especially attend to the influence of nineteenth and twentieth century theories of interpretation upon sacred texts, the diverse approaches to theology, and key theological categories such as revelation, experience, method, foundations, classics, community, and practice. It introduces students to some of the modern debates about the importance of interpretation for religious and theological studies.
Note: Offered jointly with the Divinity School as 2410.

***Religion 1529. The Holocaust and the Churches, 1933-45**
Catalog Number: 8653 Enrollment: Limited to 15.

Kevin J. Madigan (Divinity School)
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
This course will be an historical study of the systematic, bureaucratic annihilation of European Jewry by the Nazi regime during the Second World War. It will also be an historical study of what the Protestant and Catholic churches and individual Christians did and did not do--how they stood by, collaborated with or resisted the Nazis during the emigration, expropriation, persecution, ghettoization, deportation and annihilation of their Jewish neighbors. It will close with a brief study of some of the philosophical and religious implications of the Holocaust.
Note: Offered jointly with the Divinity School as 2293.

Religion 1535. Theology and Power: Seminar
Catalog Number: 8857 Enrollment: Limited to 12.
Francis Fiorenza (Divinity School)
Half course (spring term). Tu., 12–2. EXAM GROUP: 14, 15
An exploration of the diverse understandings of power within classical and recent social and theological thought. Transitions in the understanding of power with contemporary critical theory, feminist theology, and post-colonial theory will be discussed. Among the authors described: Weber, Lukes, Dahl, Foucault, Arendt, Habermas, Tillich, Rahner, Boff, West, Cobb, Butler, and Young.
Note: Offered jointly with the Divinity School as 2633.

[Religion 1536. Theology and Culture: Seminar]
Catalog Number: 1908 Enrollment: Limited to 12.
Francis Fiorenza (Divinity School)
Half course (spring term). Tu., 12–2. EXAM GROUP: 14, 15
This course explores some of the recent literature on the relation between religion, theology, and culture. Specific attention will be given to issues of method, tradition, and the intersection of theology and culture, and the relation between faith and critical inquiry. Authors to be considered include: Niebuhr, Tanner, Geertz, Rorty, Stout, Benhabib, and Fraser.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2403.

[Religion 1538. Liberal and Liberation Theologies in Dialogue]
Catalog Number: 33612
Daniel P. McKanan (Divinity School)
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course will explore the possibilities for fruitful interchange between classic liberal theologies and contemporary theologies of liberation. We will begin with major texts of American liberal theology (Channing, Emerson, Bushnell, Rauschenbusch), then turn to the defining liberationist texts (Gutierrez, Cone, Daly), and conclude with several attempts to integrate the traditions.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 2415.

Religion 1543. 19th-Century Religious Thought: Theology and the Critique of Religion
Catalog Number: 5065
David Lamberth (Divinity School)
Half course (fall term). Tu., Th., 10–11:30 and an hour to be arranged. EXAM GROUP: 12, 13
The nineteenth century formulated many of the questions and frameworks that continue to dominate theology and religious reflection in the West. This course considers the developing interplay between modern Christian theology (primarily continental) and the principal philosophical and social critiques of religion in the nineteenth century. Topics include human nature, religion, the divine-human relationship, religious knowledge, the social, and historicity. Readings from Lessing, Kant, Schleiermacher, Hegel,

Marx, Feuerbach, Kierkegaard, Nietzsche, Harnack, and Troeltsch.
Note: Offered jointly with the Divinity School as 2431.

[Religion 1544. Unitarian and Universalist Thought in the Nineteenth Century]
Catalog Number: 38993
Daniel P. McKanan (Divinity School)
Half course (spring term). W., 1–4. EXAM GROUP: 6, 7, 8
This seminar will explore the intellectual shapers of the Unitarian and Universalist traditions in the nineteenth century, with special attention to the founders and formative theologians of each tradition, the challenges of Transcendentalism and Spiritualism, and the interactions of Unitarianism and Universalism with broader currents of religious liberalism in the United States.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2770.

Religion 1550. Religion and American Public Life
Catalog Number: 1431
Mara Willard (Divinity School)
Half course (fall term). W., M., at 11 and an hour to be arranged. EXAM GROUP: 4
The course will survey historical, constitutional, philosophical, theological, and practical issues in the relation between democratic polity and religious belief and practice. By hosting leaders in public policy and social change movements, we will consider how religion and public life are best studied when theory and practice are put in relation to one another. Students whose work is focused primarily on matters of policy and practice will be challenged to consider important philosophical and theological debates. Those whose interests lie in the theoretical realm will be asked to bring their interests to bear on matters of policy. We hope to model a community of discourse in which communication across professional, disciplinary, and practical divisions becomes an integral part of every student's education.
Note: Offered jointly with the Divinity School as 2524.

Religion 1551. Journeys - *(New Course)*
Catalog Number: 33991 Enrollment: Limited to 12.
Leila N. Ahmed (Divinity School)
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
A growing number of books have appeared recently recounting personal journeys of faith — faith searched for, wrestled with, lost, found, abandoned, affirmed, re-imagined, understood in new ways — or any combination of these. We will read contemporary works in this genre exploring, among others, themes of religion, gender and identity. Our readings will include Sarah Sentilles, *Breaking Up with God*, Joanna Brooks, *The Book of Mormon Girl*, Sheila Weinberg, *Surprisingly Happy*, Tariq Ramadan, *What I Believe*, Chris Stedman, *Faithiest*, Colleen Carroll Campbell, *My Sisters the Saints*, and Lauren Winner, *Still: Notes on a Mid-Faith Crisis*.
Note: Offered jointly with the Divinity School as 3107.

[Religion 1557. Unitarian and Universalist History in the United States]
Catalog Number: 85134
Daniel P. McKanan (Divinity School)
Half course (spring term). W., 1–4. EXAM GROUP: 6, 7, 8
This survey course will trace the history of both Unitarianism and Universalism from their eighteenth-century origins to the present. Focusing especially on the experiences of local congregations, we will explore the diverse starting points of liberal religion in the United States; the challenges of Transcendentalism, spiritualism, and humanism; the interplay between liberal religion and social reform; and the experience of consolidation in the twentieth century.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 2776.

[Religion 1559. Unitarian and Universalist Thought in the Twentieth Century]
Catalog Number: 39813
Daniel P. McKanan (Divinity School)
Half course (fall term). W., 1–4. EXAM GROUP: 6, 7, 8
This seminar will explore the major shapers of the Unitarian and Universalist traditions in the twentieth century, with special attention to the influence of the social gospel, religious humanism, process thought, and liberation theology. Featured writers will include Francis Greenwood Peabody, Clarence Skinner, John Jaynes Holmes, Charlotte Perkins Gilman, Curtis Reese, Frederick May Eliot, James Luther Adams, Sophia Fahs, Henry Nelson Wieman, Charles Hartshorne, A. Powell Davies, Kenneth Patton, William R. Jones, and Rebecca Parker.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 2772.

[Religion 1565. Religion and the Left in US History]
Catalog Number: 70027
Daniel P. McKanan (Divinity School)
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course surveys religious and spiritual movements for social transformation in the United States from the early nineteenth century to the present. We will consider such movements as abolitionism, pacifism, feminism, socialism, the social gospel, and civil rights, paying special attention to the theological and denominational diversity of religious activism, external and internal criticisms of religious leftists, and the interplay between religious radicalism and other religious and cultural traditions.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 2773.

Religion 1583. Gender and Religious Leadership in Eighteenth- and Nineteenth-Century America - *(New Course)*
Catalog Number: 71685
David Frank Holland (Divinity School)
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
It is a well-established fact that women have numerically dominated the membership rolls of almost every American denomination, and it is just as widely recognized that men have dominated the pulpit. Both realities were particularly apparent in the United States in the eighteenth and early nineteenth centuries. What happened, however, when women began to preach and lead? This course will examine a number of examples from the nineteenth century – from Phoebe Palmer to Mary Baker Eddy – to consider how assumptions about leadership and gender may have evolved during this transformative period.
Note: Offered jointly by the Divinity School as 2377.

Religion 1584. Twentieth Century Theological Method: An Introduction - *(New Course)*
Catalog Number: 94955
David Lamberth (Divinity School)
Half course (spring term). Tu., Th., 11:30–1 and an hour to be arranged. EXAM GROUP: 13, 14
The question how one goes about thinking theologically—in light of the situated-ness of language, human experience, other domains of knowledge, and a deepening understanding of the contextual location of theological expression—is a dominant concern for Christian theology in the twentieth and twenty first centuries. This course provides an introduction to the contemporary context for theological reflection by exploring conversations around method and the nature of theology in selected key twentieth century figures, such as Barth, Bultmann, Tillich, Daly, Cone, Kaufman, Tracy, Schüssler Fiorenza, Lindbeck, Grant, Milbank.
Note: Offered jointly with the Divinity School as 2382.
Prerequisite: The course is introductory, and has no prerequisites.

Religion 1590 (formerly Religion 1950). Issues in the Study of Native American Religion
Catalog Number: 74695
Ann D. Braude (Divinity School)
Half course (spring term). Tu., Th., 11–12:30. EXAM GROUP: 13, 14
Based around a series of traditionalist guest speakers, this course interrogates the study of religion in general and of Native American traditions in particular in light of indigenous religious experiences, perspectives and histories. Questions of appropriation, repatriation and religious freedom will be approached through legal as well as cultural frameworks.
Note: Offered jointly with the Divinity School as 2345.

Religion 1591. Pentecostalism as a Global Religion - *(New Course)*
Catalog Number: 45493
Harvey G. Cox, Jr. (Divinity School) and Annalisa Butticci (Divinity School)
Half course (fall term). W., 4–6.
Pentecostalism now encompasses 500 million people, one quarter of the world's Christians. The fastest growing spiritual movement on the globe, it is growing in a variety of expressions especially in Africa, Latin America, Asia, and among minorities and immigrants in Europe and America. We will trace its biblical sources, its history from tiny sect to world faith in one century, and its teachings on healing, exorcism and "speaking in tongues." Utilizing multi-media and internet sites, and field visits to Pentecostal congregations, we will also examine Pentecostalism's theological evolution and changing relationships to other Christian traditions and other faiths, to politics and liberation theology, to the "prosperity gospel," to mega-churches, and to such issues as race, ethnicity, gender and ecology.
Note: Offered jointly with the Divinity School as 2499.

Cross-listed Courses

African and African American Studies 180x. Race, Class and the Making of American Religion
[Anthropology 1125. The Moche of Ancient Peru: Politics, Economy, Religion and Art]
[Anthropology 1158. Maya Narratives: Gods, Lords, and Courts]
[Culture and Belief 52 (formerly History 1213). The American Evangelical Tradition from Jonathan Edwards to Jerry Falwell]
[History 1326. The Frankfurt School and Religion: Conference Course]
[History 1445. Science and Religion in American Public Culture]
[Literature 113. Existential Fictions: From Saint Augustine to Jean-Paul Sartre and Beyond]

Primarily for Graduates

[Religion 2525. Rationality, Relativism, and Theology]
Catalog Number: 3134 Enrollment: Limited to 12.
Francis Fiorenza (Divinity School)
Half course (fall term). Tu., 12–2. EXAM GROUP: 14, 15
An analysis of the debates about relativism, pluralism, and rationality within current philosophy and theology. The seminar will examine questions of the interrelation between knowledge and social location, theory and practice, experience and gender, paradigms of knowledge and communities of discourse. It will explore the degree to which these debates about rationality affect conceptions of theology and religious belief. Selected contemporary authors will be discussed.
Note: Expected to be given in 2014–15. offered jointly with the Divinity School as 2644.

Religion 2542. Kant: Seminar
Catalog Number: 5295 Enrollment: Limited to 12.

David Lamberth (Divinity School)
Half course (spring term). F., 12–2. EXAM GROUP: 5, 6
A close reading of major works of Kant relevant to theology and philosophy of religion. The seminar focuses on issues such as the nature and limits of reason, the concepts of freedom, morality and faith, and the idea of God.
Note: Offered jointly with the Divinity School as 2674.
Prerequisite: Advanced work in theology or philosophy of religion.

Religion 2550. Piety and Protest: Women and Religion in Contemporary America
Catalog Number: 8927
Ann D. Braude (Divinity School)
Half course (fall term). W., 10–12. EXAM GROUP: 3, 4
Practices of piety that are also acts of protest provide access to contemporary developments relating religion, gender and sexuality. This course historicizes current women's cultures of protest within, against and on behalf of their religious faiths. Case studies drawn primarily from Judaism, Christianity and Islam include ecological critiques; the resurgence of the veil in Islam; the ordination of women; the return to orthodoxy in Judaism; as well as consolidations of heterosexuality. The course concludes by interrogating international iconoclastic political protests in light of earlier feminist art work in which the female body is a site of piety and protest, such as Judy Chicago's The Dinner Party.
Note: Offered jointly with the Divinity School as 2328.

Religion 2562. American Revelations - *(New Course)*
Catalog Number: 51946
David Frank Holland (Divinity School)
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
This course will consider a number of key historical episodes in which American religious figures claimed to receive divine revelation. From the ad hoc prophets (such as Anne Hutchinson and Tenskwatawa) to the scripture writers (such as Joseph Smith and Ellen White), from the African American organizers (including Nat Turner and Father Divine) to the advocates of natural revelation (including Theodore Parker and Margaret Fuller), this course will examine the contexts, contents and implications of the claim that God still speaks to Americans.
Note: Offered jointly with the Divinity School as 2371.

Cross-listed Courses

[Anthropology 2062. Religions of Latin America]
[Anthropology 2085. Archaeology of Ritual and Religion]

Graduate Courses of Reading and Research

***Religion 3505hfr. Colloquium in American Religious History**
Catalog Number: 6445 Enrollment: Limited to 20.
David Neil Hempton (Divinity School) 5974
Half course (throughout the year). Tu., 7 p.m. - 9 p.m., bi-weekly. EXAM GROUP: Fall: 18
Presentation and discussion of the research of doctoral candidates in American religious history.
Note: Open, with instructor's permission, to doctoral students in other fields of religious studies or American studies. Offered jointly with the Divinity School as 2390.

Hinduism and South Asia

Primarily for Undergraduates

Cross-listed Courses

Aesthetic and Interpretive Understanding 30. Love In A Dead Language: Classical Indian Literature and Its Theorists
Culture and Belief 28. Hindu Worlds of Art and Culture
[*History 86e. Nation, Reason and Religion in South Asia]

For Undergraduates and Graduates

[Religion 1600. Introduction to the Hindu Traditions of India]
Catalog Number: 9700
Anne E. Monius (Divinity School)
Half course (fall term). M., W., at 10, and hour to be arranged. EXAM GROUP: 3
An introduction to the many distinct yet interrelated religious traditions of South Asia that are often labeled "Hinduism." This course considers the ways in which Hindus from a variety of historical time periods, local traditions, and social backgrounds have attempted to make sense of their world and their lives within it.
Note: Offered jointly with the Divinity School as 3404.

Religion 1610. Householders and Ascetics: An Introduction to Religions of South Asia - *(New Course)*
Catalog Number: 48595 Enrollment: Limited to 30.
Shenghai Li
Half course (fall term). Tu., 4–5:30 and Th., 12–1:30 and an hour to be arranged. EXAM GROUP: 14, 15, 18
This course introduces the remarkable diversity of religious literature, philosophical thought, ritual and contemplative practices, and cultural forms that have emerged on the South Asian subcontinent. Focusing on Hinduism, Buddhism, and Jainism, the course examines common South Asian religious patterns in the areas of textual practices, social institutions, and contemplative traditions. We will explore intellectual achievements and religious experiences lived by householders and ascetics alike. By engaging with South Asian materials and becoming familiar with the scholarship in the field, students will gain refined perspectives on religions in the world.

[Religion 1625. Indian Religions Through Their Narrative Literatures]
Catalog Number: 9890
Anne E. Monius (Divinity School)
Half course (spring term). M., W., at 10, and an hour to be arranged. EXAM GROUP: 3
An examination of the religious traditions and communities of South Asia through the stories they tell. This semester's focus will be the epics - the Mahabharata and the Ramayana - in their numerous textual, regional, sectarian, and performative tellings.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3405.

[Religion 1631. Hindu Traditions of Devotion]
Catalog Number: 9423
Anne E. Monius (Divinity School)
Half course (fall term). Hours to be arranged.
An examination of Hindu *bhakti* (devotional) traditions, focusing on three specific geographic/cultural regions within the Indian subcontinent. Keeping in mind both continuities and differences in the *bhakti*

traditions of these three distinct cultural areas, this course will explore a variety of devotional literature in English translation and consider the enduring significance and use of that deeply emotional poetry in the lives of Hindus today.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 3406.

***Religion 1635. Reading Pre-Modern Hindu Narrative Literature: Seminar**
Catalog Number: 0073 Enrollment: Limited to 15.
Anne E. Monius (Divinity School)
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Focusing on the genres of *itihasa*, *purana*, and *katha*, this seminar explores the relevance of both classical Indic and contemporary Euro-American literary theories for the understanding of pre-modern South Asian narrative.
Note: Offered jointly with the Divinity School as 3926.
Prerequisite: Although all primary source readings will be in English translation, previous study of South Asian religions is required.

Cross-listed Courses

[South Asian Studies 124. Introduction to World Mythology]
South Asian Studies 196. Work and Religion in Modern South Asia - *(New Course)*

Primarily for Graduates

Cross-listed Courses

[Sanskrit 200br. Advanced Literary Sanskrit]
Sanskrit 201br. Advanced Philosophical Sanskrit

Buddhism

Primarily for Undergraduates

Cross-listed Courses

Aesthetic and Interpretive Understanding 36. Buddhism and Japanese Culture
Culture and Belief 25. Studying Buddhism, Across Place and Time

For Undergraduates and Graduates

Religion 1701. Introduction to Buddhist Scriptures and Their Critical Interpretations
Catalog Number: 5996
Charles Hallisey (Divinity School)
Half course (fall term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
An introduction to basic issues in the contemporary understanding of textuality, history, and interpretation and their relevance to the study of Buddhist scriptures. Examples of Buddhist scriptures will be drawn primarily from the Mahayana traditions.
Note: Offered jointly with the Divinity School as 3836.

Religion 1705 (Buddhism in Tibet). Tibetan Religions
Catalog Number: 7192
Janet Gyatso (Divinity School)
Half course (fall term). W., 10–12 and an hour to be arranged. EXAM GROUP: 3, 4
A close look at practices and cultural productions of Tibetan Buddhism and other religious traditions in light of their distinctive historical contexts in Tibet. Topics include: yogic, lay, and monastic religions; visionary practices; religion, magic and the state; Buddhism in literature and art; medicine and Buddhism; death and reincarnation practices; the creation of sacred landscape; and certain distinctive literary genres including "mind training," "advice" writings, self-revelatory autobiography; and religious historiography. Throughout the course we will be considering a number of new publications that have recently enriched our understanding of Tibetan religious cultures and institutions.
Note: Offered jointly with the Divinity School as 3563.

Religion 1706. Dharmas, Emptiness, and Idealism
Catalog Number: 9464
Parimal G. Patil
Half course (fall term). Th., 3–5.
A very close and contextual reading (in translation) of Buddhist "doctrinal" and "philosophical" texts. We will select chapters from Vasubandhu's *Treasury of Metaphysics*, Nagarjuna's *Basis of the Middle Way*, and Vasubandhu's *Twenty Verses*. Attempt to understand these texts on their own terms and in their South Asian contexts, while also inquiring into their significance for the study of Buddhism and religion in South Asia.
Note: Offered jointly with the Divinity School as 3536.

Religion 1707. Introduction to Buddhist Commentaries and their Critical Interpretations
Catalog Number: 9290 Enrollment: Limited to 30.
Charles Hallisey (Divinity School)
Half course (spring term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
An introduction to the study of Buddhist commentaries, their textual and hermeneutic services, as well as their history and their places in Buddhist scholastic cultures. Examples of Buddhist commentaries will be drawn from across the Buddhist world.
Note: Offered jointly with the Divinity School as 3779.

[Religion 1709. Introduction to Buddhist Scriptural Anthologies and their Critical Interpretations]
Catalog Number: 34998
Charles Hallisey (Divinity School)
Half course (fall term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
An introduction to basic issues in reading Buddhist Scriptural Anthologies, both historical and hermeneutic. Special emphasis will be given to issues of intertextuality that the formation of scriptural anthologies generates. Examples of Buddhist scriptural anthologies will be drawn from across the Buddhist world.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3800.

[Religion 1722. Buddhist Ethics]
Catalog Number: 38661
Charles Hallisey (Divinity School)
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
A systematic exploration of Buddhist views of moral anthropology and the place of moral reflection in Buddhist thought and practice. The scope of the course is wide, with examples drawn from the whole Buddhist world, but the emphasis will be given to the particularity of different Buddhist visions of human

flourishing. Attention will also be given to the challenges and promises of describing Buddhist ethics in a comparative perspective.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3576.

[Religion 1737. Buddhist Practices of Self-Cultivation]
Catalog Number: 81494 Enrollment: Limited to 15.
Janet Gyatso (Divinity School)
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
This seminar will study classic Buddhist accounts of meditation and moral cultivation. The seminar will consist in close readings of a few outstanding works that focus on processes of meditative absorption; imaginative exercises to develop compassion and reconfigure one's moral compass and self-image in light of the suffering of others; and yogic/tantric practices that mobilize bodily energies and sensations in order to facilitate such transformative realization. In the process of reading these materials we will also take recourse to writings by Foucault on his notion of "technologies of the self."
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3553.

Religion 1741. Modern Buddhism and Fiction
Catalog Number: 23554
Charles Hallisey (Divinity School)
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
An examination of how fiction is a vehicle for religious reflection in the modern Buddhist world. The genres of fiction will include both the novel and the short story, with examples drawn widely from across the Buddhist world.
Note: Offered jointly with the Divinity School as 3777.

[Religion 1742. Introduction to Buddhist Narrative and Story Literature]
Catalog Number: 90183
Charles Hallisey (Divinity School)
Half course (fall term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
An introduction to the study of narrative and story literature in the Buddhist world. A primary focus will be on the narrative and story literature found in Buddhist scriptures and commentaries, but there will also be consideration of examples of narrative and story literature that circulated independently. Examples will be drawn from across the Buddhist world.
Note: Expected to be given in 2015–16. Offered jointly with the Divinity School as 3776.

Cross-listed Courses

[Anthropology 1996. Angels, Ghosts, and Hustlers: Bangkok Live]
[East Asian Studies 191. Zen: History, Culture, and Critique]

Primarily for Graduates

Cross-listed Courses

[East Asian Buddhist Studies 240r. Japanese Buddhist Doctrine and Monastic Culture: Seminar]
[East Asian Buddhist Studies 245r. Ritual and Text in Japanese Buddhist Literature]
[East Asian Buddhist Studies 255. Readings on Chinese Religions: Recent Scholarship on Chinese Buddhism: Seminar]
[East Asian Buddhist Studies 256r (formerly East Asian Buddhist Studies 256). Chinese Buddhist

Texts--Readings in Medieval Buddho-Daoist Documents: Seminar]
Tibetan 219r. Tibetan Religious Literature: Seminar

Islam

Primarily for Undergraduates

Cross-listed Courses

Aesthetic and Interpretive Understanding 54 (formerly Culture and Belief 12). For the Love of God and His Prophet: Religion, Literature, and the Arts in Muslim Cultures
[Culture and Belief 19 (formerly Foreign Cultures 70). Understanding Islam and Contemporary Muslim Societies]
[Culture and Belief 41 (formerly Historical Study A-67). Gender, Islam, and Nation in the Middle East and North Africa]
Societies of the World 46 (formerly Anthropology 1621). The Anthropology of Arabia

For Undergraduates and Graduates

[Religion 1802. Introduction to Islamic Mysticism: The Sufi Tradition]
Catalog Number: 3830
Ali S. Asani
Half course (spring term). Hours to be arranged.
Introductory survey of Sufism, focusing on its fundamental concepts, ritual practices, institutions, and its impact on literary and sociopolitical life in different Muslim societies.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3620. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for either Foreign Cultures or Literature and Arts C, but not both.
Prerequisite: An introductory course in Islam or equivalent helpful but not essential.

Religion 1806. The Vocabulary of Islam
Catalog Number: 1701
M. Shahab Ahmed
Half course (fall term). M., W., 1–2:30 and an hour to be arranged. EXAM GROUP: 6, 7
Provides students with knowledge of a broad range of key concepts, technical terms, seminal questions, and cultural motifs internal to the Islamic tradition. These constitute a vocabulary related to Quran and exegesis, Hadith, law, theology, political thought, philosophy, Sufism, ritual, literature, art, and architecture, that has permeated Islamic discourses, practices, and identities down to the modern period, and that is central to an informed understanding and further study of Islam as religion and civilizational complex.
Note: Offered jointly with the Divinity School as 3978. May only be taken for a letter grade. Not open to auditors. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Literature and Arts C. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

Religion 1810. Reading the Qur'an
Catalog Number: 23798 Enrollment: Limited to 20.
R. Michael Feener

Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
This course is dedicated to an understanding of the primary scripture of Islam in the contexts of Muslim history and the broader 'History of Religions.' It begins with an examination of the Arabian context in which the selected Qur'an was first revealed to Muhammad and the complex process of its later of compilation. Thence we proceed on to critical analyses of the text itself as well as selected readings in Qur'anic exegesis (tafsir). Later sections of the class will address issues related to the role of the Qur'an in the cultural and political histories in diverse areas of the Muslim world.
Note: Offered jointly with the Divinity School as 3363.
Prerequisite: No previous background in Islamic Studies or Arabic language is required for this course.

Religion 1816. Ismaili History and Thought
Catalog Number: 18808
Ali S. Asani
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
This course explores the doctrines and practices of the Ismailis, adherents of a minority branch of Shia Islam that recognizes the continuation of religious authority after the Prophet Muhammad through a particular line of his descendants known as the Imams. Focusing on their historical evolution and manifestations in diverse political, cultural and social contexts, the course will consider three major communities: the Nizari Ismailis (in Syria, Iran, Central Asia, and South Asia); the Tayyibi (Daudi Bohra) Ismailis (in Yemen and South Asia) and the Druze (in Syria and Lebanon). Principal themes to be considered include conceptions of the Imamah and notions of authority, messianic doctrines, philosophy, ritual practice and devotional traditions. The course will also briefly consider the contemporary situation of these communities as minorities in North America and Europe.
Note: Offered jointly with the Divinity School as 3939.
Prerequisite: Introductory course on Islam or permission of instructor.

[*Religion 1820. Muslim Societies in South Asia: Religion, Culture, and Identity]
Catalog Number: 2741
Ali S. Asani
Half course (spring term). Hours to be arranged.
South Asia is home to the largest concentration of Muslims in the world. This course surveys the development of Muslim communities in the region focusing on an exploration of their identities in diverse contexts. Issues and themes will be considered within religious and socio-political contexts, as well as the broader framework of South Asian cultures as expressed in language, literature, and the arts. The course also examines various ways in which the terms "Islamic" and "Muslim" are understood in pre-modern and modern discourses as well as the lived experiences of being Muslim in contemporary India, Pakistan, and Bangladesh.
Note: Expected to be given in 2014–15. Offered jointly with Divinity School as 3625. This course, when taken for a letter grade, meets the General Education requirement for either Culture and Belief or Societies of the World, but not both. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.
Prerequisite: Introductory course in Islam or equivalent.

[Religion 1832. Political Islam in the 20th and 21st Centuries]
Catalog Number: 43973
Malika Zeghal
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course reviews the literature produced by social scientists and historians on the origins, ideologies, and political practices of 20th century Islamist movements as well as on their evolution in the early 21st

century.
Note: Expected to be given in 2014–15. Offered jointly with the Divinity School as 3361.

Religion 1844. Religion, Gender, Identity in 21st Century Diasporic Muslim Fiction - *(New Course)*
Catalog Number: 23206 Enrollment: Limited to 25.
Leila N. Ahmed (Divinity School)
Half course (fall term). W., 1–4. EXAM GROUP: 6, 7, 8
We will read 21st century novels by writers of Muslim background based in Europe and the United States—among them Hisham Matar, *In the Country of Men*, Laila Lalami, *Secret Son*, Mohsin Hamid, *The Reluctant Fundamentalist* and Leila Aboulela, *The Translator Among Them*—paying particular attention to the interplay of religion, gender, identity, and to the range of ways in which Islam — as faith, culture, way of life, ideology — figures in the texts.
Note: Offered jointly with the Divinity School as 3590.

Cross-listed Courses

[*History 1977a (formerly *History 1877a). History of the Near East, 600-1055: Conference Course]
[History of Science 108. Bodies, Sexualities, and Medicine in the Medieval Middle East]
[History of Science 111. Two Scientific Revolutions: From the Classical Age of Islamic Sciences to the Scientific World of Early Modern Europe]
[History of Science 113. Crusades, Plagues and Hospitals: Medicine and Society in the Islamic Middle Ages]
[Islamic Civilizations 103. Orientalism: Old and New Perspectives]
Islamic Civilizations 130. Islamization and Vernacularization: Religious and Cultural Dynamics in the History of Muslim Southeast Asia - *(New Course)*
[Islamic Civilizations 145a. Introduction to Islamic Philosophy and Theology: The Formative and Classical Periods (8th to 15th centuries)]
[Islamic Civilizations 180. Contemporary Islam: Texts and Contexts]
[Islamic Civilizations 183. Reform and Revival in Modern Islam, 19th -20th centuries]
[Islamic Civilizations 185. Ulama, Religious Institutions, and Islamic Education in the Middle East]
[The Modern Middle East 105 (formerly Near Eastern Civilizations 105). Peoples and Societies of the Middle East]
[The Modern Middle East 120. The Arab Revolutions: popular uprisings and political transformations]

Primarily for Graduates

Religion 2800. Sources and Methods for Research in Islamic Studies - *(New Course)
Catalog Number: 34351
M. Shahab Ahmed
Half course (spring term). M., 4–6:30. EXAM GROUP: 9
A hands-on introduction to the source material necessary for research in Islamic studies.
Note: May only be taken for a letter grade. Not open to auditors.
Prerequisite: Advanced reading competence in Arabic.

Cross-listed Courses

Comparative Literature 211. Mysticism and Literature
[History of Science 209. Science, Religion and Culture: Debates, Methods and Controversies]
Islamic Civilizations 205ar. The Satanic Verses Problem in History I

Islamic Civilizations 205br. The Satanic Verses Problem in History II
[*Islamic Civilizations 221. Does the Fiqh Know a Concept of Natural Law?]
[*Islamic Civilizations 223. The Islamic Ritual's Influence on the Legal Reasoning of the Fiqh]
[*Islamic Civilizations 241r. Approaches to Studying Indo-Muslim Culture and South Asian Islam]
[*The Modern Middle East 220. The Spring of 2011 in the Middle East]

African and Afro-Atlantic Religions

For Undergraduates and Graduates

Religion 1910. Beyond Peasants and Proletarians: Black Religions and the Social Sciences in the 20th Century - *(New Course)*
Catalog Number: 33457 Enrollment: Limited to 20.
Jonathan Lee Walton (Divinity School)
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
This course will introduce students to the leading "schools" of social scientific thought throughout the first half of the twentieth century in regards to religion, race and ethnicity. Major topics to be addressed include anthropological and sociological approaches that led to Africanisms, cultural relativism and particularism on the one hand, versus universalism, acculturation, and assimilation on the other. Beyond evaluating the works of leading proponents of aforementioned approaches, students will also engage social context, political motivations, and economic influences that animated the early growth of the social sciences in general, and work on religion and race more specifically. Readings will include Nathaniel Shaler, W.E.B. Du Bois, Franz Boas, Zora Neale Hurston, Newbell Niles Puckett, Robert Park, Hortense Powdermaker, Benjamin Elijah Mays et al.
Note: Offered jointly with the Divinity School as 3262.

Religion 1915. Existential - Phenomenological Anthropology - *(New Course)*
Catalog Number: 20943 Enrollment: Limited to 30.
Michael D. Jackson (Divinity School)
Half course (fall term). Th., 12–2. EXAM GROUP: 14, 15
The aim of this seminar course is to familiarize students with some of the topics, themes and methods associated with existential phenomenological thought, and to explore ways in which this tradition may prove useful to students in their own research and writing. Key concepts include intentionality and temporality, the *epoché*, the body-subject, praktognosis, flow experience, life world, intersubjectivity, the *illusio*, being-in-the world (*Dasein*), narrativity, space and place, language and experience, the emotions and the imagination.
Note: Offered jointly with the Divinity School as 3819.

Religion 1920. The Politics of Storytelling - *(New Course)*
Catalog Number: 76854
Michael D. Jackson (Divinity School)
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
This course addresses Hannah Arendt's thesis that storytelling is a critical strategy for bridging the gap between private and public realms. Storytelling is thus understood as a mode of social and political activity that involves a struggle between personal and collective representations of the "truth" and between unofficial and official versions of events. Through the close analysis of storytelling in a variety of situations, we will explore the ways in which the meaning of stories resides not in any ahistorical essence or internal logic, but emerges from the everyday human struggle to strike a balance between domains of experience that are, on the one hand, felt to belong to oneself or one's own kind, and, on the

other, felt to be shared by or to belong to others.
Note: Offered jointly with the Divinity School as 3859.

Cross-listed Courses

African and African American Studies 104. Witchcraft, Rituals and Colonialism
[African and African American Studies 104x. Gender and Sexuality in Black Atlantic Religions]
[African and African American Studies 104y. Transnational Feminisms]
[African and African American Studies 104z. Voodooizations and the Politics of Representation]
[African and African American Studies 136. Black Religion and Economic Thought]
[African and African American Studies 160. Christianity, Identity, and Civil Society in Africa]
African and African American Studies 161. Religion, Diaspora, and Migration: Seminar
[African and African American Studies 162. Indigenous Religious Traditions and Modernity: Seminar]
African and African American Studies 187. African Religions
African and African American Studies 192x. Religion and Society in Nigeria
[Anthropology 1667. Africa, Modernity and Ethnography: Seminar]

Primarily for Graduates

Cross-listed Courses

African and African American Studies 214. Ethnography of the African Diaspora: Race, Gender and Power

Chinese and Japanese Religions

Primarily for Undergraduates

Cross-listed Courses

Aesthetic and Interpretive Understanding 36. Buddhism and Japanese Culture
Culture and Belief 33. Introduction to the Study of East Asian Religions
Culture and Belief 57. Animated Spirituality: Japanese Religion in *Anime*, *Manga*, and Film - *(New Course)*
Ethical Reasoning 18 (formerly Moral Reasoning 78). Classical Chinese Ethical and Political Theory
Societies of the World 12 (formerly Historical Study A-13). China
Societies of the World 13 (formerly Historical Study A-14). Japan in Asia and the World

For Undergraduates and Graduates

Cross-listed Courses

[Anthropology 1996. Angels, Ghosts, and Hustlers: Bangkok Live]
East Asian Studies 140. Major Religious Texts of East Asia
[Japanese History 115. Religion and Society in Edo and Meiji Japan]
[Japanese History 117. Japanese Folk Religion: Conference Course]

Japanese History 120. Religion and Society in Twentieth-Century Japan
[Japanese History 126. Shinto: Conference Course]

Primarily for Graduates

Cross-listed Courses

[East Asian Buddhist Studies 240r. Japanese Buddhist Doctrine and Monastic Culture: Seminar]
[East Asian Buddhist Studies 245r. Ritual and Text in Japanese Buddhist Literature]
[East Asian Buddhist Studies 255. Readings on Chinese Religions: Recent Scholarship on Chinese Buddhism: Seminar]
[East Asian Buddhist Studies 256r (formerly East Asian Buddhist Studies 256). Chinese Buddhist Texts--Readings in Medieval Buddho-Daoist Documents: Seminar]
Japanese History 256. The Ise Shrines: Seminar - *(New Course)*

Graduate Courses of Reading and Research

***Religion 3000. Direction of Doctoral Dissertations**
Catalog Number: 1933
Ryuichi Abe 4974, M. Shahab Ahmed 5273, Ali S. Asani 7739 (on leave fall term), Giovanni Battista Bazzana (Divinity School) 6873, Janet Browne 5511, Davíd L. Carrasco 4213, Francis X. Clooney (Divinity School) 1785, Nancy F. Cott 4261, Diana L. Eck 4514, Francis Fiorenza (Divinity School) 2735, Marla F. Frederick 4728, Luis M. Girón Negrón 3060, William Albert Graham 4156, Janet Gyatso (Divinity School) 4243, David D. Hall (Divinity School) 2510, Helen Hardacre 3191, David Neil Hempton (Divinity School) 5974, Albert Henrichs 4085, Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Amy Hollywood (Divinity School) 5547, Baber Johansen (Divinity School) 5295, Beverly M. Kienzle (Divinity School) 2452, Karen L. King (Divinity School) 4217, Arthur Kleinman 7473, James T. Kloppenberg 3157, David Lamberth (Divinity School) 3714, Jon D. Levenson (Divinity School) 2264, Peter Machinist 2812 (on leave 2013-14), Kevin J. Madigan (Divinity School) 4287, Everett I. Mendelsohn 2700, Anne E. Monius (Divinity School) 4489, Roy Mottahedeh 1454 (on leave spring term), Laura S. Nasrallah (Divinity School) 4834, Jacob Olupona 5608, Parimal G. Patil 4478, Kimberley C. Patton (Divinity School) 3306, Stephanie A. Paulsell (Divinity School) 5382, Matthew Lawrence Potts (Divinity School) 7525 (spring term only), Michael J. Puett 1227, Elisabeth Schüssler Fiorenza (Divinity School) 3193, P. Oktor Skjaervo 2869 (on leave spring term), Charles Stang (Divinity School) 6204, Jonathan Lee Walton (Divinity School) 6462, Malika Zeghal 6744 (on leave 2013-14), and Leonard W. J. van der Kuijp 1556
Note: May also be taken with other instructors, when authorized by the Chair.

***Religion 3001. Reading and Research**
Catalog Number: 7954
Ryuichi Abe 4974, M. Shahab Ahmed 5273, Ali S. Asani 7739 (on leave fall term), Giovanni Battista Bazzana (Divinity School) 6873, Janet Browne 5511, Davíd L. Carrasco 4213, Francis X. Clooney (Divinity School) 1785, Nancy F. Cott 4261, Harvey G. Cox, Jr. (Divinity School) 3479, Diana L. Eck 4514, Francis Fiorenza (Divinity School) 2735, Marla F. Frederick 4728, Luis M. Girón Negrón 3060, William Albert Graham 4156, Janet Gyatso (Divinity School) 4243, David D. Hall (Divinity School) 2510, Charles Hallisey (Divinity School) 3032, Helen Hardacre 3191, Jay M. Harris 2266, David Neil Hempton (Divinity School) 5974, Evelyn Brooks Higginbotham 3517 (on leave 2013-14), Amy Hollywood (Divinity School) 5547, Michael D. Jackson (Divinity School) 5524, Beverly M. Kienzle (Divinity School) 2452, Karen L. King (Divinity School) 4217, Arthur Kleinman 7473, James T. Kloppenberg 3157, Helmut H. Koester (Divinity School) 3477, David Lamberth (Divinity School) 3714, Jon D. Levenson (Divinity

School) 2264, Peter Machinist 2812 (on leave 2013-14), Kevin J. Madigan (Divinity School) 4287, Daniel P. McKanan (Divinity School) 6387, Everett I. Mendelsohn 2700, David G. Mitten 1290, Anne E. Monius (Divinity School) 4489, Roy Mottahedeh 1454 (on leave spring term), Laura S. Nasrallah (Divinity School) 4834, Jacob Olupona 5608, Parimal G. Patil 4478, Kimberley C. Patton (Divinity School) 3306, Stephanie A. Paulsell (Divinity School) 5382, Matthew Lawrence Potts (Divinity School) 7525, Michael J. Puett 1227, Mayra Rivera Rivera (Divinity School) 6897 (fall term only), Elisabeth Schüssler Fiorenza (Divinity School) 3193, Charles Stang (Divinity School) 6204, D. Andrew Teeter (Divinity School) 6111, Jonathan Lee Walton (Divinity School) 6462, Malika Zeghal 6744 (on leave 2013-14), and Leonard W. J. van der Kuijp 1556
Note: May also be taken with other instructors, when authorized by the Chair.

***Religion 3002. Foreign Language Certification**
Catalog Number: 4791
Members of the Committee
Reading and research conducted in a specific foreign language, normally French or German, to satisfy the modern language reading proficiency requirement for PhD students in the Study of Religion.
Note: Limited to PhD candidates who receive written permission from the Committee's Director of PhD Studies.

Romance Languages and Literatures

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Romance Languages and Literatures

Virginie Greene, Professor of Romance Languages and Literatures *(Chair)*
Daniel Aguirre Oteiza, Lecturer on Romance Languages and Literatures
Janet Beizer, Professor of Romance Languages and Literatures *(Director of Graduate Studies)*
Carole Bergin, Preceptor in Romance Languages and Literatures
Josiah Blackmore, Nancy Clark Smith Professor of the Language and Literature of Portugal
Kahlil Chaar-Pérez, College Fellow in the Department of Romance Languages and Literatures
Aurélie Chevant, Preceptor in Romance Languages and Literatures
Tom Conley, Abbott Lawrence Lowell Professor of Romance Languages and Literatures and of Visual and Environmental Studies
Verena A. Conley, Visiting Professor of Comparative Literature and of Romance Languages and Literatures
Sergio Delgado, Assistant Professor of Romance Languages and Literatures *(Undergraduate Adviser in Latin American Studies)*
Elvira G. DiFabio, Senior Preceptor in Romance Languages and Literatures *(Associate Director of Undergraduate Studies and Undergraduate Adviser in Italian)*
Francesco Erspamer, Professor of Romance Languages and Literatures *(on leave spring term)*
Luis Fernández-Cifuentes, Robert S. and Ilse Friend Professor of Romance Languages and Literatures *(on*

leave 2013-14)
Lorgia H. García Peña, Assistant Professor of Romance Languages and Literatures and of History and Literature
Mary M. Gaylord, Sosland Family Professor of Romance Languages and Literatures
Luis M. Girón Negrón, Professor of Romance Languages and Literatures and of Comparative Literature *(Director of Undergraduate Studies and Undergraduate Adviser for Romance Studies)*
Adriana Gutiérrez, Senior Preceptor in Romance Languages and Literatures
Sylvaine Guyot, Assistant Professor of Romance Languages and Literatures *(Undergraduate Adviser in French)*
Alice Jardine, Professor of Romance Languages and Literatures and of Studies of Women, Gender, and Sexuality *(on leave fall term)*
Clémence Jouët-Pastré, Senior Preceptor in Romance Languages and Literatures *(Undergraduate Adviser in Portuguese)*
Stacey Katz Bourns, Senior Lecturer on Romance Languages and Literatures *(Director of Language Programs)*
Johanna Damgaard Liander, Senior Preceptor in Romance Languages and Literatures *(Undergraduate Adviser in Spanish)*
Maria Grazia Lolla, Lecturer on Romance Languages and Literatures
Andreea Marculescu, College Fellow in the Department of Romance Languages and Literatures and ACLS New Faculty Fellow
Christopher H. Maurer, Visiting Professor of Romance Languages and Literatures
Christie McDonald, Smith Professor of French Language and Literature and of Comparative Literature
Nicole Mills, Senior Preceptor in Romance Languages and Literatures
Giuliana Minghelli, Lecturer on Romance Languages and Literatures
Maria Luisa Parra-Velasco, Senior Preceptor in Romance Languages and Literatures
Lino Pertile, Carl A. Pescosolido Professor of Romance Languages and Literatures
Mylène Priam, Associate Professor of Romance Languages and Literatures
José Rabasa, Visiting Professor of Romance Languages and Literatures
Guilherme Trielli Ribeiro, Lecturer on Romance Languages and Literatures, Preceptor in Romance Languages and Literatures
Jeffrey Schnapp, Professor of Romance Languages and Literatures
Nicolau Sevcenko, Professor of Romance Languages and Literatures
Mariano Siskind, John L. Loeb Associate Professor of the Humanities *(on leave 2013-14)*
Doris Sommer, Ira Jewell Williams, Jr. Professor of Romance Languages and Literatures and of African and African American Studies *(on leave spring term)*
Diana Sorensen, James F. Rothenberg Professor of Romance Languages and Literatures and of Comparative Literature, and Dean of Arts and Humanities
Susan R. Suleiman, C. Douglas Dillon Professor of the Civilization of France and Professor of Comparative Literature *(on leave fall term)*

Other Faculty Offering Instruction in the Department of Romance Languages and Literatures

Joaquim-Francisco Coelho, Nancy Clark Smith Professor of the Language and Literature of Portugal and Professor of Comparative Literature, Emeritus
Franco Fido, Carl A. Pescosolido Professor of Romance Languages and Literatures, Emeritus
John T. Hamilton, Professor of Comparative Literature and of Germanic Languages and Literatures

Affiliates of the Department of Romance Languages and Literatures

Mayra Rivera Rivera, Associate Professor of Theology and Latina/o Studies *(Divinity School)*

Romance Languages and Literatures offers courses in Catalan, French, Italian, Portuguese, and Spanish, as well as in Latin American Studies, and Romance Studies. Courses appear below under these headings. Letters A-D and numbers 30-99 indicate courses designed primarily for undergraduates. Courses numbered 100-199 are open to both undergraduates and graduate students. 200-level courses are intended primarily for graduate students and, exceptionally, to advanced undergraduates.

Course groupings reflect both progression in level of language study and diversity of thematic focus.

GROUP I: Courses focused on language acquisition. Courses A-D offer beginning and early intermediate instruction in language. Courses 20-59 give special attention to the development of language skills in a variety of literary and cultural contexts. Courses number 59 combine language study and engagement with living language communities in the Boston area.

GROUP II: Courses designed to introduce students to systematic study of literature and culture. Courses 60-69 offer effective bridges between the studies of language, culture, and literature. Courses 70-79 introduce major works and currents of literary history as preparation for 100-level literature courses. Courses 80-99 include specialized undergraduate seminars, tutorials, and independent study. Courses numbered 60-99 require approximately the same level of language proficiency.

GROUP III: Advanced courses in literature and culture. Numbers 100-199 reflect period, regional, and thematic groupings. All courses in this group assume the same degree of language proficiency.

GROUP IV: 200-299 Graduate courses, chiefly seminars.

Additionally, department faculty offer courses (some of which are cross-listed below) in General Education, the Freshman Seminar program, the Department of Literature and Comparative Literature, Visual and Environmental Studies, and in Studies of Women, Gender, and Sexuality, among others. For further offerings in general and comparative Romance literatures, see listings of the Department of Literature and Comparative Literature.

Students interested in earning a foreign language citation in a Romance language should read carefully the sections on Catalan, French, Italian, Portuguese, and Spanish in the description of "Citations in Foreign Language" in the Academic Performance section of the FAS Student Handbook. In general, language courses C and above can count toward a citation if they are taken in sequence and if they meet the criteria set forth in the Student Handbook. Literature courses taught in the target language can normally be taken for citation credit, but students should consult with the Director of Language Programs in Romance Languages and Literatures for exact information.

Several members of the Romance Languages and Literatures faculty offer intensive courses through the Harvard Summer Abroad Program. These courses count for Harvard undergraduate degree credit, and may count for Romance Languages and Literatures concentration credit. For more information please see http://www.fas.harvard.edu/~rll/undergraduate/study—abroad.html.

No language courses may be taken Pass/Fail. Graduate students in the Faculty of Arts and Sciences may take language courses (numbered A-54) for a grade of Sat/Unsat, with permission of the course head. All Romance language courses, 100-level and above, may be taken Pass/Fail without course head’s signature unless otherwise noted. Undergraduates are free to enroll in 200-level graduate courses only with permission of the course head. No auditors are allowed in lettered language courses or in courses

numbered 30 to 69. No one may enter A level courses after the eighth meeting of the class, Acd, Bab, or Dab classes after the first meeting, or C or 30 level courses after the sixth meeting.

Catalan

Primarily for Undergraduates

Catalan Ba. Introduction to Catalan
Catalog Number: 2153
Stacey Katz Bourns and members of the Department
Half course (fall term; repeated spring term). Tu., Th., 3–5. EXAM GROUP: 17, 18
An introductory course in spoken and written Catalan, the language of approximately ten million people in Spain, France, Italy, and Andorra, and the most widely used of minoritized languages in Europe today. Native Catalan speakers include Antonio Gaudí, Salvador Dalí, Joan Miró, Antoni Tàpies, Mercè Rodoreda, and Pau Casals. Emphasizing oral communication, reading, and writing, offers students contact with contemporary Catalan culture.
Note: Conducted in Catalan. Knowledge of another Romance language is useful but not essential. Not open to auditors. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students.

[Catalan 20. Catalan Language and Culture: a Multimedia Approach]
Catalog Number: 2559
Stacey Katz Bourns and members of the Department
Half course (spring term). Tu., Th., 3–4:30. EXAM GROUP: 17, 18
Intermediate course introducing students to Catalan culture and boosting their oral and written skills through a wide range of resources, such as Internet, television, radio, and press. Students will get a taste of various aspects of Catalan culture: art, cinema, music, literature, traditions, cuisine, history, and more.
Note: Expected to be given in 2014–15. Conducted in Catalan. Not open to auditors. May not be taken Pass/Fail by undergraduates, but may be taken Sat/Unsat by GSAS students.
Prerequisite: Catalan Ba, basic knowledge of Catalan, or permission of course head.

***Catalan 91r. Supervised Reading and Research**
Catalog Number: 2578
Stacey Katz Bourns and members of the Department
Half course (fall term; repeated spring term). M., W., 3:30–5.
Tutorial supervision of research on subjects not treated in regular courses. May be used for further language study after Catalan Ba or 20.

[Catalan 93. Barcelona and the Catalan Culture] - *(New Course)*
Catalog Number: 58773
Instructor to be determined
Half course (spring term). Hours to be arranged.
The course offers an interdisciplinary approach to Barcelona, a multilayered space furnished by Roman, French, Muslim, and Spanish legacies that shaped a singular culture and language. Developing from periods of egalitarian social and political institutions in the Middle Ages to strong socioeconomic industrial development in the 19th century and later tourism, Spain's most European city is inscribed by a deep sense of civic and industrious society permanently seeking innovation and modernity, yet facing the consequences of its complex past. Through readings of historians, art critics, urban designers, and writers, and supported by visual materials, the course offers an integrated perspective which opens questions in every field of the Humanities and the Social Sciences on Catalan and Hispanic Cultures.
Note: Expected to be given in 2014–15.

French

All students with some previous French in secondary school are required to take the placement test if they have not taken the SAT II, AP, or IB examinations in French. The term "placement score" or "placement test" hereafter refers to the French placement test given during Freshman Week for freshmen, and usually on the day preceding Registration Day for returning students.

Students who receive a grade of 5 in the College Board Advanced Placement Examinations in French Literature or Language are admitted directly into French courses numbered in the 40s, 50s, and 60s or 70a, 70b, or 70c, with permission of course head, and also into 100-level courses of French literature with permission of course head. For details of Advanced Placement see the pamphlet *Advanced Standing at Harvard College* or contact the Director of the Program of Advanced Standing.

Primarily for Undergraduates

French Aa. Beginning French I: French Identity through Visual Media
Catalog Number: 12968
Nicole Mills and members of the Department
Half course (fall term; repeated spring term). Fall: M. through Th., sections at 9, 10, 11, 12, or 1. Spring: M. through Th., sections at 10 or 1. EXAM GROUP: Fall: 2, 11; Spring: 3, 12
This elementary French course provides an introduction to French with emphasis on interpersonal communication and the interpretation and production of language in written and oral forms. Students engage in interactive communicative activities, both online and in the classroom, that provide rich exposure to the French and francophone language and culture. The course addresses the theme of identity through engagement in the discussion and interpretation of various French visual media including video, images, and film.
Note: French Aa is an elementary French course for students with little or no knowledge of French. French Aa may count toward the language requirement. Open to students who have not previously studied French or who have scored below 300 on the Harvard placement exam. Students who have studied French for two years or more in secondary school must begin at French Ab or higher. May not be taken Pass/Fail. Not open to auditors. Graduate students at GSAS may take the course Sat/Unsat with permission of course head. Section on-line on the French Aa iSite.

French Ab. Beginning French II: Exploring Parisian Life and Identity
Catalog Number: 28075
Nicole Mills and members of the Department
Half course (fall term; repeated spring term). Fall: M. through Th., sections at 9 or 1. Spring: M. through Th., sections at 9, 10, 11, 12, or 1. EXAM GROUP: Fall: 2, 11; Spring: 3, 12
In the second course in the Elementary French sequence, students will engage in an online simulation of life in Paris while exploring diverse facets of Parisian identity. Through the interpretation and analysis of Parisian texts, film, paintings, and photography, students will actively engage in oral and written communication in the past, present, and future. Students will learn to make suggestions, express emotions and opinions, extend invitations, and convey hypothetical situations.
Note: French Ab may count towards the language requirement. May not be taken Pass/Fail. Not open to auditors. Graduate students at the GSAS may take the course Sat/Unsat with the permission of course head. Section on-line on the French Ab iSite.
Prerequisite: Completion of French Aa, or a score no lower than 301 and no higher than 450 on the SAT II test or the Harvard Placement test.

***French Acd. Intensive Beginning French: Parisian Identity through Visual Media**
Catalog Number: 8780
Nicole Mills and members of the Department
Full course (fall term; repeated spring term). M. through F., at 10 and Tu., Th., at 11. EXAM GROUP: 3
This intensive Beginning French course provides an accelerated introduction to Beginning French with intensive work on interpersonal communication and interpreting and producing language in written and oral forms. Students explore diverse facets of Parisian identity through the interpretation of various forms of visual media. Students learn to speak and write in the past, present, and future, make descriptions, ask questions, make comparisons, accept and refuse invitations, give advice, and express hypothetical situations, emotions, and opinions.
Note: May not be used to fulfill the language requirement and may not be taken Pass/Fail or Sat/Unsat. Not open to auditors. Students must participate in an interview with the French Acd course head and receive permission to enroll in the course. The on-line request form is available on the French Acd iSite and must be submitted by August 26, 2013 (Fall Term) and December 10, 2013 (Spring Term).
Prerequisite: An advanced knowledge of at least one foreign language but no previous study of French.

French Ax. Reading Modern French
Catalog Number: 2763
Stacey Katz Bourns and members of the Department
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An introduction to reading and translating modern French texts for students who require only a basic knowledge of French for research purposes. French Ax presents the principle structures of French grammar in a systematic and coherent manner and, at the same time, makes reading and translation assignments as discipline-specific as possible for each student's needs. An introduction to reading and translating modern French texts for students who require only a basic knowledge of French for research purposes. French Ax presents the principle structures of French grammar in a systematic and coherent manner and, at the same time, makes reading and translation assignments as discipline-specific as possible for each student's needs.
Note: Conducted in English. Not open to students with a score of 500 or above on the Harvard Placement Test or the SAT II French test, to those with more than one year of undergraduate French, or to auditors. May not be used to fulfill the language requirement and may not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. See details and section on-line on the French Ax website.
Prerequisite: Some previous study of a Romance language helpful but not necessary. Fluency in English required.

French C. Intermediate French: The Culture of Food and Friendship in Francophone Countries
Catalog Number: 58289
Carole Bergin and members of the Department
Half course (fall term; repeated spring term). Fall: M. through Th., sections at 9, 10, 11 or 12; Spring: M. through Th., sections at 9 or 11. EXAM GROUP: 2, 11
In this intermediate level language course, students will study and discuss issues faced in contemporary France and other francophone countries. Students will interpret French and francophone culture, in particular the different customs surrounding food and friendship, through a variety of texts, films, and multimedia resources, while participating in a range of oral and written communicative activities. Students will also review and refine their knowledge of various grammatical structures.
Note: Conducted in French. May count toward the language requirement. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the French C website.
Prerequisite: A score no lower than 451 and no higher than 600 on the SAT II test or the Harvard Placement Test; 3 years of French in high school; French A, Ab, Acd, or Bab; or permission of course head.

French 30. Advanced Language Review
Catalog Number: 36981
Carole Bergin and members of the Department
Half course (fall term; repeated spring term). Section I: Tu., Th., 10-11:30; Section II: Tu., Th., 11:30-1. EXAM GROUP: 12, 13
An advanced language course focusing on current events in France and other francophone countries as they are represented in various types of media. Students will engage in discussions and interactive written and oral activities around these current events, while using the necessary discourse strategies, vocabulary and idiomatic expressions. Through analyzing and interpreting the topics presented by the media, students will also reflect on the issues of perspective, objectivity and freedom of expression in all media.
Note: Conducted in French. May not be audited or taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. See details and section on-line on the French 30 website.
Prerequisite: A score no lower than 601 and no higher than 680 on the SAT II test or the Harvard Placement test; French C, Ca, Cb; or 25; or permission of course head

French 40. Upper-level French I: Language and Culture
Catalog Number: 74519
Aurélie Chevant and members of the Department
Half course (fall term; repeated spring term). Tu., Th., 10–11:30; Tu., Th., 11:30–1; Tu., Th., 10–11:30. EXAM GROUP: 12, 13
An advanced French language and culture course designed to enhance all language skills. Using various types of texts (including, but not limited to, French films), students gain insights into French culture, improve their grammar, and build their understanding of language in context.
Note: Conducted in French. May not be taken Pass/Fail but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the French 40 website.
Prerequisite: French 30, 681-720 on the SAT II test or the Harvard Placement test; or permission of course head.

French 50. Upper-level French II: Advanced Composition
Catalog Number: 22997
Aurélie Chevant and members of the Department
Half course (fall term; repeated spring term). Tu., Th., 10–11:30; Tu., Th., 11:30–1. EXAM GROUP: 12, 13
A continuation of French 40. This course builds on the interpersonal, interpretive, and presentational skills acquired in French 40, with a particular emphasis on honing students' writing proficiency. Students will study and reproduce various genres of written and spoken French, focusing on the goals and perspectives of the writer or speaker.
Note: Conducted in French. Students may take no more than two courses numbered in the 50s. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the French 50 website.
Prerequisite: French 40; a score of 721-750 on the SAT II test or the Harvard Placement test; or permission of course head.

French 55. Business French
Catalog Number: 7122
Carole Bergin and members of the Department
Half course (spring term). Section I, Tu., Th., 10-11:30; Section II, Tu., Th., 11:30-1. EXAM GROUP: 12, 13
Using articles and multimedia resources that focus on the current business and economic climate in France, students will interpret practices, customs, and "intangibles" in the French business world.

Students will also work on improving their communication skills, often in a simulated professional environment. Interactive oral and written activities are used to prepare students to work or travel for business in French-speaking countries. Those enrolled may take the Paris Chamber of Commerce and Industry exams and obtain an official diploma attesting to their proficiency in French.
Note: Conducted in French. May not be audited or taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Students may take no more than two courses numbered in the 50s. See details and section on-line on the French 55 website.
Prerequisite: A score of 721-750 on the SAT II test or the Harvard Placement test; French 40 or 50; or permission of course head.

***French 59. French and the Community**
Catalog Number: 13398
Carole Bergin
Half course (fall term). Tu., Th., 11:30-1:00. EXAM GROUP: 13, 14
An advanced French language course, where students will explore Haitian culture in the classroom and in the community. In class students will work on interactive oral and written activities using a variety of texts and media. In the community, through teaching French to Haitian-American children in community organizations within the Greater Boston area, students will develop their oral communication skills and acquire first-hand insights into Haitian culture. Introduces students to some methods for teaching a foreign language.
Note: Interested students must apply in writing no later than August 28, 2012 to Carole Bergin. More information can be found on the French 59 website. Students may take no more than two courses numbered in the 50s.
Prerequisite: French 40 or 50; a placement score of 721-750 on the SAT II test or the Harvard Placement test; or permission of course head.

***French 61c. The New Wave: Reinventing French Cinema**
Catalog Number: 81858
Stacey Katz Bourns and members of the Department
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
In this introductory course about the Nouvelle Vague, students gain a unique perspective on French society, culture, and film in the 1950s and 1960s by studying the works of Jean-Luc Godard, François Truffaut, Éric Rohmer, Jacques Rivette, and Claude Chabrol (among others). Students develop their writing and reading skills through film analysis and hone their speaking ability and listening comprehension through film screenings, examination of dialogue, and class discussions.
Note: Conducted entirely in French. Not open to auditors. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Students may take no more than two courses at the 60-level (not including French 60).
Prerequisite: French 50 or another French course at the 50-level; 751-780 on the SAT II or the Harvard placement test; or permission of the course head.

***French 61h. Being French: Historical and Societal Considerations**
Catalog Number: 89626
Stacey Katz Bourns and members of the Department
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
This course examines the concept of a "French identity" from the principles of the Enlightenment to the contemporary debates and political controversies about national identity. Through the exploration of historical, literary, sociological and philosophical texts, as well as film and multimedia resources, we will focus on individuals, symbolic places, ideological discourses and narratives that have contributed to the formation and questioning of a French national identity.

Note: Conducted entirely in French. Not open to auditors. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Students may take no more than two courses at the 60-level in French.
Prerequisite: French 50 or another French course at the 50 level; 751-780 on the SAT II or the Harvard placement test; or permission of course head.

***French 61m. Modern Stories about Paris**
Catalog Number: 0575
Stacey Katz Bourns
Half course (spring term). Tu., Th., 11:30–1; Tu., Th., 11:30–1.
This course examines contemporary narratives set in Paris. Students explore writers' and filmmakers' perceptions of Paris and analyze the different ways in which the Parisian experience is presented. By reading and viewing stories about Paris, students gain insights into methods of narration and integrate various techniques into their own writing and speaking. They also develop a sophisticated understanding of how the French language is evolving, especially in its spoken form.
Note: Conducted in French. Not open to auditors. May not be taken Pass/Fail. Students may take no more than two courses at the 60 level (not including French 60). Not open to students who have already taken French 51.
Prerequisite: French 50 or another French course at the 50 level; 751-780 on the SAT II or the Harvard placement test; or permission of course head.

French 70a. Introduction to French Literature I: From the Middle Ages to Modernity
Catalog Number: 2865
Tom Conley
Half course (fall term). M., W., at 11, and an additional weekly section hour to be arranged. EXAM GROUP: 4
Readings and discussion of texts of various genres representative of central trends in French literature from the Middle Ages through the 18th century. Emphasis on developing analytical skills by tracing the transformations of ethical, literary, philosophical and social currents.
Note: Conducted in French. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.
Prerequisite: A 50- or 60-level course in French; a score above 780 on the SAT II test or the Harvard Placement test; equivalent preparation; or permission of course head.

French 70b. Introduction to French Literature II. 19th and 20th Centuries: Tales of Identity
Catalog Number: 6720
Janet Beizer
Half course (spring term). Tu., Th., at 11, with additional one hour section to be announced. EXAM GROUP: 13
How do we know ourselves? Traditional definitions of the self have been founded on family, gender, race, religion, nationality. We'll read a number of texts from the 19th-21st centuries that pose questions and complicate answers to questions of identity. Readings include works by Claire de Duras, Balzac, George Sand, Merimee, Colette, Nothomb, and LeClezio.
Note: Conducted in French; third hour devoted to discussion of texts studied. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.
Prerequisite: A 50- or 60-level course in French; a score above 780 on the SAT II test or the Harvard Placement test, equivalent preparation, or permission of course head.

[French 70c. Introduction to French Literature III: The Francophone World]
Catalog Number: 6432
Mylène Priam

Half course (fall term). W., 1-3, and an additional weekly section hour to be arranged. EXAM GROUP: 6, 7
Studies literature and film from sub-Saharan Africa, the Maghreb, the Caribbean, Québec, Vietnam, and Afghanistan. Discussions centered on questions of cultural identity, language, postcoloniality, diaspora, trauma and memory.
Note: Expected to be given in 2014–15. Conducted in French. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.
Prerequisite: A 50- or 60-level course in French; a score above 780 on the SAT II test or the Harvard Placement test, equivalent preparation, or permission of course head.

French 71a. Classicism and Modernity: An Introduction to Performance - *(New Course)
Catalog Number: 65809 Enrollment: Limited to 15.
Sylvaine Guyot
Half course (fall term). Tu., Th., 11–12:30. EXAM GROUP: 13, 14
Is the stage of the past the "other" of modern theater? We will explore the relationship between classicism and modernity by considering a set of plays representative of central trends in French drama from the early modern age to contemporary times. Readings include the most famous playwrights of both the 17th (Molière, Corneille, Racine) and the 20th-21st centuries (Sartre, Badiou, Lagarce, N'Diaye). Special emphasis paid to the ideological power of images through theatrical workshops and video versions of recent productions. The final project consists of an excerpt to be performed in French.
Note: Conducted in French. May not be taken for credit by students who have previously taken French 61a.
Prerequisite: A 50- or 60-level course in French; a score above 780 on the SAT II test or the Harvard Placement test, equivalent preparation, or permission of course head. Interested students must apply in writing to Professor Guyot no later than September 3, 2013.

French 90w. "Bad" Women in French Literature - *(New Course)*
Catalog Number: 40034
Andreea Marculescu
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This course studies how societal and historical norms can be approached and investigated from perspectives of so-called "bad" femininity. Literary texts may include Jean d'Arras Mélusine, Corneille's Médée, Molière's Les Femmes Savantes, Flaubert's Madame Bovary, Proust's Du côté de chez Swann and Ken Bugul's Le Baobab fou. We will also approach these texts through the lenses of contemporary critical feminist and queer theory using relevant texts by thinkers such as Michel Foucault, Judith Butler, Luce Irigaray and Sara Ahmed.
Note: Conducted in French.

***French 91r. Supervised Reading and Research**
Catalog Number: 3954
Sylvaine Guyot and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Tutorial supervision of research on subjects not treated in regular courses.
Note: Limited to juniors and seniors. Students wishing to enroll must petition the Undergraduate Adviser in French for approval, stating the proposed project, and must have the consent of the proposed instructor. Ordinarily, students are required to have taken some coursework in the area as background for their project. May not be taken more than twice, and only once for concentration credit.

***French 97. Tutorial—Sophomore Year: The Politics of Poetics: An Introduction to Literary and Cultural Analysis**

Catalog Number: 0173
Alice Jardine
Half course (spring term). W., 4–6.
An introduction to literary and cultural interpretation as it has evolved in French Studies since World War II. Our conversations will be structured around rigorous analysis of key literary works in relation to literary theory, semiotics, psychoanalysis, and politics.
Note: Required of concentrators in French and Francophone Studies in their sophomore year. May also be taken as the Sophomore Tutorial by concentrators in Romance Studies. Open to non-concentrators with permission of course head.

***French 98. Tutorial—Junior Year**
Catalog Number: 0879
Sylvaine Guyot and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Weekly individual instruction for juniors pursuing a thesis honors track in French and Francophone Studies, culminating in the writing of a 20-25 page research paper in French.
Note: Successful completion of one term of French 98 or equivalent is required of all thesis-track honors concentrators in French and Francophone Studies.

***French 99. Tutorial—Senior Year**
Catalog Number: 2836
Sylvaine Guyot and members of the Department
Full course. Hours to be arranged.
Weekly individual instruction for students writing a senior thesis.
Note: For honors seniors writing a thesis. Successful completion of two terms of French 99 is required of all thesis-track honors concentrators. Students who do not complete a thesis are required to submit a substantial paper in order to receive either half course or full course credit.
Prerequisite: Satisfactory completion of a junior tutorial and faculty approval of proposed thesis topic.

Cross-listed Courses

***Freshman Seminar 31o. Negotiating Identity in Postcolonial Francophone Africa and the Caribbean**

For Undergraduates and Graduates

Open to students with 800 on the Harvard Placement Test or SAT II, a score of 5 on the Advanced Placement Test in language or literature, previous coursework at Harvard of an appropriate level, or by permission of course head.

[French 102. Introduction to Medieval Literature and Old French]
Catalog Number: 9929
Virginie Greene
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Provides students with literary and cultural means of exploring French medieval literature. We will study verse and prose works from the 12th to the 15th century, using editions in Old French and translations in modern French.
Note: Expected to be given in 2014–15. Conducted in French. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.

French 103md (formerly French 90md). Doctors and Patients in Medieval and Early-Modern French Literature
Catalog Number: 79088
Virginie Greene, Tom Conley, and Andreea Marculescu
Half course (spring term). M., W., 11:30–1. EXAM GROUP: 4, 5
We will explore issues related to health and disease, patients and doctors, disabilities and epidemics in a variety of sources including romances, miracles, fabliaux, medical treatises, and chronicles. We will also use critical and historical studies.
Note: Conducted in French.

French 127. Talking About Food - *(New Course)*
Catalog Number: 63702
Janet Beizer
Half course (fall term). Tu. 1-3 and W. 12-1. EXAM GROUP: 5, 15, 16
In the 19th century food became an object of aesthetic discourse, a focus of gustatory enjoyment and verbal pleasure. Readings include 19th-century food writers and novelists, and contemporary historians, commentators, and theorists.
Note: Excellent reading knowledge of French required; class discussions in English or French, to be decided.

French 130. Re-Imagining the Early Modern Subject - *(New Course)*
Catalog Number: 11489
Christie McDonald and Sylvaine Guyot
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
Analysis of connections between sensibility and the rational in literary, artistic, philosophical and political discourses of the French 17th and 18th Century. Discussion of works by La Bruyere, Descartes, Mme de Lafayette, Poussin, Racine, Chardin, Diderot, Prévost, Rousseau, among others, in the transition from absolutism to the Revolution .

[French 136. *A La Française:* French Feminisms Today]
Catalog Number: 3845
Alice Jardine
Half course (fall term). Tu., Th., at 12; . EXAM GROUP: 14
Close readings of postwar French fiction and theory with emphasis on what is called “the feminine” in key psychoanalytic, philosophical, and literary writings of the French poststructuralist tradition. In particular, we will focus on fifty years of dialogue between postwar theory in France and feminist practice in the United States. Writers considered include Cixous, Duras, Hyvrard, Irigaray, Kristeva, and Wittig as well as Deleuze, Derrida, and Lacan.
Note: Expected to be given in 2014–15.
Prerequisite: Excellent reading knowledge of French.

French 139b. The 18th Century: Ethical Dilemmas - *(New Course)*
Catalog Number: 28098
Christie McDonald
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
Questions how notions of personhood and otherness inhabit the emergent novel, exploring the way in which events and values are resisted or subsumed in literary discourse and the kind of social and political responsibility that accompanies it. Readings will be taken from the works of Charrière, Gouges, Laclos, Marivaux, Montesquieu, Rousseau, Sade, Voltaire, etc.
Note: Conducted in French.

[French 143. Vision and Violence in 17th Century France]
Catalog Number: 23944
Sylvaine Guyot
Half course (spring term). Hours to be arranged.
Explores early modern ways of depicting and showing violence (physical, political, domestic, supernatural). The spectacle of violence represents a site of cultural conflict during the 17th century, since it implies both the pleasure taken by the viewer and the risk of imitation. Readings include plays, tragic histories, utopian and travel literature, historical and theoretical texts (Foucault, Rancière, Marin, Elias, Lyotard), and the analysis of images (paintings, frontispieces).
Note: Conducted entirely in French. Expected to be given in 2014–15.

French 148c. Performing in French: A Production of a Modern Tragedy - *(New Course)*
Catalog Number: 82781 Enrollment: Limited to 15.
Sylvaine Guyot
Half course (spring term). Tu., at 11; Th., 1–3. EXAM GROUP: 13
This course focuses on the preparation of a student-led production of a contemporary French play, and concludes with a performance in French at the end of the semester. To react to the challenges we will face in staging a "modern tragedy", we will examine the diversity of tragic forms and motifs since the 17th century up to our days through the close readings of a given set of plays, as well as the main trends in the contemporary staging, through the viewing and discussion of video versions of recent productions.
Prerequisite: A 60-level course in French, French 71a, or permission of instructor. Interested students must apply in writing to Professor Guyot no later than January 28, 2014.

[French 157. The Hermaphroditic Imagination]
Catalog Number: 1338
Janet Beizer
Half course (spring term). Hours to be arranged.
While official scientific and social positions in the nineteenth century uphold rigid distinctions between women and men, the imaginary life of the period is haunted by the hermaphrodite and other figures that play on the margins of sexual division, challenging the separation of the spheres. We'll read and discuss hermaphroditic fictions chosen from Balzac, George Sand, Gautier, Flaubert, Zola, and Rachilde.
Note: Expected to be given in 2014–15. Conducted in French.

[French 165. Marcel Proust]
Catalog Number: 4620 Enrollment: Limited to 20.
Christie McDonald
Half course (spring term). W., 1-3, and an additional weekly section hour to be arranged. EXAM GROUP: 6, 7
In Proust's novel, *A la recherche du temps perdu*, questions of time and memory, truth and signification, literature and philosophy converge to ask: who am I? What does it mean to become a writer? Readings include selections from each tome of the novel and significant critical texts. Offered in conjunction with the interdisciplinary conference "Proust and the Arts" (April 2013). Students will attend related exhibits and performances, and may submit a creative final project.
Note: Expected to be given in 2014–15. The language of class discussion (French or English) will be determined. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.
Prerequisite: An excellent reading knowledge of French.

French 167. Parisian Cityscapes: 1960-Present
Catalog Number: 7641

Verena A. Conley
Half course (fall term). M., 3–5; W., at 7 p.m. EXAM GROUP: 8, 9
Focuses on the transformations of Paris and the very concept of city under the impact of globalization and decolonization. By way of film, fiction, music, architecture and critical texts studies the effects of modernization and architectural reconstruction on the city's inhabitants. Also explores tensions between traditional and urban cultures, between the inner city and the banlieue.
Note: Conducted in French. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

French 177. Poetic Revolutions
Catalog Number: 31502
Verena A. Conley
Half course (spring term). M., 3–5. EXAM GROUP: 8, 9
Focuses on major poets of the 19th-21st centuries (Hugo, Nerval, Baudelaire, Rimbaud, Mallarmé, Apollinaire, Char, Michaux, Glissant, Cixous, Deguy and others) whose revolutionary aesthetics bear on ethics and politics.
Note: Conducted in French.

French 185. National Identity and Narrative Representation in 20th-Century Francophone Literature - *(New Course)*
Catalog Number: 38109
Mylène Priam
Half course (fall term). Th., 12–2. EXAM GROUP: 14, 15
Through works of prominent Francophone authors from various origins who discuss their own comprehension - fictionalized, poetic or autobiographic - of being French and/or African, Cuban, Eastern European, etc., we explore the plural foundations of contemporary France and the question of French cultural, national or social identity to examine, question, deconstruct issues namely of territoriality, boundaries, nomadism, exile, ethnicity, citizenship, notions of Republic, national or continental sentiment.

French 188. They Write in French from Egypt, Lebanon, and the Maghreb: Feminine Voices
Catalog Number: 60203
Mylène Priam
Half course (spring term). W., 12–2. EXAM GROUP: 5, 6
Explores the multifaceted and polyphonic presence on the literary landscape of French expression, of women writers from North Africa, Egypt, Lebanon, and Iran, whose writings are a continued dialogue between feminist and gender theory, western feminine literature, the defense of the cultural particularities of their regions, and transnationalism. Works by Assia Djebar, Leïla Sebbar, Malika Mokkedem, Nadia Chafik, Vénus Khoury-Ghata, Andrée Chedid, Nawal el Saadawi, Evelyne Accad, Chahdortt Djavann.
Note: Conducted in French.

Cross-listed Courses

History of Art and Architecture 159. Art and Literature in Renaissance France
[*Literature 104. On Theory]
[Literature 113. Existential Fictions: From Saint Augustine to Jean-Paul Sartre and Beyond]
[Literature 129. Reading the 18th Century Through 21st-Century Eyes]
[*Literature 146. Space and Place in Postmodern Culture]
Literature 150. Colonial and Post-Colonial Spaces: France-North Africa
Literature 157. From Type to Self in the Middle Ages

Literature 165. Trauma and Representation: The Holocaust in Literature, Memorials, and Film
Literature 173. Politics of Aesthetics: Worlds, Objects, Matter, Sensation
***Studies of Women, Gender, and Sexuality 1127. Beyond the Sound Bite: Women, Gender, and Sexuality in The Daily News**
[Visual and Environmental Studies 183. Cinema and the Auteur]
[Visual and Environmental Studies 192 (formerly Foreign Cultures 21). Cinema and French Culture from 1896 to the Present]
Visual and Environmental Studies 193. Fortunes of a Genre: The Western - *(New Course)*

Primarily for Graduates

[French 213. In Search of a Medieval Subject]
Catalog Number: 0952
Virginie Greene
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
We will read various medieval authors ranging from Augustine to Christine de Pizan to identify a medieval subjectivity. Modern texts on subjectivity will be used as a counterpoint.
Note: Expected to be given in 2014–15. Conducted in French. Open to qualified undergraduates with permission of the instructor.

French 216. The Romance of the Rose
Catalog Number: 80366
Virginie Greene
Half course (fall term). W., 10–12. EXAM GROUP: 3, 4
Merging courtly love with Aristotelian quest for knowledge, the *Roman de la Rose* is one of the most influential medieval texts. We will read the Rose in company of related classical and medieval texts, such as Boethius' *Consolation of Philosophy,* troubadours poetry or the exchange of letters between Christine de Pizan and literati of her time about the Rose. We will also take into consideration manuscript illustration. .
Note: Conducted in French or English, to be determined by class composition. Readings in French

[French 225. How to Read Drama. Theater History/Theories of Representation]
Catalog Number: 20449
Sylvaine Guyot
Half course (fall term). M., 3–5. EXAM GROUP: 8, 9
Examines French drama from the early-modern stage to post-dramatic theater from literary, theoretical, historical, and visual culture perspectives. We read dramatic texts (16th-21st century), theories of performance, visual sources, treatises on acting.
Note: Conducted in French. Expected to be given in 2014–15.

French 226. Tragic Bodies. French Classicism Revisited - *(New Course)*
Catalog Number: 92736
Sylvaine Guyot
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
French neoclassical tragedies are typically known for their de-emphasis of the body's presence. This seminar seeks to address this neglected topic by considering the incarnation on stage of heroism, the (re)presentation of loss and violence, and the emerging ideal of tenderness and gallantry in the drama of Corneille and Racine, as well as of few other playwrights. Special emphasis paid to the political, philosophical and aesthetic contexts. Intersection of drama, dance, and painting will be explored.

Theoretical readings include Agamben, Barthes, Certeau, Didi-Huberman, Foucault, Marin, Rancière.
Note: Conducted in French. Open to qualified undergraduates with permission of the instructor.

French 255. Metamorphoses of the Vampire
Catalog Number: 49177
Janet Beizer
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
The vampire myth came of age with literary modernism and shares with it an identity in displacement, fragmentation, and fluidity. Texts may include Baudelaire, Nodier, Balzac, Gautier, Maupassant, Rachilde, Stoker, Coppola, and theory.
Note: Conducted in French or English.

[French 259. The Culture of Hysteria: From Nineteenth-Century France to Here and Now]
Catalog Number: 3349
Janet Beizer
Half course (fall term). Th., 3–5. EXAM GROUP: 17, 18
As we read nineteenth-century medical, literary, and cultural texts with contemporary analogues, we ask why hysteria flourished in that time and place, and now this one, and trace the diagnosis as symptom of a broader cultural malaise.
Note: Expected to be given in 2014–15. Conducted in English. Most readings in French.

French 268. "Foreigners" in French, from Beckett to Littell
Catalog Number: 65916
Susan R. Suleiman
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
Examines fiction and non-fiction by emigrant writers who have chosen French as their literary language. Special attention to themes of memory, history, and foreignness. Works by Beckett, Némirovsky, Sarraute, Kundera, Kristeva, Semprun, Sijie, others.

[French 270. War and Memory: Representations of World War II and the Occupation in Postwar French Literature, History, and Film]
Catalog Number: 59011
Susan R. Suleiman
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
France was the only country in Western Europe that both "lost" and "won" World War II. We explore individual and collective consequences of that split. Works by Sartre, Céline, Simon, Duras, Modiano, Ophuls and others.
Note: Expected to be given in 2014–15. Conducted in French and English; good reading knowledge of French essential.

[French 271. Legacies of Post-structuralism: Politics, Ethics and Aesthetics]
Catalog Number: 8448
Verena A. Conley
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Focuses on French philosophers and theorists who re-evaluate post-structuralism (Deleuze, Derrida, Foucault) through the prism of contemporary dilemmas such as democracy, community, citizenship, subjectivity, exclusion and trauma. Texts by Nancy, Rancière, Balibar, and Malabou will be paired with works of fiction and film where applicable.
Note: Expected to be given in 2014–15. Language of class discussion (French or English) to be determined.

French 295. Theorizing the Francophone Caribbean
Catalog Number: 22596
Mylène Priam
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Discusses leading intellectuals and writers' representations of the region through key literary theories and concepts, and innovative approaches to culture and identity. Examines critical approaches (i.e. ecocriticism) to rethink the Caribbean in our global world.
Note: Conducted in French.

Cross-listed Courses

[*Comparative Literature 257. Trauma, Memory, and Creativity]
Comparative Literature 278. Failure and Change (Graduate Seminar in General Education)
***Visual and Environmental Studies 270. Proseminar in Film and Visual Studies: History**
***Visual and Environmental Studies 271. Proseminar in Film and Visual Studies: Theory**

Graduate Courses of Reading and Research

Advanced graduate students reading in the field of a proposed doctoral dissertation or working in a field of specific interest not covered by courses may propose individual projects of reading and research to be undertaken under the direction of individual members of the Department.

***French 320. French Literature: Supervised Reading and Research**
Catalog Number: 1798
Janet Beizer 3957, Tom Conley 1908, Verena A. Conley 2250, Virginie Greene 1007, Sylvaine Guyot 6320, Alice Jardine 7457 (on leave fall term), Christie McDonald 1160, Mylène Priam 5302, and Susan R. Suleiman 7234 (on leave fall term)

***French 330. Direction of Doctoral Dissertations**
Catalog Number: 7843
Janet Beizer 3957, Tom Conley 1908, Verena A. Conley 2250, Virginie Greene 1007, Sylvaine Guyot 6320, Alice Jardine 7457 (on leave fall term), Christie McDonald 1160, Mylène Priam 5302, and Susan R. Suleiman 7234 (on leave fall term)

Italian

All students with some previous Italian in secondary school are required to take the placement test if they have not taken the SAT II, AP, or IB examinations in Italian. The term "placement score" or "placement test" hereafter refers to the Harvard Italian placement test. For information about signing up for the Harvard Placement Exam, visit http://placement-info.fas.harvard.edu.

Students who receive a grade of 5 in the College Board Advanced Placement Examinations in Italian are admitted directly into Italian courses numbered in the 30s or higher, with permission of the course head. For details of Advanced Placement see the pamphlet Advanced Standing at Harvard College or contact the Director of the Program of Advanced Standing.

Primarily for Undergraduates

Italian Aa. Beginning Italian I: Pathways to Italy
Catalog Number: 4309

Elvira G. DiFabio and members of the Department
Half course (fall term; repeated spring term). Fall: M. through Th., sections at 9, 10, 11, 12. Spring: M. through Th., at 12. EXAM GROUP: Fall: 2, 11; Spring: 5, 14
For students with little or no knowledge of Italian. Aims at achieving basic communication skills and vocabulary. Emphasis on oral expression and listening comprehension. The cultural component examines everyday life through a comparative perspective: families, shopping, food culture. This course will give you the language you need to communicate effectively in Italy, and is the best way to prepare for a summer study in Italy. Course materials include workbook, audio-lab, and video.
Note: Conducted in Italian. Students whose placement score does not entitle them to enter a more advanced course are assigned to Italian Aa. Students who have studied Italian for two years or more in secondary school must begin at Italian Ab or higher. May not be taken Pass/Fail but may be taken Sat/Unsat by GSAS students. Section on-line on the Italian Aa website. Not open to auditors.

Italian Ab. Beginning Italian II: The Art and Craft of Italy
Catalog Number: 7029
Elvira G. DiFabio and members of the Department
Half course (fall term; repeated spring term). Fall: M. through Th., at 12. Spring: M. through Th., sections at 9, 10, or 12. EXAM GROUP: Fall: 5, 14; Spring: 2, 11
Continuation of Italian Aa, second semester beginning level. Increasing emphasis on reading and writing. The cultural component includes units on fashion, music, literature and film, as well as capsules on the history of modern Italy, through select readings and a feature-length film. Course materials include workbook, audio-lab and video.
Note: May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Section on-line on the Italian Ab website. Not open to auditors.
Prerequisite: Italian Aa, or a score of 450 or less on the SAT II test or the Harvard Placement test, or a score of 3 or less on the AP Italian exam, or two years of high school Italian, or permission of course head.

***Italian Acd. Intensive Beginning Italian: Special Course: Gateway to Italy**
Catalog Number: 3065 Enrollment: Limited to 15.
Elvira G. DiFabio and members of the Department
Full course (fall term; repeated spring term). M., W., F., at 10, and Tu., Th., 10-11:30. . EXAM GROUP: Fall: 3, 12, 13; Spring: 3
A complete first-year course in one term for students with no knowledge of Italian, focused on developing all four communicative skills. Students are introduced to contemporary Italian culture through a variety of topics from everyday life (family, shopping, food, fashion) to the arts (music, literature, cinema). Materials include films and cultural readings that present capsules on the history of modern Italy. Excellent choice for students planning to study in Italy.
Note: May not be taken Pass/Fail but may be taken Sat/Unsat by GSAS students. Students who have not placed out of the language requirement must take one full year of a language. Italian Acd taken alone may not be used to fulfill the language requirement. However, there are ways to combine Italian Acd with another course in order to fulfill the language requirement. Consult Dr. Elvira DiFabio or the Undergraduate Adviser in Italian for details. Conducted in Italian. Not open to auditors.
Prerequisite: An advanced knowledge of at least one foreign language, preferably a modern Romance language, but no previous study of Italian.

Italian Ax. Reading Italian
Catalog Number: 4015
Elvira G. DiFabio and members of the Department
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16

For students (both undergraduate and graduate) with little or no knowledge of Italian. Aims at the rapid development of reading skills as a tool for research. Selections of materials in accordance with the needs of the participants.
Note: Not open to auditors. May not be used to fulfill the language requirement. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students.
Prerequisite: Some previous study of a Romance language helpful but not necessary. Fluency in English required.

Italian C. Intermediate Italian: Romance! Mystery? Noir...
Catalog Number: 29891 Enrollment:
Elvira G. DiFabio and members of the Department
Half course (fall term; repeated spring term). Fall: M. through Th., at 12; M. through Th., at 9; Spring: M. through Th., at 12. EXAM GROUP: 5, 14
Discover the "colors" or Italian pop lit, from romance to crime stories to graphic novels. This course aims to build reading skills, and includes a structured review of grammar. Course materials include multi-media projects that increase language proficiency and cultural awareness.
Note: Conducted in Italian. May count toward the language requirement. May not be taken by students who have previously taken Italian Ca, Cb or Dab. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Section on-line on the Italian C website. Not open to auditors.
Prerequisite: A score of 451-600 on the SAT II test or the Harvard Placement test; Italian Ab, Acd, or Bab; or permission of course head.

Italian 30. Upper-Level Italian: Italian Through Art
Catalog Number: 44998 Enrollment:
Elvira G. DiFabio and members of the Department
Half course (fall term; repeated spring term). M. through Th., at 12. EXAM GROUP: 5, 14
Revisiting structures and refining speaking and writing skills through an arts interface. Students work closely with the collection at the Harvard Art Museum for assignments that build on receptive and productive communicative skills. Course materials may include films, popular music, operatic libretti and literary texts. Consult course website for current semester topics.
Note: Conducted in Italian. May not be taken by students who have previously taken Italian 35 or 36. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors.
Prerequisite: Italian C, Ca, Cb, or Dab; a score of 601-680 on the SAT II test or the Harvard Placement test; or permission of course head.

Italian 40. Advanced Oral Expression and Performance
Catalog Number: 0804 Enrollment:
Elvira G. DiFabio and members of the Department
Half course (fall term; repeated spring term). Tu., Th., 1–2:30. EXAM GROUP: Fall: 15, 16
Ciak, si parla! Students develop oral expression and communication skills through the close reading of texts that are meant for performance, such as plays, film scripts, poetry, and music. Variation in diction and presentation techniques culminates in the adaptation and production of one or more of these texts for a public performance at the end of the term. Consult course website for current semester topics.
Note: Conducted in Italian. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Appropriate for concentrators electing the Italian Studies or Romance Studies track. Not open to auditors.
Prerequisite: A score of 681-720 on the SAT II or the Harvard Placement Test; Italian 30, 35 or 36; equivalent preparation; or permission of course head.

Italian 50. Advanced Written Expression. Italy in Other Words
Catalog Number: 26649

Elvira G. DiFabio, Maria Grazia Lolla (spring term), and members of the Department
Half course (fall term; repeated spring term). Fall: M., W., at 10, and an additional hour to be arranged; Spring: Tu., Th., 1–2:30. EXAM GROUP: Fall: 3; Spring: 15, 16
Italia scritta e descritta. A theme-based course designed to develop advanced competence in written expression through guided examination of stylistics and pragmatics. The course includes readings from a variety of literary genres, films, workshops, and a series of guest lectures by our faculty on design, women and society, cinema, fiction, and other subjects. Consult the course website for current semester topics.
Note: Conducted in Italian. Appropriate for concentrators electing the Italian Studies or Romance Studies track. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors.
Prerequisite: A score between 721-750 on the SAT II or on the Harvard Placement Test; Italian 40; or permission of course head.

***Italian 91r. Supervised Reading and Research**
Catalog Number: 2287
Elvira G. DiFabio and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Tutorial supervision of research on subjects not treated in regular courses.
Note: Limited to juniors and seniors. Students wishing to enroll must petition the Undergraduate Adviser in Italian for approval, stating the proposed project, and must have the consent of the proposed instructor. Ordinarily, students are required to have taken some course work in the area as background for their project. May not be taken more than twice, and only once for concentration credit.

***Italian 96r. Italian and the Community: Italy. Academic Internships in Italian Language and Culture: Special Course**
Catalog Number: 3749
Elvira G. DiFabio and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
An opportunity to engage in the practical applications of Italian language and culture in an immersion environment. Internships may include placement in a variety of sectors, including public education, the media and the arts. Students must submit a written proposal to Dr. DiFabio by August 31, 2013 for Fall term enrollment and by January 23, 2014 for Spring term enrollment.
Note: Though academic internships may be arranged in the Greater Boston area, this course can be proposed as integral to a study abroad program in Italy, the details of which are to be coordinated in consultation with the course head and the Office of International Education. Students are expected to produce substantial research papers based on relevant class work and field placements. The student, under the guidance of faculty and study abroad advisers, is responsible for arranging the terms of the internship.
Prerequisite: Italian 50 or the consent of the course head.

***Italian 98. Tutorial—Junior Year**
Catalog Number: 1167
Elvira G. DiFabio and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Weekly individual instruction for juniors pursuing a thesis honors track in Italian Studies, culminating in the writing of a 20-25 page research paper in Italian.
Note: Successful completion of one term of Italian 98 (or equivalent) is required of all thesis-track honors concentrators in Italian Studies.

***Italian 99. Tutorial — Senior Year**
Catalog Number: 7840

Elvira G. DiFabio and members of the Department
Full course. Hours to be arranged.
Weekly individual instruction for students writing a senior thesis in Italian.
Note: For honors seniors writing a thesis. Successful completion of two terms of Italian 99 is required of all thesis-track honors concentrators. Students who do not complete a thesis are required to submit a substantial paper in order to receive either half course or full course credit.
Prerequisite: Satisfactory completion of a junior tutorial and faculty approval of proposed thesis topic.

Cross-listed Courses

For Undergraduates and Graduates

Italian 102. Italian Pop: Comics, Mass Media, Folk Culture
Catalog Number: 4259
Giuliana Minghelli
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Introduction to Italian popular culture through songs, TV shows, comics, popular films and fiction. We will discover and analyze competing inscriptions of "Italianness" and the ongoing creation of their meaning over the past half-century. We will read texts in the socio-historical context of the *miracolo economico* of the early sixties, the political upheaval of the late sixties and seventies, the *riflusso* of the eighties, the political *glasnost* of the nineties, up to contemporary times.
Note: Conducted in Italian. Appropriate for concentrators in the Italian Studies and Romance Studies tracks, as well as for students pursuing a secondary field in Italian.
Prerequisite: Italian 50; a score above 750 on the SAT II test or the Harvard Placement test; or permission of course head.

[Italian 103 (formerly Italian 82). Italian Travels]
Catalog Number: 55887
Elvira G. DiFabio
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
An exploration of the identities of Italy through travel, including that of Italians living abroad and non-Italians in contemporary Italy. Students will investigate these issues from a wide variety of sources, including literary and historical voyages, sociological texts, news reports and feature films. Frequent oral and written assignments.
Note: Expected to be given in 2014–15. Conducted in Italian. Appropriate for concentrators in the Italian Studies and Romance Studies tracks, as well as for students pursuing a secondary field in Italian.
Prerequisite: Italian 50; a score above 750 on the SAT II test or on the Harvard Placement test; or permission of course head.

[*Italian 104 (formerly Italian 44). *Effetto Commedia:* What Makes Italians Laugh?]
Catalog Number: 5776
Elvira G. DiFabio
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Comedy Italian-style in cinema and its origins, from Totò to Benigni. Presents students with another dimension of Italian culture, while increasing communicative effectiveness. Presentational skills addressed through weekly written assignments and oral reports; grammar review in context. Weekly feature-length film.
Note: Expected to be given in 2014–15. Conducted in Italian. Appropriate for concentrators in the Italian Studies and Romance Studies tracks, as well as for undergraduates pursuing a secondary field in Italian.
Prerequisite: Italian 50; or permission of course head.

Italian 113. On the Road and in the Streets: Sites of Transition in Italian Cinema and Literature (1941-to the present)
Catalog Number: 3827
Giuliana Minghelli
Half course (fall term). Tu., 11:30–1; F., 3:30–6:30. EXAM GROUP: 13, 14
Explores cinematic and literary use of the road as an alternative to controlled environments from Fascism to the present. From early road movies like Luchino Visconti's *Ossessione* to migration films like Gianni Amelio's *Lamerica*, the course explores how roads map social change, ethnographic observations, memory and forgetting and the hopes and fears of a rapidly evolving nation.
Note: Conducted in Italian or English, depending on class composition.

Italian 136. Cultural Migrations Between Africa and Italy - *(New Course)*
Catalog Number: 77008
Giuliana Minghelli
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
From the novels of Emilio Salgari, written at the height of the Italian colonial adventure, to the comics of Hugo Pratt and postmodern films of Pasolini and Antonioni, this course will investigate the representation of Africa in Italian culture. And reversing the gaze, what is the image of Italy in the texts of recent African immigrant writers?
Prerequisite: Reading knowledge of Italian.

[Italian 141. Renaissance Epic: War, Identity, Desire]
Catalog Number: 5328
Francesco Erspamer
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
We analyze the driving forces behind epic in the classic and medieval world—war, identity, and desire—and their transformation at the dawn of modernity. In order to prepare for the close reading of Torquato Tasso's *Jerusalem Delivered*, we will study and discuss selected cantos from the *Iliad*, the *Odyssey*, the *Aeneid*, the *Chanson de Roland*, Dante's *Divine Comedy*, Boiardo's *Orlando innamorato* and Ariosto's *Orlando Furioso*.
Note: Expected to be given in 2014–15. Conducted in Italian.

[Italian 163. On the Road: Journeys in Italian Cinema]
Catalog Number: 52019
Giuliana Minghelli
Half course (fall term). W., 2-4, and a required weekly film screening M., 5-8 p.m. EXAM GROUP: 13, 14

Note: Expected to be given in 2014–15. Conducted in Italian or English, depending on class composition. Readings available in the original Italian or in English translation.

Italian 171. Cultural History and Nation-Making: 1870-1920 - *(New Course)*
Catalog Number: 75661
Maria Grazia Lolla
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Introduction to the cultural history of Italy from the Risorgimento to the dawn of Fascism: war, work, education, music, fashion, festivals and cooking. Students will explore the interaction between literary texts and other cultural forms.
Note: Conducted in Italian or English depending on enrollments.

[Italian 175. Picturing Place: Landscape, Literature, and Cinema from the Eighteenth to the Twentieth Century]
Catalog Number: 76404
Giuliana Minghelli and Maria Grazia Lolla
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Changing approaches to the experience, representation and interpretation of the Italian landscape from the eighteenth to the twentieth century through literary texts, visual arts, and film. Authors will include Foscolo, Leopardi, Manzoni, Pasolini, Visconti, Rossellini, Antonioni.
Note: Expected to be given in 2014–15. Conducted in Italian or English, depending on class composition.
Prerequisite: Reading knowledge of Italian.

Italian 180. Making Italians: Poetry and Novel in the 19th Century - *(New Course)*
Catalog Number: 40641
Francesco Erspamer
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
The course discusses the two masterpieces of modern Italian literature, Giacomo Leopardi's *Canti* (Poems) and Alessandro Manzoni's *I promessi sposi* (The Betrothed), against the background of Risorgimento, the unification of Italy, and the affirmation of modernity.
Note: Conducted in English with sections in English and Italian (students can choose among the two sections).

Cross-listed Courses

Linguistics 101. The Science of Language: An Introduction

Primarily for Graduates

Italian 201r. Italian Studies Colloquium
Catalog Number: 6124
Giuliana Minghelli
Half course (spring term). M., 5-7pm.
Current scholars in the field of Italian Studies present their most recent works on literature, art and architecture, history, and the social sciences. Students also learn how to conduct video interviews and write book reviews.
Note: Conducted in Italian and English.

[Italian 262. About Time: Nostalgia, Apocalypse, and Change in Italian Culture]
Catalog Number: 3847
Francesco Erspamer
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Studies the development of the concept of time in modern thought, with examples drawn mostly from Italian literature. Readings include Galileo, Vico, Leopardi, Verga, Pirandello, Tomasi di Lampedusa, Buzzati.
Note: Expected to be given in 2014–15. Conducted in Italian.

Cross-listed Courses

Graduate Courses of Reading and Research

See Note to Graduate Courses of Reading and Research in French.

***Italian 320. Italian Literature: Supervised Reading and Research**
Catalog Number: 4834
Francesco Erspamer 5074, Franco Fido 2446, Giuliana Minghelli 4442, Lino Pertile 3416, and Jeffrey Schnapp 6277

***Italian 330. Direction of Doctoral Dissertations**
Catalog Number: 3679
Francesco Erspamer 5074, Franco Fido 2446, Giuliana Minghelli 4442, Lino Pertile 3416, and Jeffrey Schnapp 6277

Latin American Studies

Latin American Studies is an interdisciplinary concentration administered through Romance Languages and Literatures (RLL). Literature, History, Government, and Anthropology are among the sites where Latin American specialists offer a range of methods and materials to approach a complex cultural space. For additional courses offered in RLL in the field of Latin American Studies, see listings under Portuguese and Spanish.

Primarily for Undergraduates

[Latin American Studies 70. Modernity, Culture and Politics in Latin America]
Catalog Number: 3379
Mariano Siskind
Half course (spring term). Tu., 1-3 and an additional weekly section hour to be arranged. EXAM GROUP: 12, 13
Introduces students to central debates and problems that have shaped Latin American culture. We address questions of cultural identity, gender, race, politics, economics and aesthetics by looking at historical and literary texts, films, visual arts and urban development from an interdisciplinary perspective. We analyze colonial encounters; revolutions; US-Latin American relations; popular cultures from tango and samba to football and *carnaval*; Latin American cities and slums; and memory, trauma and traces of the region's dictatorships.
Note: Expected to be given in 2014–15. Conducted in Spanish. Readings in Spanish and English. This course, when taken for a letter grade, meets the Core area requirement for Foreign Cultures.

Latin American Studies 91r. Supervised Reading and Research
Catalog Number: 17128
Sergio Delgado and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Tutorial supervision of research on subjects not treated in regular courses.
Note: Limited to juniors and seniors. Students wishing to enroll must petition the Undergraduate Adviser in Latin American Studies for approval, stating the proposed project, and must have the consent of the proposed instructor. Ordinarily, students are required to have taken some course work in the area as background for their project. May not be taken more than twice, and only once for concentration credit.

***Latin American Studies 98. Tutorial—Junior Year**
Catalog Number: 1224
Sergio Delgado and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.

Weekly individual instruction for juniors pursuing a thesis honors track in Latin American Studies, culminating in the writing of a 20-25 page research paper in either Spanish or Portuguese.
Note: Successful completion of one term of Latin American Studies 98 (or equivalent) is required of all thesis-track honors concentrators in Latin American Studies in their junior year.

***Latin American Studies 99. Tutorial—Senior Year**
Catalog Number: 7959
Sergio Delgado and members of the Department
Full course. Hours to be arranged.
Weekly individual instruction for honors seniors writing a thesis.
Note: For honors seniors writing a thesis. Successful completion of two terms of Latin American Studies 99 is required of all thesis-track honors concentrators. Students who not complete a thesis are required to submit a substantial paper in order to receive either half course or full course credit.
Prerequisite: Satisfactory completion of a junior tutorial and faculty approval of proposed thesis topic.

For Undergraduates and Graduates

Cross-listed Courses

Portuguese

The term "placement score" or "placement test" below and in the various course descriptions refers to the Portuguese placement test given during Freshman Week for freshmen, and usually on Registration Day for returning students.

Primarily for Undergraduates

Portuguese Aa. Beginning Portuguese I
Catalog Number: 7130
Clémence Jouët-Pastré and members of the Department
Half course (fall term). M.,T., W., Th. , at 11, 12 or 1. EXAM GROUP: 4, 13
An introductory course designed to introduce the student with little or no knowledge of the language to the Portuguese-speaking world. Focuses on fundamental communication skills -- listening, speaking, reading, and writing -- and, at the same time, provides exposure to Portuguese-speaking cultures through media broadcasts, literature, films, music, and videos.
Note: Conducted in Portuguese. May not be taken Pass/Fail but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Portuguese Aa website. Students who have studied Portuguese for two years or more in secondary school must begin at Portuguese Ab or higher. Students with an advanced knowledge of Spanish should enroll in Portuguese Ac instead of Portuguese Aa.

Portuguese Ab. Beginning Portuguese II
Catalog Number: 30145
Clémence Jouët-Pastré and members of the Department
Half course (spring term). M., T., W., Th., at 12 or 1. EXAM GROUP: 5, 14
This course is a continuation of Portuguese Aa. By the end of the course, students should be able to communicate with native speakers about a wide range of topics, and they should have acquired insights into basic elements of Luso-Brazilian culture.
Note: Conducted in Portuguese. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Portuguese Ab website. Students with an advanced

knowledge of Spanish should enroll in Portuguese Ad instead of Portuguese Ab.
Prerequisite: Portuguese Aa or permission of course head.

Portuguese Ac. Beginning Portuguese for Spanish Speakers I
Catalog Number: 0430
Clémence Joüet-Pastré and members of the Department
Half course (fall term). M., T., W., Th., at 11, 12, 1 or 2. EXAM GROUP: 4, 13
An introductory language course designed for Spanish-speakers. Along with the fundamental communication skills—understanding, speaking, reading and writing—the course will focus on those features of Portuguese which are most difficult for Spanish speakers: pronunciation, idioms and grammatical structures particular to Portuguese. Students will be introduced to the cultures of the Portuguese-speaking world through readings and authentic materials, including films, music, and videotapes.
Note: Conducted in Portuguese. Requires a solid knowledge of but not necessarily native proficiency in Spanish. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Portuguese Ac website.
Prerequisite: 750 on the Spanish SAT II or the Harvard Placement test; 5 on the Spanish AP test; or a 40s level Spanish course.

Portuguese Ad. Beginning Portuguese for Spanish Speakers II
Catalog Number: 1315
Clémence Jouët-Pastré and members of the Department
Half course (spring term). M. through Th., at 11; M. through Th., at 12; M. through Th., at 1; M. through Th., at 12. EXAM GROUP: 4, 13
A continuation of Portuguese Ac. By the end of the second term, students should be able to communicate easily with native speakers and be acquainted with basic elements of Luso-Brazilian culture.
Note: Conducted in Portuguese. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Portuguese Ad website.
Prerequisite: Portuguese Ac or permission of course head.

Portuguese Ba. Introduction to Portuguese
Catalog Number: 0514
Clémence Jouët-Pastré and members of the Department
Half course (spring term). Section I, M., W., 3-5; Section II, Tu., Th., 3-5. EXAM GROUP: 8, 9
A basic introductory course for students who can devote only one term to the study of Portuguese. Teaches fundamental communication skills—understanding, speaking, reading and writing—but does not offer a complete study of grammar.
Note: Conducted in Portuguese. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Portuguese Ba website.

Portuguese C. Intermediate Portuguese
Catalog Number: 7692
Clémence Jouët-Pastré and members of the Department
Half course (fall term; repeated spring term). Fall: Section I, M. through Th. at 11:00; Section II, M. through Th. at 1:00. Spring: Tu., Th., 2-4. EXAM GROUP: Fall: 4, 13; Spring: 16, 17
An intermediate course for students interested in expanding and strengthening their Portuguese language skills. Reading, writing, and conversational competency is emphasized through the study of the Luso-African-Brazilian cultures. The course aims to promote cross-cultural understanding through the use of authentic materials such as literary texts, multimedia, film, music, and videos.
Note: Conducted in Portuguese. Recommended for students who wish to improve their ability to speak

and write Portuguese. Not open to auditors. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Section on-line on the Portuguese C website.
Prerequisite: Portuguese Ab, Ad, or permission of course head.

Portuguese 30 (formerly Portuguese 37). Brasil hoje: Contemporary Brazilian Culture through Media
Catalog Number: 5024
Clémence Jouët-Pastré and members of the Department
Half course (fall term; repeated spring term). Fall term: Tu., Th., 11:30-1. Spring term: Tu., Th., 1-2:30. EXAM GROUP: Spring: 15, 16
Engages in systematic grammar review, along with practice in writing and vocabulary enrichment, while examining contemporary Brazil as presented in Portuguese-language press, television, literature, and film. Analyzes the ways Brazilians and non-Brazilians construct different and conflicting images of Brazil and "Brazilianness." Issues of race relations, national identity, ethnicity, and gender addressed. Discussions based on historical and literary texts, advertisements, films, videotapes of Brazilian television, and current issues of newspapers and magazines.
Note: Conducted in Portuguese. Not open to auditors. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students.
Prerequisite: Portuguese C, S-Dx, or permission of course head.

Portuguese 40. Images of Brazil: Contemporary Brazilian Cinema
Catalog Number: 8893
Clémence Jouët-Pastré and members of the Department
Half course (fall term; repeated spring term). Fall: T., Th., 2:30-4. Spring: M., W., 2:30-4. EXAM GROUP: Fall: 16, 17
Examines major Brazilian films in their historical, political, and social context. Class discussion also focuses on documentaries, reviews, and critical articles. In-depth textual and grammatical analysis, vocabulary building, reflections on the similarities and differences of the oral and written Portuguese will lead students to achieve a high level of competency.
Note: Conducted in Portuguese. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Portuguese 40 website.
Prerequisite: Portuguese C, 30, 37, or permission of course head.

***Portuguese 59. Portuguese and the Community**
Catalog Number: 3322
Clémence Jouët-Pastré and members of the Department
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
An advanced language course examining the Luso-African-Brazilian experience in the US. Promotes community engagement as a vehicle for greater linguistic fluency and cultural understanding. Students will be placed with Boston-area community organizations and agencies. Class work focuses on readings and films by and about Luso-African-Brazilians and specific uses of Portuguese language from these communities. Authors include D. Macedo, Braga Martes, Margolis, Sales, Albues, and Villas Boas.
Note: Conducted in Portuguese. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. To enroll, please contact Dr. Jouët-Pastré by January 15, 2013.
Prerequisite: Portuguese 30, 37, 40, or 44; a score of 100 on the Harvard Placement Test; or permission of the course head.

***Portuguese 61. The Portuguese-Speaking World via the Performing Arts: The Interspaces of Language and Culture in Brazil and Beyond**
Catalog Number: 96774

Guilherme Trielli Ribeiro
Half course (fall term). Tu., 6–9 p.m.
Through plays, visual media, poetry, songs, and other cultural creations, this course discusses historic and cultural connections between Portuguese-speaking countries (Angola, Brazil, Cape Verde, East Timor, Guinea-Bissau, Mozambique, Portugal, and São Tomé and Príncipe). The course uses the performing arts as a point of departure for cultural and linguistic development, having class discussions and student presentations as a basis for journal entries, essay writing, and performance. Grammar review and stylistic analysis are integrated with activities and projects throughout the course.
Note: Conducted in Portuguese. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors.
Prerequisite: Portuguese 30, 37, 40, or 44; a score of 100 on the Harvard Placement Test; or permission of course head.

***Portuguese 91r. Supervised Reading and Research**
Catalog Number: 5589
Clémence Jouët-Pastré and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Tutorial supervision of research on subjects not covered in regular courses.
Note: Limited to juniors and seniors. Students wishing to enroll must petition the Undergraduate Adviser in Portuguese for approval, stating the proposed project, and must have the consent of the proposed instructor. Ordinarily, students are required to have taken some course work in the area as background for their project. May not be taken more than twice, and only once for concentration credit.

***Portuguese 97. Tutorial—Sophomore Year: Lusophone Poetry and Literary Criticism in the Digital Era**
Catalog Number: 5769
Guilherme Trielli Ribeiro
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
From printed books to digital text, how does technology change the making of poetry and its criticism? From the study of canonical works and their analyses by literary critics to the examination of contemporary poetry and some of its most prominent scholars, the course explores how (or whether) Lusophone poetry and literary criticism are changing in the digital era. Students will be constantly invited to respond to Lusophone poetry and literary criticism through essays, close readings, and translations, among other scholarly projects.
Note: Conducted in Portuguese. Successful completion of Portuguese 97 is required of all concentrators in Portuguese and Brazilian Studies in their sophomore year. May also be taken as the Sophomore Tutorial by concentrators in Latin American Studies and Romance Studies. May not be taken Pass/Fail.

***Portuguese 98. Tutorial—Junior Year**
Catalog Number: 8667
Clémence Jouët-Pastré and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Weekly individual instruction for juniors pursuing a thesis honors track in Portuguese and Brazilian Studies, culminating in the writing of a 20-25 page research paper in Portuguese.
Note: Successful completion of Portuguese 98 (or equivalent) is required of all thesis-track honors concentrators in Portuguese-Brazilian Studies. To enroll see course head.

***Portuguese 99. Tutorial—Senior Year**
Catalog Number: 8753
Clémence Jouët-Pastré and members of the Department

Full course. Hours to be arranged.
For honors seniors writing a thesis.
Note: For honors seniors writing a thesis. Successful completion of two terms of Portuguese 99 is required of all thesis-track honors concentrators. Students who do not complete a thesis are required to submit a substantial paper in order to receive either half course or full course credit.
Prerequisite: Satisfactory completion of a junior tutorial and faculty approval of proposed thesis topic. Successful completion of one term of Portuguese 99 is required of all honors concentrators. To enroll, see course head.

For Undergraduates and Graduates

[Portuguese 144. Waves of Change]
Catalog Number: 11776
Nicolau Sevcenko
Half course (spring term). W., 5–7 p.m. EXAM GROUP: 9
Studies Antropofagia, Sertanismo, and Tropicalia as aesthetic movements that shaped modern Brazilian culture.
Note: Expected to be given in 2014–15. Conducted in Portuguese.

Portuguese 162. Circus and Utopia in Brazilian Culture - *(New Course)*
Catalog Number: 35812
Guilherme Trielli Ribeiro
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
Analyzes the circus as an image of Brazil and explores how this image allows for an interpretation of Brazilian history and culture from the perspective of utopian discourses found, for example, in literature, popular music, and cinema. Authors, songwriters, film directors, and critics include Jorge de Lima, Murilo Rubião, Adriana Lisboa, José Miguel Wisnik, Edu Lobo, Chico Buarque, Elis Regina, Arnaldo Jabor, Cacá Diegues, Sérgio Buarque de Holanda, Luc Ferry, and Bronislaw Baczko, among others.
Note: Conducted in Portuguese.

Portuguese 164. Urban Space as Cultural Spheres: Rio, São Paulo, Brasilia - *(New Course)*
Catalog Number: 96856
Nicolau Sevcenko
Half course (fall term). W., 5–7 p.m. EXAM GROUP: 9
Studies the tensions and impacts of megalopolitan growth on cultural creativity in contemporary Brazil.

Portuguese 165. The Third Margin: Lusophone Literatures, World Literature - *(New Course)*
Catalog Number: 77725
Guilherme Trielli Ribeiro
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Studies the circulation and the reception of Lusophone literary works as World Literature. From close readings of individual works to the analysis of their connections to world literary systems, the course combines different approaches in order to discuss the cultural impact a work can have both in its original context and in a global perspective. The course will also address the gap between original and translation as well as the new dimensions that translated literary works can create. Readings by João Guimarães Rosa, Clarice Lispector, Mia Couto, José Saramago, Lídia Jorge, Germano Almeida, Pepetela, and Luandino Vieira, among others.

Portuguese 167. Brazilian Poetry, from Baroque to "Barroso" - *(New Course)*
Catalog Number: 91161

Nicolau Sevcenko
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
An overview of Brazilian poetry from its origins to contemporary and transborder currents.

[Portuguese 180. Themes of Enchantment, Radiance and Epiphany in Brazilian Culture]
Catalog Number: 29198
Nicolau Sevcenko
Half course (fall term). W., 5:30–7:30 p.m. EXAM GROUP: 9
Brazilian culture is characterized by strong, diverse, and very peculiar spiritual legacies coming from its three main sources: Luso-European, African, and Native. They are expressed not only in literary works, but throughout cultural creations of all kinds, verbal and non-verbal, visual and aural, popular and mainstream.
Note: Expected to be given in 2014–15. Conducted in Portuguese.

Portuguese 182. The Worlds of Camões - *(New Course)*
Catalog Number: 85047
Josiah Blackmore
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
A study of the Renaissance Portuguese imagination through the work of Luís de Camões. The course will center on the epic and lyric poetry of Camões as a way to think broadly about the literary and intellectual currents of the 16th century. Empire, the structure of the cosmos, and mythography will figure into our analyses. To promote an understanding of the international culture of letters and humanism, authors from Spain, Italy, and France will also be included. Prerequisite: Reading knowledge of Portuguese.
Note: Conducted in Portuguese or English, depending on class composition.
Prerequisite: Reading knowledge of Portuguese.

Cross-listed courses

Primarily for Graduates

Portuguese 220. Theorists of the Sea - *(New Course)*
Catalog Number: 44112
Josiah Blackmore
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
An inquiry into the ocean as literary and cultural principle in Portugal. We will study maritime texts across many genres and periods (with an emphasis on earlier works), and supplement our readings and discussions with the holdings of Houghton Library.
Note: Conducted in Portuguese.

[Portuguese 250. Marginal, Underground and Eccentric: an aesthetics of subversion]
Catalog Number: 57469
Nicolau Sevcenko
Half course (fall term). Th., 5:30–7:30 p.m. EXAM GROUP: 18
Studies some lesser-known but quintessentially important writers, artists, dramatists and filmmakers who dissented, deviated from or confronted the cultural mainstream, thus helping to define the singularity of cutting-edge contemporary Brazilian culture.
Note: Expected to be given in 2014–15. Conducted in Portuguese.

Portuguese 252. The Myth of "Sertão" (Backlands) in Brazilian Culture - *(New Course)*
Catalog Number: 38198

Nicolau Sevcenko
Half course (fall term). Th., 5–7 p.m. EXAM GROUP: 18
Focuses on the fantasies, prophecies, and narratives related to the Brazilian imaginary geography.

Portuguese 254. Tropicalismo: Brazilian Culture Upside Down - *(New Course)*
Catalog Number: 10797
Nicolau Sevcenko
Half course (spring term). W., 5–7 p.m. EXAM GROUP: 9
Studies the most important cultural trends of the second part of the 20th and beginning of the 21st centuries in Brazil.

[Portuguese 260. The Devil at the Crossroads]
Catalog Number: 78405
Nicolau Sevcenko
Half course (spring term). Th., 5–7 p.m. EXAM GROUP: 18
Focuses on revolutionary changes in Brazilian culture in the 1950s and 1960s.
Note: Expected to be given in 2014–15. Conducted in Portuguese.

Graduate Courses of Reading and Research

See Note to Graduate Courses of Reading and Research in French.

***Portuguese 321. Literature of Brazil: Supervised Reading and Research**
Catalog Number: 5933
Nicolau Sevcenko 5229

***Portuguese 330. Direction of Doctoral Dissertations**
Catalog Number: 4072
Joaquim-Francisco Coelho 7715, Sergio Delgado 6724, Luis Fernández-Cifuentes 2091 (on leave 2013-14), Mary M. Gaylord 2632, Nicolau Sevcenko 5229, Mariano Siskind 5530 (on leave 2013-14), and Doris Sommer 2744 (on leave spring term)

Romance Languages

See also courses in Linguistics.

Primarily for Graduates

Cross-listed Courses

Linguistics 200. Second Language Acquisition

Graduate Courses of Reading and Research

***Romance Languages 300. Seminar for Dissertation Writing in the Romance Literatures**
Catalog Number: 9758
Mary M. Gaylord 2632
Half course (fall term; repeated spring term). W., 3–5. EXAM GROUP: 8, 9
Addresses audience, voice, and ethics of critical writing (quotation, acknowledgement, controversy); and

practical strategies for prospectus preparation, chapter organization, conference and job talks, publication. Meetings use manuscript work-shopping, reading, oral presentations, and guest lectures.
Prerequisite: Completion or imminent completion of PhD general examinations.

Romance Studies

Primarily for Undergraduates

[Romance Studies 79. Romance Languages and Cultures in Comparative Perspective]
Catalog Number: 8713
Elvira G. DiFabio and members of the Department
Half course (fall term). Hours to be arranged.
Highlights of the similarities and differences among the Romance languages, beginning with an overview of the historical development of the Romance languages from Latin, and moving on to the comparison of linguistic identifiers of French, Italian, Portuguese, and Spanish; may also include a discussion of Catalan. Topics will cover comparative phonology, morphology, and syntax, as well as some cross-cultural experiences such as immigration and translation.
Note: Expected to be given in 2014–15. Conducted in English; texts in original and in translation. May not be taken by RLL graduate students to fulfill the history of the language requirement.
Prerequisite: Advanced proficiency in one of the Romance Languages, or permission of the course head.

***Romance Studies 91r. Supervised Reading and Research**
Catalog Number: 8210
Luis M. Girón Negrón and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Tutorial supervision of research in subjects not treated in regular courses.
Note: Limited to juniors and seniors. Students wishing to enroll must petition the Undergraduate Adviser in Romance Studies for approval, stating the proposed project, and must have the consent of the proposed instructor. Ordinarily, students are required to have taken some course work in the area as background for their project. May not be taken more than twice, and only once for concentration credit.

***Romance Studies 98. Tutorial-Junior Year**
Catalog Number: 5203
Luis M. Girón Negrón and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Weekly individual instruction for juniors pursuing a thesis honors track in Romance Studies, culminating in the writing of a 20-25 page research paper in a Romance language.
Note: Successful completion of one term of Romance Studies 98 (or equivalent) is required of all thesis-track honors concentrators in Romance Studies in their junior year.

***Romance Studies 99. Tutorial-Senior Year**
Catalog Number: 1067
Luis M. Girón Negrón and members of the Department
Full course. Hours to be arranged.
Weekly individual instruction for students writing a senior thesis in Romance Studies.
Note: For honors seniors writing a thesis. Successful completion of two terms of Romance Studies 99 is required of all thesis-track honors concentrators. Students who do not complete a thesis are required to submit a substantial paper in order to receive either half course or full course credit.
Prerequisite: Satisfactory completion of a junior tutorial and faculty approval of proposed thesis topic.

Cross-listed Courses

Aesthetic and Interpretive Understanding 13. Cultural Agents
Aesthetic and Interpretive Understanding 51 (formerly Italian 131). The Cosmos of the *Comedy*

For Undergraduates and Graduates

***Romance Studies 101. Romance Translation: Theory and Practice**
Catalog Number: 89225
Elvira G. DiFabio
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Translating for art's sake, or to form a national literature? Better yet, to foster ideological debate. And what about all those bad translations? Do you even need to know the original language? Come explore the theory and practice of translation in and from the Romance languages. Includes workshops on a variety of styles, literary devices, pragmatics, semantic and cultural distinctions.
Note: Conducted in English.
Prerequisite: An intermediate to advanced knowledge of at least one Romance language.

[Romance Studies 109. The Global Game: Soccer, Politics, and Popular Culture]
Catalog Number: 69265
Francesco Erspamer and Mariano Siskind
Half course (fall term). Hours to be arranged.
Soccer is not only the sport of the world, but a most socially significant practice. In Latin America and Europe it is a staple feature of popular culture, closely connected with national politics. The course will make use of filmic, visual, literary, theoretical, and historical materials to analyze the relationship of soccer to social movements, colonialism, violence, gender, architecture, music, and the star system (Pelé, Maradona, Zidane, Totti, Cristiano Ronaldo, Messi).
Note: Expected to be given in 2014–15. Conducted in English.
Prerequisite: An excellent reading knowledge of at least one Romance language.

[Romance Studies 111. The World of Romance Language Cinemas: A Classical Age]
Catalog Number: 73327
Tom Conley
Half course (fall term). Tu., 1–3, and a weekly film screening M., 1-3.
Studies early and classical cinemas in France, Italy, and Spain through comparative and close analysis. Includes films by Renoir, Vigo, Melville; Rossellini, de Sica, Visconti; Buñuel, García Berlanga, Erice.
Note: Expected to be given in 2014–15. Conducted in English.
Prerequisite: An excellent reading knowledge of at least one Romance language.

Cross-listed Courses

[Literature 193. "What's Love Got to Do With It"; Love Poetry of the Middle Ages and Early Modernity]

Primarily for Graduates

Romance Studies 201. Questions of Theory
Catalog Number: 0934
Jeffrey Schnapp and John T. Hamilton
Half course (fall term). F., 1–3. EXAM GROUP: 6, 7

The seminar is built around a sequence of fundamental questions regarding the literary disciplines, their history and epistemology. Discussions are instigated by readings in philology, stylistics, the history of ideas, semiotics, structuralism, psychoanalysis, post-structuralism, film theory, genetic criticism, literary sociology, cultural studies, and digital humanities.
Note: Conducted in English. Required of all graduate students in Romance Languages and Literatures.

Romance Studies 205. Civic Humanities
Catalog Number: 33387
Doris Sommer and Francesco Erspamer
Half course (fall term). M., 11–12:30. EXAM GROUP: 4, 5
An introduction to a developing field, Civic Humanities explores the arts and humanistic interpretation through a centuries-long tradition of civic engagement. Here the humanities are a site for promoting innovation and skills for active citizenship. Democracy and aesthetic judgment developed together to project citizens as co-artists of social constructions. Readings in this tradition of enlightened aesthetics include Kant, Schiller, Dewey, Freire, Gramsci, Ranciere, Mockus, Boal, Kester, Elster, Florida, Nussbaum, and Pasolini. Guest lectures by doctors, lawyers, political leaders, business experts, and public artists will develop specific areas of innovation and represent potential mentors for students as they design original projects.
Note: Conducted in English. Students are required to attend the lectures of Aesthetics and Interpretive Understanding 13 (Cultural Agents).

[*Romance Studies 219. Digital Humanities 2.0: a metaLAB(at)Harvard seminar]
Catalog Number: 71716
Jeffrey Schnapp
Half course (spring term). Hours to be arranged.
A seminar and workshop for the development of semester-long projects, the course provides an introduction to new scholarly models in the arts and humanities via readings, case studies and conversations with expert practitioners.
Note: Expected to be given in 2014–15. Conducted in English. Not open to students currently enrolled in Literature 110.

[Romance Studies 220. Fragments of a Material History of Literature]
Catalog Number: 21805
Jeffrey Schnapp
Half course (fall term). M., 3–5. EXAM GROUP: 8, 9
Literary studies examined from the perspective of the practices that have shaped ideas concerning literature, writing, speech, and communication: from scrolls and codices to the rise of printing and typewriting to digital writing.
Note: Expected to be given in 2014–15. Conducted in English.

Spanish

All students who have taken Spanish in secondary school are required to take the Placement Test given during Freshman Week for freshmen and usually on Registration Day for returning students.

A score of 5 in the College Board Advanced Placement Examinations in Spanish allows students to take Spanish courses numbered 40 to 90 or, if recommended, 100-level courses. All language courses are conducted in Spanish and include weekly writing assignments. For details, see the pamphlet Advanced Standing at Harvard College or apply to the Director of the Program of Advanced Standing.

Primarily for Undergraduates

Spanish Aa. Beginning Spanish I
Catalog Number: 0507
Maria Luisa Parra-Velasco and members of the Department
Half course (fall term; repeated spring term). Fall: M., through Th., at 9, 10, 11, 1, or 2. Spring: M., through Th., at 9, 10, or 2. EXAM GROUP: 2, 11
A basic beginning semester course for students with no previous study of Spanish. Emphasis on speaking, writing, reading, and listening, as the basis for the development of all three Communication Modes (Interpersonal, Interpretive, and Presentational). Hispanic cultures will be introduced through a variety of texts, including readings, music, art, and film.
Note: Conducted in Spanish. Open to students who have not previously studied Spanish or who have scored below 300 on the Harvard placement test. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Spanish Aa website. Students who have studied Spanish for two years or more in secondary school must begin at Spanish Ab or higher.

Spanish Ab. Beginning Spanish II
Catalog Number: 3328
Maria Luisa Parra-Velasco and members of the Department
Half course (fall term; repeated spring term). M., through Th., 9, 10, 11, 1, or 2, and a weekly discussion section to be arranged. EXAM GROUP: 2, 11
For students with the equivalent of one semester previous study of Spanish. Emphasis on strengthening students' interpersonal, interpretive, and presentational skills in both oral and written Spanish. Hispanic cultures are presented through a variety of authentic texts, including short pieces of literature, essays, and newspaper articles. Music, art, and film are also included. After Spanish Aa and Ab, students should be able to engage in everyday conversations with native speakers, and read straightforward texts, both fiction and non-fiction, with relative ease.
Note: Conducted in Spanish. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Spanish Ab website. Students who have studied Spanish for two years or more in secondary school must begin at Spanish Ab or higher. Upon the recommendation of the course head, students who have performed at a superior level in this course may enroll in any course for which they are linguistically prepared.
Prerequisite: A score between 301-450 on the SAT II test or on the Harvard Placement Test, Spanish Aa, or permission of course head.

***Spanish Acd. Intensive Beginning Spanish: Special Course**
Catalog Number: 5577
Johanna Damgaard Liander and members of the Department
Full course (fall term; repeated spring term). M. through F., at 9 and Tu., Th., at 10. EXAM GROUP: 2, 11
A beginning class for students with no previous formal training in Spanish but with competence in at least one foreign language. Emphasis on communication skills. Language instruction supplemented by cultural and literary readings and film.
Note: Not open to auditors. May not be used to fulfill the language requirement. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Interested students should contact Dr. Liander by e-mail no later than August 26, 2013 for fall term enrollment and no later than December 10, 2013 for spring term enrollment. Upon the recommendation of the course head, students who have performed at a superior level in this course may enroll in any course for which they are linguistically prepared.

[Spanish Ax. Reading Spanish]
Catalog Number: 5318
Adriana Gutiérrez and members of the Department
Half course (fall term). Hours to be arranged.
An introduction to reading and translating modern Spanish texts for students who require only a basic knowledge of Spanish for research purposes. Spanish Ax presents the principal structures of Spanish grammar in a systematic and coherent manner and, at the same time, makes reading and translation assignments as discipline-specific as possible for each student's needs.
Note: Expected to be given in 2014–15. Conducted in English. Not open to students with a score of 500 or above on the Harvard Placement Test or on the SAT II Spanish test, to those with more than one year of undergraduate Spanish, or to auditors. May not be used to fulfill the language requirement and may not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students.

Spanish C. Intermediate Spanish
Catalog Number: 5819
Adriana Gutiérrez and members of the Department
Half course (fall term; repeated spring term). Sections M. through Th., at 9, 10, 11, or 1. EXAM GROUP: 2, 11
An intermediate language and culture class that aims to consolidate and expand the skills of listening comprehension, speaking, reading and writing in Spanish. Includes a comprehensive review of the grammar and reinforces linguistic acquisition through texts, movies, art and multi-media projects to acquaint students with cultural issues relevant to the Spanish-speaking world.
Note: Conducted in Spanish. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Spanish C website. Upon the recommendation of the course head, students who have performed at a superior level in this course may enroll in any course for which they are linguistically prepared.
Prerequisite: Spanish Ab, Acd, 451-600 on the SAT II test or on the Harvard Placement Test, or permission of course head.

Spanish 30. Advanced Spanish Language I: Four Countries and their Cultures
Catalog Number: 0479
Johanna Damgaard Liander and members of the Department
Half course (fall term; repeated spring term). Sections M. through Th., at 9, 10, 11, or 12. EXAM GROUP: 2, 11
An advanced language class that reinforces the practice of oral and written communication in Spanish through topics in contemporary cultural materials from Spain and Latin America. Students will focus on improving proficiency, refining pronunciation and acquiring vocabulary. In addition to in-class discussions, course work involves grammar review and practice in writing. Consult course website for current semester topics.
Note: Conducted in Spanish. May not be taken Pass/Fail but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Spanish 30 website. Upon the recommendation of the course head, students who have performed at a superior level in this course may enroll in any course for which they are linguistically prepared.
Prerequisite: A score between 601-680 on the SAT II test or on the Harvard Placement Test, Spanish C, or permission of course head.

Spanish 35. Spanish for Latino Students - *(New Course)*
Catalog Number: 75125 Enrollment: Limited to 15.
Maria Luisa Parra-Velasco and members of the Department
Half course (fall term; repeated spring term). M. through Th., at 10. EXAM GROUP: 3, 12

Designed for Latino students, this course builds on students' previous knowledge of Spanish to expand and strengthen their oral and written interpersonal, interpretive and presentational communicative skills. Spanish grammar is reviewed using a functional approach to highlight differences found in informal and academic contexts. Students explore the topics of language, cultures and identity in the U.S and in the Spanish-speaking world , using a variety of texts and genres, music, videos, films and visual arts.

Spanish 40. Advanced Spanish Language II: Viewing the Hispanic World
Catalog Number: 9393
Johanna Damgaard Liander and members of the Department
Half course (fall term; repeated spring term). Sections Tu., Th., at 8:30, 10, or 1. EXAM GROUP: 10, 11
An advanced language and culture class that further develops linguistic competence using a region or regions of the Hispanic world as a focus for class discussion, grammar review, and an introduction to Hispanic social contexts and texts. Course materials may also include films, interviews, paintings, photography, music, selections from the press, as well as literary or historical readings. Frequent written and oral assignments, and a thorough review of grammar. Consult course website for current semester topics.
Note: Conducted in Spanish. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Spanish 40 website. Upon the recommendation of the course head, students who have performed at a superior level in this course may enroll in any course for which they are linguistically prepared.
Prerequisite: A score between 681-720 on the SAT II test or on the Harvard Placement Test, AP 5, Spanish 30, or permission of course head.

Spanish 50. Writing and Performance
Catalog Number: 6794
Adriana Gutiérrez and members of the Department
Half course (fall term; repeated spring term). Section I: Tu., Th., 10-11:30; Section II: Tu., Th., 11:30-1; Section III: Tu., Th.,1-2:30. EXAM GROUP: 12, 13
An advanced language course designed to strengthen and develop competence in written expression. Close reading of texts in literary and non-literary genres will help students refine personal style. The performance of short excerpts of plays, combined with advanced work on oral expression and phonetics, will help students increase their fluency and ease of expression.
Note: Conducted in Spanish. Recommended for concentrators. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students. Not open to auditors. Section on-line on the Spanish 50 website.
Prerequisite: A score between 721-750 on the SAT II test or on the Harvard Placement Test, Spanish 40, or permission of course head.

***Spanish 59. Spanish and the Community**
Catalog Number: 8789 Enrollment: Limited to 12.
Maria Luisa Parra-Velasco and members of the Department
Half course (spring term). Tu., Th., 10-11:30, and four hours of activities-based learning per week. EXAM GROUP: 12, 13
An advanced language course that examines the richness and complexity of the Latino experience in the US while promoting community engagement as a vehicle for greater linguistic fluency and cultural understanding. Students are placed with community organizations within the Boston area and volunteer for four hours a week. Class work focuses on expanding students' oral and written proficiency in Spanish through discussing and analyzing readings, arts, and films by and about Latinos in the US.
Note: Not open to auditors.
Prerequisite: A score between 721-750 on the SAT II test or on the Harvard Placement Test, Spanish 40 or permission of course head.

***Spanish 61n. Advanced Spanish Language and Culture: The Ethics of Business**
Catalog Number: 17538 Enrollment: Limited to 30.
Adriana Gutiérrez and members of the Department
Half course (fall term; repeated spring term). Section I: Tu., Th., 10-11:30; Section II: Tu., Th., 11:30-1. EXAM GROUP: 12, 13
An advanced language and culture class that examines literature and films portraying the political, sociological, financial and environmental impact of multinational companies doing business in Latin America. Students' linguistic competency is developed through discussion of the ethics of business, grammar reviews, and weekly writing assignments. Students will also choose a specific project for a business in Latin America and research its possible outcome and social, political, and environmental consequences.
Note: Interested students must apply in writing to Dr. Gutiérrez no later than August 21, 2013 (Fall Term) or January 15, 2014 (Spring Term). Not open to auditors. May not be taken Pass/Fail, but may be taken Sat/Unsat by GSAS students.
Prerequisite: A score between 751 and 780 on the SAT II test or Harvard Placement test, a Spanish 50-level course, or permission of course head. Students are allowed to take a maximum of two courses at the 60-level in Spanish, not including Spanish 60.

***Spanish 62 (formerly *Spanish 90tw). Words of Which History is Made: Translation Workshop on 20th-Century Spain**
Catalog Number: 99782 Enrollment: Limited to 15.
Daniel Aguirre Oteiza
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Through close readings and translations centering on 20th-century Spanish history and society, students hone their linguistic, grammatical, and stylistic skills, and acquire the interpretive skills required to comprehend and analyze increasingly complex literary and cultural texts. Course materials include short stories, poems, newspaper articles, memoirs, travel journals and historical essays.
Note: Conducted in Spanish. Recommended for concentrators. Students are allowed to take a maximum of two courses at the 60-level in Spanish, not including Spanish 60. Interested students should contact Dr. Daniel Aguirre Oteiza no later than August 26, 2013.
Prerequisite: A score between 751 and 780 on the SAT II test or on the Harvard Placement test, a Spanish 50-level course, or permission of course head.

[Spanish 70a. Heroes, Rogues, and Significant Others: Voices from Medieval and Early Modern Spain]
Catalog Number: 1587
Mary M. Gaylord
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Who are "el Cid", Celestina, Don Quixote, Don Juan? We know these mythic characters and cultural types like the love-struck priest, the *pícaro*, the sentimental Moor, the conquistador, through representations of their spoken words in now-classic works of early Spanish literature. As we explore the texts and historical contexts that produced them, we bring their voices to life once again through dramatic reading and performance.
Note: Expected to be given in 2014–15. Conducted in Spanish. This course includes student art-making as part of the Harvard Arts Initiative. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.
Prerequisite: A score above 780 on the SAT II or the Harvard Placement test; a 40-, 50-, or 60-level course in Spanish; or permission of course head.

Spanish 70c. Tales of Two Spains: A Survey of Spanish Modern Literature and Culture,18th to 21st centuries
Catalog Number: 7713
Daniel Aguirre Oteiza
Half course (spring term). M., W., at 1, and an additional weekly section hour to be arranged. EXAM GROUP: 6
This course presents a diverse set of literary and cultural materials that will help understand Spain's frequently contested Modernity. The guiding topic of discussion will be the conflicting definitions of Spanish national identity from the 18th to the 21st centuries. Materials include short stories, philosophical and political essays, travelers' letters, memoirs, journals, travelogues, films and poems.
Note: Conducted in Spanish. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C.
Prerequisite: A score above 780 on the SAT II or the Harvard Placement test; a 50- or 60-level course in Spanish; or permission of course head.

Spanish 71a. Continuity and Discontinuity in Colonial Latin America
Catalog Number: 4319
José Rabasa
Half course (fall term). M., W., at 11; F., at 2. EXAM GROUP: 4
An overview of literary and cultural production in the Americas before and after the Spanish invasion. Topics include pre-Columbian visual and verbal expressions; discovery, invention, conquest, and resistance; the historiography of the New World; native depictions of the colonial world.
Note: Conducted in Spanish. Required for concentrators in the Hispanic Studies track (as an alternative to Spanish 71b), and for all concentrators in Latin American Studies.
Prerequisite: A score above 780 on the SAT II or the Harvard Placement test; a 50- or 60-level course in Spanish; or permission of course head.

Spanish 71b. Introduction to Modern Latin American Literature
Catalog Number: 6700
Sergio Delgado
Half course (spring term). M., W., at 12, and an additional weekly section hour to be arranged. EXAM GROUP: 5
This course is a survey of Latin American Literature from the last decades of the 19th century to the present. It offers an overview of the most salient moments in modern Latin American cultural history, placing emphasis on the ways in which specific literary works relate to the social and political developments that have shaped the region since the late 19th century. Readings by Machado de Assis, Rulfo, Borges, Gioconda Belli, Bellatin, Pizarnik, and others.
Note: Conducted in Spanish. This course, when taken for a letter grade, meets the Core requirement for Literature and Arts C.
Prerequisite: A score above 780 on the SAT II or on the Harvard Placement test; a 50-, or 60-level course in Spanish; or permission of course head.

Spanish 90c. Spectacles of Race: Representations of Racial Belonging and Difference in the Hispanic Caribbean
Catalog Number: 39949
Kahlil Chaar-Pérez
Half course (spring term). M., W., at 12, and an additional weekly section hour to be arranged. EXAM GROUP: 5
This course explores racialized representations of belonging and difference in the Hispanic Caribbean, examining how cultural discourses and performances of racial identity and mixture intersect with Cuban,

Puerto Rican, and Dominican conceptions of regional and national sameness. In addition, we will look at cultural forms—such as *negrismo* poetry—that, in questioning these conceptions, imagine "another Caribbean." Course materials include plays, poems, film, short stories, and novels.
Note: Conducted in Spanish.
Prerequisite: A previous course in Spanish at the 60- or 70-level; 800 on the SAT II test or on the Harvard Placement test; or permission of the course head.

Spanish 90dq. Who is Don Quixote?
Catalog Number: 78806
Mary M. Gaylord
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Get to know the man who says, "I know who I am", his friends and loves, his models and rivals. This introduction to central episodes of Cervantes' masterpiece asks what it is about Don Quixote's actions, words, convictions and contradictions that makes him ubiquitous in literary and artistic imagination. Course materials include film, music, and visual arts.
Note: Conducted in Spanish. Not open to students who have already taken Spanish 124; may be taken as preparation for Spanish 124.

Spanish 90n. Border Flux and Border Subjects: Cultural Practices of the US-Mexico Border
Catalog Number: 27284
Sergio Delgado
Half course (fall term). Tu., Th., 11–12:30. EXAM GROUP: 2
This course is structured around a set of art and literary works that engage the US-Mexico border. It seeks to understand the fluid nature of the border region along with its recurring themes and dynamics, focusing on the complex links between literary texts, artistic practices, and the increasingly pressing social and political issues of the region. Materials include works by Monsivais, Bolano, Anzaldua, Daniel Sada, Gomez-Pena, Amy Sara Carroll, Ricardo Dominguez.
Note: Conducted in Spanish.
Prerequisite: : A score above 780 on the SAT II or on the Harvard Placement test; a 40-, 50-, or 60-level course in Spanish; or permission of course head.

Spanish 90p (formerly Spanish 61a). Pre-Textos: Las artes interpretan
Catalog Number: 17743
Doris Sommer and Kahlil Chaar-Pérez
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Texts become prompts for art-making in this class. By inspiring painting, dance, play, music, sculpture, costumes, texts lead to deep and daring interpretations. Latin American classics that might otherwise seem difficult become raw material for creativity as students stretch their command of Spanish. They learn that arts interpret and explore meanings and that theory is a user-friendly afterthought. This training prepares facilitation of Pre-Texts workshops in Boston and abroad.
Note: Conducted in Spanish. Students are allowed to take a maximum of two courses at the 60-level in Spanish, not including Spanish 60.
Prerequisite: A score above 750 on the SAT II test or Harvard Placement test.

[*Spanish 90tv. Displacing Spain: Workshop on 20th and 21st-Century Transatlantic Poetry]
Catalog Number: 54744
Daniel Aguirre Oteiza
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
We will read, listen to, and play with poems dealing with transatlantic perspectives on and from modern Spain. Close attention paid to the relation between poetry and identity, motherland, exile, and nomadism

in Spanish and Latin American poets such as Bolaño, Cernuda, Darío, García Lorca, Neruda, Peri Rossi, and Vallejo, among others. Includes formal and thematic analysis of poems and hands-on work with texts in Spanish through translation.
Note: Expected to be given in 2014–15. Conducted in Spanish.
Prerequisite: A previous course in Spanish at the 60- or 70-level; 800 on the SAT II test or on the Harvard Placement test; or permission of the course head.

***Spanish 91r. Supervised Reading and Research**
Catalog Number: 1586
Johanna Damgaard Liander and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Tutorial supervision of research on subjects not treated in regular courses.
Note: Limited to juniors and seniors. Students wishing to enroll must petition the Undergraduate Adviser in Spanish for approval, stating the proposed project, and must have the consent of the proposed instructor. Ordinarily, students are required to have taken some course work in the area as background for their project. May not be taken more than twice, and only once for concentration credit.

***Spanish 97. Tutorial—Sophomore Year**
Catalog Number: 2315
Daniel Aguirre Oteiza
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Theory in Praxis: Students will read, write, and speak about different modes of analysis of poetry, narrative prose, and cinema (stylistics, semiotics, psychoanalysis, deconstruction, gender studies, etc.), as practiced by a variety of pioneering scholars and artists, from Yuri Lotman and Barbara Johnson to Sergei Eisenstein and Laura Mulvey. Students will in turn put to work those modes of analysis on a number of Spanish and Latin American texts and films.
Note: Conducted in Spanish. Requirements include short weekly papers and regular participation in class discussions. Required for all concentrators in Hispanic Studies in their sophomore year, but open to others. May also be taken as the Sophomore tutorial for concentrators in Latin American Studies and Romance Studies.
Prerequisite: 800 on the Harvard Placement test; a 50-, 60-, or 70-level course in Spanish; or permission of course head.

***Spanish 98. Tutorial—Junior Year**
Catalog Number: 5511
Johanna Damgaard Liander and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Weekly individual instruction for juniors pursuing a thesis honors track in Hispanic Studies, culminating in the writing of a 20-25 page research paper in Spanish.
Note: Letter-graded. Successful completion of one term of Spanish 98 (or equivalent) is required of all thesis-track honors concentrators in Hispanic Studies in their junior year.

***Spanish 99. Tutorial—Senior Year**
Catalog Number: 5867
Johanna Damgaard Liander and members of the Department
Full course. Hours to be arranged.
Weekly individual instruction for honors seniors writing a thesis. Completion of two terms of Spanish 99 is required of all seniors pursuing a thesis honors track.
Note: For honors seniors writing a thesis. Successful completion of two terms of Spanish 99 is required of all thesis-track honors concentrators. Students who do not complete a thesis are required to submit a

substantial paper in order to receive either half course or full course credit.
Prerequisite: Satisfactory completion of a junior tutorial and faculty approval of proposed thesis topic.

***Spanish 112 (formerly *Spanish 90gc). You Will Win, But You Won't Convince: Discussing the Spanish Civil War**
Catalog Number: 14423
Daniel Aguirre Oteiza
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Examines the Spanish Civil War (1936-39) as a key event for understanding the "causes" that have shaped 20th- and 21st-century Spanish culture and society within the context of recent Western history. Focus on the relation between memory, history, and representation in cultural works ranging from the years prior to the conflict up to the present (narrative, poetry, testimonies, memoirs, film, visual arts, comic books, etc.).
Note: Conducted in Spanish.
Prerequisite: A previous course in Spanish at the 60- or 70-level; 800 on the SAT II test or on the Harvard Placement test; or permission of the course head.

Cross-listed Courses

Aesthetic and Interpretive Understanding 13. Cultural Agents

For Undergraduates and Graduates

Open to students with 800 on the Harvard Placement Test or SAT II, a score of 5 on the Advanced Placement Test in language or literature, previous coursework at Harvard of an appropriate level, or permission of course head. For other related courses, see also Latin American Studies and Romance Studies.

Spanish 110. Hispanic Literature: The Middle Ages
Catalog Number: 9402
Luis M. Girón Negrón
Half course (spring term). M., W., at 10. EXAM GROUP: 3
Introduction to Old Spanish literature from origins through 15th century. Close reading of works in historical context, including: *Cantar de Mío Cid* and *La Celestina*. Includes critical approaches and overarching themes in medieval Iberian literatures.
Note: Conducted in Spanish. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C. Additional readings and alternate requirements for graduate students seeking to fulfill their General Exam in Medieval Spanish for Non-Specialists.

[Spanish 124. Don Quixote and the Art of Reading]
Catalog Number: 1378
Mary M. Gaylord
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
In the beginning was the book. From his library the *hidalgo*, bent on writing himself into History, sallies forth into a world of actors, storytellers, and readers. How do books come by their power to shape individuals and their world? We read Cervantes' masterpiece alongside seminal Renaissance works his characters and readers knew (Erasmus, Vives, More, Castiglione), and modern studies of reading and print culture.
Note: Expected to be given in 2014–15. Conducted in Spanish; an advanced reading knowledge of Spanish is essential. There will be class visits to the Houghton Library of Rare Books and screenings of

film versions of the novel. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A. .
Prerequisite: Coursework in Spanish at the 70-, 90-, or 100-level, or permission of the instructor.

Spanish 125. The New Art of Telling Stories in Spanish: Cervantes's Novelas Ejemplares and Other Short Fiction for Early Modern Spain
Catalog Number: 13594
Mary M. Gaylord
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Before the novel was the novella. Early modern short stories hold up revealing mirrors to society, history and literature, offering – as Horace recommends – instruction and entertainment for an expanding readership in a changing world. Works studied include picaresque, Moorish tales, miscellanies, joke-books, Cervantes's Novelas ejemplares (1613) and Maria Zaya's tragic love stories. Taught in Spanish
Note: Conducted in Spanish.

Spanish 126. Performing Latinidad - *(New Course)*
Catalog Number: 69012
Lorgia H. García Peña
Half course (spring term). M., W., 1:30–3. EXAM GROUP: 6, 7
What exactly does the word "latinidad" mean? How has "the Latino" been constructed in U.S. culture? What has been the importance of "latinidad" in the social and political history of people of Latin American descent in this country? What place does "latinidad" occupy within the North American academy? Our course attempts to respond to these inquiries through an analysis of Latino performance and its representation within particular literary and cultural productions: poetry, theater, film, and stand-up comedy.
Note: Conducted in Spanish.

Spanish 134. Nahuatl (Aztec) Language and Culture
Catalog Number: 7452
José Rabasa
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Offers an introduction to reading classical Nahuatl through James Lockhart's Nahuatl as Written. Readings include paradigmatic examples of the Mesoamerican worldview drawn from poetry, history, and myth. Examines the interrelation between alphabetical writing, pictography, and orality.
Note: Conducted in English or Spanish.

[Spanish 141. Gender, Writing, and Subalternity in the Americas] - *(New Course)*
Catalog Number: 47077
José Rabasa
Half course (spring term). Tu., Th., 1:30–3. EXAM GROUP: 15, 16
This course explores the relationship between gender and writing in the Americas. Testimonials by women from seven different regions: Bolivia, Guatemala, Brazil, Mexico, Jamaica, Argentina, and US Latin@.
Note: Expected to be given in 2014–15. Conducted in English or Spanish.

[Spanish 149. Filming the Text]
Catalog Number: 11542
Luis Fernández-Cifuentes
Half course (fall term). Hours to be arranged.
We will explore the complex process that takes place when certain literary texts (novels like Unamuno's

La tía Tula; short stories like Aldecoa's *Los pájaros de Badem-Badem* or García Morales's *El Sur*; and, especially, plays like García Lorca's *Bodas de sangre* or Valle-Inclán's *Divinas palabras*) are transformed into films by such prominent directors as Luis Buñuel, Juan Antonio Bardem, Carlos Saura, and Mario Camus.
Note: Expected to be given in 2014–15. Conducted in Spanish.
Prerequisite: Previous coursework in Spanish at the 90- or 100-level; or the permission of the course head.

[Spanish 152. Magical Realism and Its Discontent: Latin American Novels That Didn't Boom]
Catalog Number: 0215
Mariano Siskind
Half course (spring term). M., 3-5, and an additional weekly section hour to be arranged. EXAM GROUP: 8, 9
Carpentier and García Márquez found a narrative form to express Latin America's aesthetic particularity through magic and marvel. Since the publication of *Cien años de soledad*, its remarkable impact generated different experimental responses attempting to work through Latin American social reality in very different ways. We read novels and short stories by Carpentier, García Márquez, Rulfo, Cortázar, Borges, Donoso, Saer, Cabrera Infante, Glantz, Bolaño, Fuguet, Bellatín and Aira. Also comics and films.
Note: Expected to be given in 2014–15. Conducted in Spanish.

Spanish 158. Transversal Poetics: Workshops on Translation and Transcreation of Latin American Poetry - *(New Course)*
Catalog Number: 36194
Sergio Delgado
Half course (fall term). Tu., Th., 1:30–3. EXAM GROUP: 15, 16
An inquiry into the notion of transversal poetics: the theory and practice of poetry as a form of expression that brings together distinct ways of making sense with language. Structured as a workshop. Assignments include: translation of poems into English; rendition of poems into formats other than print (fliers, broadsheets, slideshows, installations, etc). Readings by Augusto and Haroldo de Campos, Zurita, Kamenszain, Cucurto, Maquieira. Course conceived in conjunction with Latin American poetry symposium November 2013.
Note: Conducted in Spanish.
Prerequisite: Previous coursework in Spanish at the 90- or 100-level; or the permission of the course head.

[Spanish 173. Madrid, fin-de-siècle]
Catalog Number: 4425
Luis Fernández-Cifuentes
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Madrid's first turn of the century as a modern metropolis was marked by the innovative visions of the "generation of 1898" (the year Spain's colonial empire ended); the second, by the aftermath of Franco's dictatorship. This course will articulate comparative analyses of multicultural issues around those two historical "ends": from the architecture of the Gran Vía and Baroja's engravings to the Castellana "skyscrapers" and Antonio López's paintings; from Valle-Inclán's plays to Almodóvar's films; from workers' movements to socialist democracy.
Note: Expected to be given in 2014–15. Conducted in Spanish.

[Spanish 179. Regarding the Pain of Spain]
Catalog Number: 10194
Daniel Aguirre Oteiza

Half course (fall term). Tu., 3-5, and an additional weekly section hour to be arranged. EXAM GROUP: 17, 18
We will explore modern representations of violence in Spanish history through close analyses of short stories, novels, memoirs, paintings, and films by Spanish and some Latin American authors. Issues discussed may include *la España negra*, black humor, bullfighting, colonial power, concentration camps, gothic horror, sexual abuse, state repression, terrorism.
Note: Expected to be given in 2014–15. Conducted in Spanish.

Spanish 182. Bodies in Crisis: Contemporary Puerto Rican Literatures - *(New Course)*
Catalog Number: 98847
Kahlil Chaar-Pérez
Half course (fall term). W., 3–5:30. EXAM GROUP: 8, 9
This advanced-level seminar will explore Puerto Rican literatures produced both in the mainland and the island, from the 1970s to the present era. Through extensive readings of novels, short stories, poems, and essays, we will examine the aesthetics and politics of contemporary Puerto Rican literary forms. In particular, we will explore the textual and embodied figures of crisis the reader finds in these texts, asking what conceptions of gender, sexuality, race, class, and nationhood such figures might reaffirm or contest.

[Spanish 194. The Borges Machine]
Catalog Number: 25301
Mariano Siskind
Half course (fall term). Tu., 1-3, and an additional weekly section hour to be arranged. EXAM GROUP: 15, 16
We study Jorge Luis Borges's poetry, short stories, and essays; from *Fervor de Buenos Aires* to *El Aleph*; from his scripts and the films based on them to the cultural constellations that rose around him, as well as those his work created. We will think of Borges as a writer, but also as literary machine, an artifice that produces meaning in the works of other writers and in cultural formations beyond Argentina and Latin America.
Note: Expected to be given in 2014–15. Conducted in Spanish.

Spanish 195. "Aztec" Shamanism, Ritual, and Myth
Catalog Number: 63064
José Rabasa
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
We will read pictographic and alphabetical texts in Nahuatl (Aztec) mythology, ritual, and shamanism. Texts will include contemporary as well as "classic" texts from the colonial era. This course offers an introduction to reading Nahuatl through James Lockhart's *Nahuatl as Written*.
Note: Conducted in Spanish or English, to be determined by class composition. Open also to students who have already taken Spanish 134.

Cross-listed Courses

[African and African American Studies 124. Tobacco and Sugar]
Anthropology 1648. Latin@s Remaking America: Immigration, Culture and Language - *(New Course)*
[History of Art and Architecture 197gr. Colonial Art]
Literature 157. From Type to Self in the Middle Ages

Primarily for Graduates

[Spanish 201. Historia de la lengua española]
Catalog Number: 5610
Luis M. Girón Negrón
Half course (fall term). Th., 1-3, and an additional weekly discussion hour on Fridays to be arranged.
EXAM GROUP: 15, 16
Introducción a la historia de la lengua española desde sus orígenes hasta el presente. Escarceos en lingüística histórica en el marco de la historia literaria y el estudio comparado de las lenguas románicas. Acercamiento interdisciplinario.
Note: Expected to be given in 2014–15. Conducted in Spanish. Required of graduate students in Spanish and Portuguese.

Spanish 230r (formerly Spanish 230). Colonial Studies
Catalog Number: 8907
José Rabasa
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Juxtaposes colonial texts and postcolonial theory. We read Colón, Cortés, Sahagún, Las Casas, Nahua Chroniclers, Garcilaso de la Vega, Sor Juana. Theory includes Said, Spivak, Nandy, Chakrabarty, Taussig, Guha, Quijano.
Note: Conducted in Spanish.

[Spanish 243. Foundational Fiction and Film]
Catalog Number: 3129
Doris Sommer
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
Through novels that helped to consolidate nation-states in Latin America, explores modernity as personal and public lessons in laissez-faire. Sequels in film, telenovelas, performances show tenacity of genre. Links between creativity and citizenship. Theorists include Anderson, Foucault, Arendt, Lukacs, Flaubert.
Note: Expected to be given in 2014–15. Conducted in Spanish.

Spanish 244. The Logic of Sensationalism - *(New Course)*
Catalog Number: 50596
Sergio Delgado
Half course (spring term). M., 4–7 p.m. EXAM GROUP: 9
Probes sensationalism as register of violent crimes and traumatic experiences. Posits sensation as break with or interruption of storytelling, narrative, discourse, etc. Readings and visual materials by Fernando Vallejo, Bolano, Metinides, Moris, Kristeva, Deleuze, Yudice.
Note: Conducted in Spanish.
Prerequisite: Graduate students only; or permission of course head.

[Spanish 269. Body Matters and Market Forces in Latin American Literature and Culture]
Catalog Number: 99479
Sergio Delgado
Half course (fall term). Hours to be arranged.
Traces and analyzes social and symbolic dynamics of urban commodity capitalism. Emphasis on the body and perception as contested sites of coercion and critical agency. Readings by Benjamin, Arlt, Adorno, Siqueiros, Merleau-Ponty, Paz, Eltit.
Note: Expected to be given in 2014–15.

Spanish 281r. Graduate Seminar: New Worlds of Early Modern Poetry in Spanish
Catalog Number: 9785

Mary M. Gaylord
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
Imitation of Latin and Italian models, rediscovery of Spain's medieval traditions and global exploration reshape 16th- and 17th-century lyric and epic, redefining poetic language itself.
Note: Conducted in Spanish and English. An advanced reading knowledge of Spanish is essential.

[Spanish 285cr. Graduate Seminar: Money and Realism in Galdós's Times]
Catalog Number: 1104
Luis Fernández-Cifuentes
Half course (spring term). Th., 2:30–5. EXAM GROUP: 16, 17, 18
The function and circulation of money in realism's representations of modern urban societies: monetary value and the modern concepts of need, wealth, happiness, poverty, and labor; money and gender; economics and the rhetoric of realism.
Note: Expected to be given in 2014–15. Conducted in Spanish.

Spanish 285t. Text, Sound, and Image in the Spanish Avant-Garde, 1900-1930 - *(New Course)*
Catalog Number: 19287
Christopher H. Maurer
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Interaction of text, sound, and visual image in poets and writers, and manifestos of the Spanish avant-garde. Aesthetics of collage in poetry, graphic art, and film. Readings from historians and theorists of the avant-garde, close study of original documents.

Cross-Listed Courses

Comparative Literature 211. Mysticism and Literature
[Comparative Literature 252. The Literatures of Medieval Iberia: Approaches and Debates in their Comparative Study]

Graduate Courses of Reading and Research

See Note to Graduate Courses of Reading and Research in French.

***Spanish 320. Spanish and Hispanic-American Literature: Supervised Reading and Research**
Catalog Number: 5764
Sergio Delgado 6724, Luis Fernández-Cifuentes 2091 (on leave 2013-14), Mary M. Gaylord 2632, Luis M. Girón Negrón 3060, José Rabasa 5844, Mariano Siskind 5530 (on leave 2013-14), Doris Sommer 2744 (on leave spring term), and Diana Sorensen 4214

***Spanish 330. Direction of Doctoral Dissertations**
Catalog Number: 2143
Joaquim-Francisco Coelho 7715, Sergio Delgado 6724, Bradley S. Epps 2880, Luis Fernández-Cifuentes 2091 (on leave 2013-14), Mary M. Gaylord 2632, Luis M. Girón Negrón 3060, José Rabasa 5844, Mariano Siskind 5530 (on leave 2013-14), Doris Sommer 2744 (on leave spring term), and Diana Sorensen 4214

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

ROTC

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

The Faculty of Arts and Sciences, in cooperation with the Massachusetts Institute for Technology (MIT), offers Harvard undergraduates the opportunity to participate in the Reserve Officers Training Corps (ROTC) through cross-registration. More information on cross-registration is available through the Harvard University Course Catalog.

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Air Force ROTC

The Air Force ROTC Program in Aerospace Studies offers courses for 2013-2014.

Army ROTC

The Army ROTC Program in Military Science and Leadership offers courses for 2013-2014.

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The Naval ROTC Program in Naval Science offers courses for 2013-2014.

Russia, Eastern Europe, and Central Asia

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Standing Committee on the Degree of Master of Arts in Regional Studies—Russia, Eastern Europe, and Central Asia

Terry D. Martin, George F. Baker III Professor of Russian Studies *(Chair)*
Jonathan H. Bolton, Professor of Slavic Languages and Literatures
Julie A. Buckler, Professor of Slavic Languages and Literatures and of Comparative Literature, Harvard College Professor, and Director of the Humanities Program
Timothy J. Colton, Morris and Anna Feldberg Professor of Government and Russian Studies
Grzegorz Ekiert, Professor of Government *(on leave spring term)*

Kelly A. O'Neill-Uzgiris, Associate Professor of History
Serhii Plokhii, Mykhailo S. Hrushevs'kyi Professor of Ukrainian History
Stephanie Sandler, Ernest E. Monrad Professor of Slavic Languages and Literatures

Other Faculty Offering Instruction in Regional Studies—Russia, Eastern Europe, and Central Asia

Laura L. Adams, Lecturer on Government

This is a two-year interdisciplinary program leading to the AM degree. The REECA program aims to provide students with a firm grounding in the history, culture, language, politics, and economics of Russia, and of other countries of the former Soviet Union and Eastern Europe. Graduates typically enter careers in government service, international trade or finance, journalism, or consulting; some pursue further training in business, law, or academia.

The course of studies takes into account the previous background, as well as the professional needs and interests, of the individual student. In addition to offerings by the Faculty of Arts and Sciences, students may cross-register for courses at other schools of Harvard University, MIT, and the Fletcher School of Law and Diplomacy. Students who have completed basic program requirements may seek permission for individual research under faculty direction.

Below is a partial list of departments offering courses on Russian, East European, and Central Asian Studies:

Anthropology, Comparative Literature, Government, History, History of Art and Architecture, Near Eastern Languages and Civilizations (for courses on Islamic civilization, as well as languages of Central Asia and the Caucasus), Slavic Languages and Literatures, Sociology, and Ukrainian Studies.

For more information on courses offered, please see individual departmental listings, or visit the REECA website at *daviscenter.fas.harvard.edu/student—programs/masters.html*

Primarily for Graduates

***Regional Studies — Russia, Eastern Europe, and Central Asia 298 (formerly *Regional Studies — Russia, Eastern Europe, and Central Asia 299a). Master's Thesis Reading and Research**
Catalog Number: 3938 Enrollment: Limited to master's degree candidates in the REECA Program.
Laura L. Adams and members of the Faculty
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading and research to fulfill the thesis requirement in the master's degree program in Regional Studies—Russia, Eastern Europe, and Central Asia.
Note: May be substituted for RSRA 298hf only with the permission of the Academic Advisor. Master's degree candidates normally complete both *RSRA 298hf/298 and 299hf/299 to fulfill the thesis requirement. Course must be taken for letter grade.

***Regional Studies — Russia, Eastern Europe, and Central Asia 298hf. Master's Thesis Reading and Research**
Catalog Number: 14813
Laura L. Adams and members of the Faculty
Half course (throughout the year). Fall: F., 9–11.
Interdisciplinary proseminar designed to orient master's degree students in Regional Studies-Russia,

Eastern Europe, and Central Asia to theoretical and methodological approaches in the field, including research design for academic and policy research.

***Regional Studies — Russia, Eastern Europe, and Central Asia 299 (formerly *Regional Studies — Russia, Eastern Europe, and Central Asia 299b). Master's Thesis Development and Writing**
Catalog Number: 1931 Enrollment: Limited to master's degree candidates in the REECA Program.
Terry D. Martin and members of the Faculty
Half course (fall term; repeated spring term). Hours to be arranged.
A continuation of RSRA 298/298hf, culminating in the final master's thesis.
Note: May be substituted for RSRA299hf only with the permission of the Academic Advisor. Master's degree candidates normally complete both *RSRA 298hf/298 and 299hf/299 to fulfill the thesis requirement. Course must be taken for letter grade.

***Regional Studies — Russia, Eastern Europe, and Central Asia 299hf. Master's Thesis Development and Writing**
Catalog Number: 81442
Terry D. Martin and members of the Faculty
Half course (throughout the year). Hours to be arranged.
A continuation of *RSRA 298hf, culminating in the final master's thesis.
Note: Master's degree candidates are normally required to complete *RSRA 298hf in the first year and *RSRA 299hf in the second year of graduate study.

Slavic Languages and Literatures

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Slavic Languages and Literatures

Justin Weir, Professor of Slavic Languages and Literatures and of Comparative Literature *(Chair)*
Anna Baranczak, Preceptor in Slavic Languages and Literatures
Stanislaw Baranczak, Alfred Jurzykowski Professor of Polish Language and Literature
Polina Barskova, Visiting Associate Professor of Slavic Languages and Literatures *(Hampshire College)*
Jonathan H. Bolton, Professor of Slavic Languages and Literatures *(Director of Undergraduate Studies)*
Svetlana Boym, Curt Hugo Reisinger Professor of Slavic Languages and Literatures and Professor of Comparative Literature
Julie A. Buckler, Professor of Slavic Languages and Literatures and of Comparative Literature, Harvard College Professor, and Director of the Humanities Program
Natalia Chirkov, Preceptor in Slavic Languages and Literatures
Steven Clancy, Senior Lecturer on Slavic Languages and Literatures and Director of the Slavic Language Program
Volodymyr Dibrova, Preceptor in Slavic Languages and Literatures
Melissa Sara Feuerstein, Lecturer on Slavic Languages and Literatures

Michael S. Flier, Oleksandr Potebnja Professor of Ukrainian Philology *(on leave 2013-14)*
George G. Grabowicz, Dmytro Cyzevs'kyj Professor of Ukrainian Literature
John E. Malmstad, Samuel Hazzard Cross Professor of Slavic Languages and Literatures *(on leave spring term)*
Natalia Pokrovsky, Preceptor in Slavic Languages and Literatures
Natalia Reed, Preceptor in Slavic Languages and Literatures
Magda M. Romanska, Visiting Associate Professor of Slavic Languages and Literatures
Stephanie Sandler, Ernest E. Monrad Professor of Slavic Languages and Literatures *(Director of Graduate Studies)*
Farida Tcherkassova, College Fellow in the Department of Slavic Languages and Literatures
William Mills Todd III, Harry Tuchman Levin Professor of Literature and Professor of Comparative Literature *(on leave spring term)*
Veronika Tuckerova, Preceptor in Slavic Languages and Literatures

Language Courses

Sectioning Note: Sectioning in multi-sectioned language courses is determined by attendance in class during the first week and through subsequent adjustments to maintain uniform section size. There is no separate sectioning meeting for language courses. Beginning on the first day of class, sections fill on a first-come basis, so that some sections may close on the first day. Students should attend the section of their choice and must continue to attend throughout the first week (or make special arrangements) to retain their places in sections. Students who miss classes may enter only those sections where space is available. Please note that under-enrolled sections may be canceled or rescheduled. No section times are guaranteed.

Note on Auditing, Pass/Fail and Satisfactory/Unsatisfactory (Sat/Unsat): As a general rule, no auditors are permitted in language courses. If fellowship terms or other circumstances prohibit registration, students must speak with the Director of the Language Program to request permission to audit. Undergraduate students are generally discouraged from taking language courses Pass/Fail and may do so only after consultation with and permission from the Director of the Language Program and the course instructor. Graduate students may register on a Pass/Fail basis (as Sat/Unsat) with permission of the Director of the Language Program and the course instructor.

Slavic Languages Offered:

Bosnian, Croatian, Serbian Language Tutorials
Czech Language Courses
Czech Language Tutorials
Polish Language Courses
Polish Language Tutorials
Russian Language Courses
Russian Language Tutorials
Ukrainian Language Courses
Ukrainian Language Tutorials

For further information on the Slavic Department and the possibility of tutorials in other languages, please go to www.slavic.fas.harvard.edu or contact the Director of the Language Program, Dr. Steven Clancy.

Note on the sequence of Russian courses:

Students in the Russian program have choices as they progress from the Elementary sequences (A-level courses) to Intermediate sequences (B-level courses) to the Advanced sequences at the third-year (101-

103, 102r), fourth-year (111, 112, 113, 114), and fifth-year (115-116) levels. Although single tracks such as Russian A to B, Aab to Bab, and At to Bt lead directly to 101-103, students may change tracks from year to year as they progress (e.g., A to Bt, Aab to B, At to B, etc.). These courses all lead to the common third-year level sequence (Russian 101-103). At the fourth-year level, students may choose from a range of thematic half courses offered each semester.

All full courses are divisible for credit, but this is not recommended and in fact strongly discouraged.

Bosnian, Croatian, Serbian Language Tutorials

For Undergraduates and Graduates

BCS Ar. Elementary Bosnian/Croatian/Serbian - *(New Course)*
Catalog Number: 85146
Steven Clancy and others
Half course (fall term; repeated spring term). Fall: Tu., at 11; Th., at 10; Spring: M., at 1; W., at 10.
Individualized study of the Bosnian/Croatian/Serbian languae at the elementary level, conducted as a tutorial. Contact hours with language coach. Emphasis on literacy.
Note: Not open to auditors. Course offered only by application and upon approval by the Director of the Language Program and the Office of Undergraduate Education. Students must demonstrate clear academic need for the tutorial (e.g. knowledge of the language contributes to thesis research, other coursework, planned study/research/internships abroad, etc.) Mere academic interest in the language is not sufficient for approval. Application information is available at the Slavic Department website. Interested students should submit on-line applications to staff assistant, Jolanta Davis, slavic@fas.harvard.edu, preferably by the second day of classes. No applications accepted after Friday of the first week of classes.

BCS Br. Intermediate Bosnian/Croatian/Serbian - *(New Course)*
Catalog Number: 19497
Steven Clancy and others
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of the Bosnian/Croatian/Serbian language at the intermediate level, conducted as a tutorial. Contact hours with language coach. Emphasis on literacy.
Note: Not open to auditors. Course offered only by application and upon approval by the Director of the Language Program and the Office of Undergraduate Education. Students must demonstrate clear academic need for the tutorial (e.g. knowledge of the language contributes to thesis research, other coursework, planned study/research/internships abroad, etc.) Mere academic interest in the language is not sufficient for approval. Application information is available at the Slavic Department website. Interested students should submit on-line applications to staff assistant, Jolanta Davis, slavic@fas.harvard.edu, preferably by the second day of classes. No applications accepted after Friday of the first week of classes.

BCS Cr. Advanced Bosnian/Croatian/Serbian - *(New Course)*
Catalog Number: 18037
Steven Clancy
Half course (fall term; repeated spring term). Fall: M., at 11; Tu., at 3.
Individualized study of the Bosnian/Croatian/Serbian language at the advanced level, conducted as a tutorial. Contact hours with language coach. Emphasis on literacy.
Note: Not open to auditors. Course offered only by application and upon approval by the Director of the Language Program and the Office of Undergraduate Education. Students must demonstrate clear

academic need for the tutorial (e.g. knowledge of the language contributes to thesis research, other coursework, planned study/research/internships abroad, etc.) Mere academic interest in the language is not sufficient for approval. Application information is available at the Slavic Department website. Interested students should submit on-line applications to staff assistant, Jolanta Davis, slavic@fas.harvard.edu, preferably by the second day of classes. No applications accepted after Friday of the first week of classes.

Czech Language Courses

For Undergraduates and Graduates

Czech A (formerly Slavic Ca-Cb. Beginning Czech I-II). Elementary Czech
Catalog Number: 2173
Veronika Tuckerova
Full course. M., W., F., at 10, with an additional hour of speaking practice to be arranged. EXAM GROUP: 3
An introductory course in modern Czech language and culture, designed for students without previous knowledge who would like to speak Czech or use the language for reading and research. All four major communicative skills (speaking, listening comprehension, reading, writing) are stressed. Students are exposed to Czech culture through work with film and literature and gain some familiarity with the major differences between literary and spoken Czech as they learn to use the language both as a means of communication and as a tool for reading and research. This year-long full course satisfies the foreign language requirement and prepares students for continued study of Czech in intermediate-level courses and for study or travel abroad in the Czech Republic.

Czech B (formerly Slavic Cc-Cd. Intermediate Czech I-II). Intermediate Czech
Catalog Number: 6028
Veronika Tuckerova
Full course. M., W., F., at 11, and an additional hour of speaking practice to be arranged. EXAM GROUP: 4
An intermediate course in modern Czech language and culture for students with previous study of the language. Further development of vocabulary and oral expression within a comprehensive review of Czech grammar. All four major communicative skills (speaking, listening comprehension, reading, writing) are stressed as students learn to use the language both as a means of communication and as a tool for reading and research. Systematic study of word formation and other strategies are taught to help free students from excessive dependence on the dictionary and develop confidence in reading. Increased exposure to the differing registers of Czech in its literary and spoken forms. This year-long full course prepares students for continued study of Czech in advanced-level courses and for study or travel abroad in the Czech Republic.
Prerequisite: Czech A or placement at the B-level. Familiarity with fundamentals of Czech grammar, particularly case endings and elementary competence in spoken Czech.

***Czech Cr (formerly Slavic Cr. Supervised Readings in Intermediate/Advanced Czech). Advanced Czech**
Catalog Number: 0847
Veronika Tuckerova
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of the Czech language at the advanced level. Emphasis on reading with some practice in speaking and writing for professional and academic purposes. Conducted as a tutorial.
Note: Not open to auditors. Course offered only by application and upon approval by the Director of the

Language Program. Students must demonstrate clear academic need for the tutorial (e.g., knowledge of the language contributes to thesis research, other course work, planned study/research/internships abroad, etc.). Mere academic interest in the language is not sufficient for approval. Application information is available at the Slavic Department website. Interested students should submit on-line applications to staff assistant, Jolanta Davis, slavic@fas.harvard.edu, preferably by the second day of classes. No applications accepted after Friday of the first week of classes.

Polish Language Courses

For Undergraduates and Graduates

Polish A (formerly Slavic Da-Db. Beginning Polish I-II). Elementary Polish
Catalog Number: 8158
Anna Baranczak
Full course. M., W., F., at 9, and an additional hour of speaking practice to be arranged. EXAM GROUP: 2
An introductory course in modern Polish language and culture, designed for students without previous knowledge who would like to speak Polish or use the language for reading and research. All four major communicative skills (speaking, listening comprehension, reading, writing) are stressed. Students are exposed to Polish culture through reading of prose and poetry as they learn to use the language both as a means of communication and as a tool for reading and research. This year-long full course satisfies the foreign language requirement and prepares students for continued study of Polish in intermediate-level courses and for study or travel abroad in Poland.

Polish B (formerly Slavic Dc-Dd. Intermediate Polish I-II). Intermediate Polish
Catalog Number: 41571
Anna Baranczak
Full course. M., W., F., at 11, and an additional hour of speaking practice to be arranged. EXAM GROUP: 4
An intermediate course in modern Polish language and culture for students with previous study of the language. Further development of vocabulary and oral expression within a comprehensive review of Polish grammar. All four major communicative skills (speaking, listening comprehension, reading, writing) are stressed as students learn to use the language both as a means of communication and as a tool for reading and research. Introduction to Polish literature through fiction and poetry, history and contemporary events, including readings from literary masterpieces from Polish literature from the era of the Renaissance to contemporary times including Jan Kochanowski, Wisława Szymborska, Zbigniew Herbert, Czesław Miłosz and others. Film clips and newspaper articles will introduce students to a variety of styles of contemporary Polish. Systematic study of word formation and other strategies are taught to help free students from excessive dependence on the dictionary and develop confidence in reading. This year-long full course prepares students for continued study of Polish in advanced-level courses and for study or travel abroad in Poland.
Prerequisite: Polish A or placement at the B-level. Familiarity with fundamentals of Polish grammar, particularly case endings and elementary competence in spoken Polish.

***Polish Cr (formerly Slavic Dr. Supervised Readings in Intermediate/Advanced Polish). Advanced Polish**
Catalog Number: 1096
Anna Baranczak
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of the Polish language at the advanced level. Emphasis on reading with some

practice in speaking and writing for professional and academic purposes. Conducted as a tutorial.
Note: Not open to auditors. Course offered only by application and upon approval by the Director of the Language Program. Students must demonstrate clear academic need for the tutorial (e.g., knowledge of the language contributes to thesis research, other course work, planned study/research/internships abroad, etc.). Mere academic interest in the language is not sufficient for approval. Application information is available at the Slavic Department website. Interested students should submit on-line applications to staff assistant, Jolanta Davis, slavic@fas.harvard.edu, preferably by the second day of classes. No applications accepted after Friday of the first week of classes.

Russian Language Courses

For Undergraduates and Graduates

Russian A. Elementary Russian (formerly Slavic A. Beginning Russian)
Catalog Number: 8014
Steven Clancy, Natalia Chirkov, and others
Full course. Section I: M, W, F at 10; Section II: M, W, F at 11; and speaking practice Tu, Th at 11, 1, or 2. EXAM GROUP: 3
An introductory course in modern Russian language and culture, designed for students without previous knowledge of Russian who would like to speak Russian or use the language for reading and research. All four major communicative skills (speaking, listening comprehension, reading, writing) are stressed. Students are introduced to Russian culture and the etiquette of social exchanges, and expand their knowledge of grammar and vocabulary through readings (including stories, biography, and poetry), videos, and class discussions. This year-long full course satisfies the foreign language requirement and prepares students for continued study of Russian in intermediate (B-level) courses and for study or travel abroad in Russian-speaking countries.
Note: See "Sectioning Note" above. Assumes no previous knowledge of Russian. Russian A, Russian Aab, and Russian At all prepare students to continue in Russian B, Bab, or Bt.

Russian Aab. Elementary Russian (Intensive) (formerly Slavic Aab)
Catalog Number: 4441
Natalia Chirkov and others
Full course (fall term; repeated spring term). M., through F., at 9, and speaking practice M., W., F., at 10 or 11. EXAM GROUP: 2, 11
An intensive version of Russian A, covering the same material in a single semester. Class meets five days per week with five hours of the main section and three hours of small group speaking practice each week.
Note: See "Sectioning Note" above. Assumes no previous knowledge of Russian. Russian A, Russian Aab, and Russian At all prepare students to continue in Russian B, Bab, or Bt.

[Russian Ah. Grammar and Vocabulary Review for Heritage Speakers (formerly Slavic Ac)]
Catalog Number: 0496
Steven Clancy
Half course (spring term). Hours to be arranged.
Grammar and vocabulary review for students with a Russian-speaking family background. The course covers the entire case system, verb conjugation, aspect, motion constructions, and other essential grammar topics. Emphasis on reading, writing, spelling, and word formation.
Note: Expected to be given in 2014–15. Offered every other year.

Russian At. Elementary Russian through Authentic Texts (Russian through Pushkin) (formerly Slavic Aa)

Catalog Number: 39963
Farida Tcherkassova and others
Full course. M., W., F., at 9, with speaking and reading practice Tu., Th., at 9 or 1. EXAM GROUP: Fall: 2
Introductory course to Russian language and culture through a selection from the verse and prose works of Russia's greatest poet, Alexander Pushkin (including *The Bronze Horseman*, excerpts from *Eugene Onegin*, shorter poems, and prose in *The Queen of Spades*). This literary and linguistic approach to Elementary Russian has a strong emphasis on reading authentic Russian, but all four major communicative skills (speaking, listening comprehension, reading, writing) are stressed. Covers all of the basics of Russian grammar, including all six cases, verbal conjugation, and verbs of motion.
Note: Assumes no previous knowledge of Russian. Russian A, Russian Aab, and Russian At all prepare students to continue in Russian B, Bab, or Bt.

Russian B. Intermediate Russian (formerly Slavic B)
Catalog Number: 3262
Natalia Reed and others
Full course. M., W., F., at 9 or 1; with speaking practice Tu., Th. at 9, 10, or 11. EXAM GROUP: Fall: 2
An intermediate course in modern Russian language and culture for students with previous study of the language. Further development of vocabulary and oral expression within a comprehensive review of Russian grammar. All four major communicative skills (speaking, listening comprehension, reading, writing) are stressed as students learn to use the language both as a means of communication and as a tool for reading and research. Systematic study of word formation and other strategies are taught to help free students from excessive dependence on the dictionary and develop confidence in reading. Vocabulary is thematically organized to include such topics as self and family, education, work, human relationships, politics, and national attitudes and is reinforced through film and the reading of classical and contemporary fiction and history. Practice in the etiquette of common social situations (sociolinguistic competence). Computer exercises on selected topics. This year-long full course prepares students for continued study of Russian in advanced-level courses and for study or travel abroad in Russian-speaking countries.
Note: See "Sectioning Note" above. Russian B, Russian Bab, and Russian Bt all prepare students to continue in Russian 101.
Prerequisite: Russian A, Aab, At, Ah, or placement at the B-level. Familiarity with fundamentals of Russian grammar, particularly case endings, verb conjugation, and elementary competence in spoken Russian.

Russian Bab. Intermediate Russian (Intensive) (formerly Slavic Bab)
Catalog Number: 1657
Natalia Chirkov and others
Full course (spring term). M., W., F., at 9; Tu. Th. at 10; and speaking practice M., W., F., at 1. EXAM GROUP: 2
An intensive version of Russian B, covering the same material in a single semester. Class meets five days per week with five hours of the main section and three hours of small group speaking practice each week. Readings may vary.
Note: See "Sectioning Note" above. Class hours may be changed by agreement. Russian B, Russian Bab, and Russian Bt all prepare students to continue in Russian 101.
Prerequisite: Russian A, Aab, At, Ah, or placement at the B-level. Familiarity with fundamentals of Russian grammar, particularly case endings of the noun, pronoun, and adjective and elementary competence in spoken Russian.

Russian Bt. Intermediate Russian through Authentic Texts (Russian through Bulgakov) - *(New Course)*
Catalog Number: 72229
Farida Tcherkassova
Full course. M., W., F., at 10, and speaking practice Tu, Th, at 10. EXAM GROUP: 3
An intermediate course in Russian language and culture through reading of what is arguably 20th-century Russia's greatest novel, Mikhail Bulgakov's *The Master and Margarita*. This literary and linguistic approach to Intermediate Russian has a strong emphasis on reading authentic Russian, but all four major communicative skills (speaking, listening comprehension, reading, writing) are stressed as students learn to use the language both as a means of communication and as a tool for reading and research. Further development of vocabulary and oral expression within a comprehensive review of Russian grammar. Systematic study of word formation and other strategies are taught to help free students from excessive dependence on the dictionary and develop confidence in reading. This year-long full course prepares students for continued study of Russian in advanced-level courses and for study or travel abroad in Russian-speaking countries.
Note: Russian B, Russian Bab, and Russian Bt all prepare students to continue in Russian 101.
Prerequisite: Russian A, Aab, At, Ah, or placement at the B-level. Familiarity with fundamentals of Russian grammar, particularly case endings of the noun, pronoun, and adjective and elementary competence in spoken Russian.

Russian 101. Advanced Russian I (formerly Slavic 101)
Catalog Number: 7234
Natalia Pokrovsky, Natalia Reed, and others
Half course (fall term). M., W., F., at 1, and speaking practice Tu., Th., at 1 or 2. EXAM GROUP: 6
Continuing development of speaking and reading proficiency. Vocabulary work emphasizes verbs and verb government as essential to effective communication. Work on word formation to increase reading vocabulary. Texts for reading and discussion include works in prose, poetry, and film. Readings include a satirical tale by Shvartz, poetry of Akhmatova, and a film (Bykov's *Scarecrow*).
Prerequisite: Russian B, Bt, Bab, or placement at this level.

Russian 102r. Advanced Russian: Introduction to the Language of Social Sciences and the Media (formerly Slavic 102r)
Catalog Number: 3280
Steven Clancy
Half course (fall term). M., 2-4. EXAM GROUP: 7, 8
Introduction to the language of Russian newspapers, journals, and historical writing. Basic vocabulary for such areas as current events, including politics, history, economics, military issues, society, and the environment. Systematic study of word formation and other strategies are taught to help free students from excessive dependence on the dictionary and develop confidence in reading. Intended for students who desire a professional level of reading proficiency in the social sciences. Intensive work on morphology and supplementary work on oral comprehension.
Prerequisite: Russian 101, placement, or permission of instructor.

Russian 103. Advanced Russian: Reading, Composition, and Conversation (formerly Slavic 103)
Catalog Number: 8638
Natalia Reed and others
Half course (spring term). M., W., F., at 1, with a speaking section Tu., Th., at 1 or 2. EXAM GROUP: 6
Continuing work on vocabulary and grammar centering on verbs and verb government. Readings include works by Chekhov and Dostoevsky, poetry, and film.

Note: Strongly recommended for students who plan to continue in Russian.
Prerequisite: Russian 101 or placement at the 103 level.

[*Russian 111. Advanced Russian: Readings in Russian/Post-Soviet Studies (formerly Slavic 111)]
Catalog Number: 1594
Natalia Pokrovsky
Half course (fall term). Hours to be arranged.
Reading and discussion of topics in the areas of history, economics, politics, and current events. Continued work on grammar and vocabulary with written exercises and compositions. TV viewing for comprehension development.
Note: Expected to be given in 2014–15.
Prerequisite: Russian 101 and 103, Russian 102r, or placement at the level of Russian 111/113.

Russian 112. Advanced Russian: Russian Media (formerly Slavic 112)
Catalog Number: 3290
Natalia Pokrovsky
Half course (spring term). M., W., F., at 1. EXAM GROUP: 6
For students who already have experience reading Russian periodicals. Readings in and analysis of current topics and their presentation in the Russian press. Examination of the history of selected periodicals. Viewing of Russian news programs and analysis of language and content.
Prerequisite: Russian 102r and an additional course at the level of Russian 101 or above, or Russian 111 with permission of the instructor.

Russian 113. Advanced Russian: Readings in Russian Literature (formerly Slavic 113)
Catalog Number: 0955
Natalia Pokrovsky
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
Reading and discussion of classic and contemporary Russian literature. Continued work on vocabulary expansion and composition. Written exercises for reinforcement. Readings from authors such as Gogol, Chekhov, Bulgakov, Pasternak, Brodsky, and Bitov.
Prerequisite: Russian 103, 114, or placement at this level or above.

Russian 114. Advanced Russian: Russian Cultural Self-Images and National "Mentality" (formerly Slavic 115)
Catalog Number: 0795
Natalia Pokrovsky
Half course (spring term). M., W., F., at 11. EXAM GROUP: 4
Through readings and film, we explore Russian cultural attitudes and self-images as socio-cultural context. Topics include cultural perceptions of self as nation and as cultural "mentality," the collective vs. the individual, attitudes toward friendship, the family and women, law, crime, prestige and success, and ethnic difference. Concentrates on vocabulary and phrasing, and includes extensive writing practice.
Prerequisite: Russian 103, 113, or permission of instructor.

Russian 115. Advanced Russian for Academic Professional Communication - *(New Course)
Catalog Number: 36353
Natalia Pokrovsky
Half course (spring term). M., 3–5. EXAM GROUP: 8, 9
Emphasis on close reading and stylistic analysis of the Russian language with continued development of grammatical, sociolinguistic, strategic, and discourse competencies at an advanced level. Emphasis on reading with considerable practice in speaking, presenting, and writing for professional and academic

purposes.
Prerequisite: Permission of the instructor.

[Russian 116. Stylistics (formerly Slavic 116)]
Catalog Number: 3480

Half course (spring term). Hours to be arranged.
Examines different styles, identifies features in texts of different kinds, and interprets passages in literary texts used for stylistic effect. Writing exercises will focus on neutral style, vocabulary development, and phrasing. Intended for students who need a practical command of style and register in reading, speaking, and writing.
Note: Expected to be given in 2014–15.

***Russian 120r. Supervised Readings in Advanced Russian (formerly Slavic 120r)**
Catalog Number: 7121
Steven Clancy and others
Half course (fall term; repeated spring term). Hours to be arranged.
Intended for students who have already taken other department offerings. Reading, discussion, and writing on special topics not addressed in other courses. Conducted as a tutorial. Requires a course proposal to apply; acceptance is not automatic. Applications may be found on the department website under Resources.
Note: Course offered only by application and upon approval by the Director of the Language Program. Application information is available at the Slavic Department website. Interested students should submit on-line applications to staff assistant, Jolanta Davis, slavic@fas.harvard.edu, preferably by the second day of classes. No applications accepted after Friday of the first week of classes.

Ukrainian Language Courses

For Undergraduates and Graduates

Ukrainian A. Elementary Ukrainian (formerly Slavic Ga-Gb. Beginning Ukrainian I-II)
Catalog Number: 5536
Volodymyr Dibrova
Full course. M., W., F., at 9, and an additional hour of speaking practice to be arranged. EXAM GROUP: 2
An introductory course in modern Ukrainian language and culture, designed for students without previous knowledge who would like to speak Ukrainian or use the language for reading and research. All four major communicative skills (speaking, listening comprehension, reading, writing) are stressed. Students are exposed to Ukrainian culture through work with prose and poetry as they learn to use the language both as a means of communication and as a tool for reading and research. This year-long full course satisfies the foreign language requirement and prepares students for continued study of Ukrainian in intermediate-level courses and for study or travel abroad in Ukraine.

Ukrainian Br. Intermediate Ukrainian (formerly Slavic Gr. Supervised Readings in Intermediate/Advanced Ukrainian) - *(New Course)*
Catalog Number: 52597
Volodymyr Dibrova
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of the Ukrainian language at the Intermediate level. Emphasis on reading with some practice in speaking and writing for professional and academic purposes. Conducted as a tutorial.

Note: Not open to auditors. Course offered only by application and upon approval by the Director of the Language Program. Students must demonstrate clear academic need for the tutorial (e.g., knowledge of the language contributes to thesis research, other course work, planned study/research/internships abroad, etc.). Mere academic interest in the language is not sufficient for approval. Application information is available at the Slavic Department website. Interested students should submit on-line applications to staff assistant, Jolanta Davis, slavic@fas.harvard.edu, preferably by the second day of classes. No applications accepted after Friday of the first week of classes.

***Ukrainian Cr. Advanced Ukrainian (formerly Slavic Gr. Supervised Readings in Intermediate/Advanced Ukrainian)**
Catalog Number: 1260
Volodymyr Dibrova
Half course (fall term; repeated spring term). Hours to be arranged.
Individualized study of the Ukrainian language at Advanced level. Emphasis on reading with some practice in speaking and writing for professional and academic purposes. Conducted as a tutorial.
Note: Not open to auditors. Course offered only by application and upon approval by the Director of the Language Program. Students must demonstrate clear academic need for the tutorial (e.g., knowledge of the language contributes to thesis research, other course work, planned study/research/internships abroad, etc.). Mere academic interest in the language is not sufficient for approval. Application information is available at the Slavic Department website. Interested students should submit on-line applications to staff assistant, Jolanta Davis, slavic@fas.harvard.edu, preferably by the second day of classes. No applications accepted after Friday of the first week of classes.

Slavic Literature, Culture, and Philology

Primarily for Undergraduates

***Slavic 91r. Supervised Reading and Research**
Catalog Number: 2713
Jonathan Bolton and others
Half course (fall term; repeated spring term). Hours to be arranged.
Note: A graded course. Permission must be obtained from the Director of Undergraduate Studies and the instructor under whom the student wishes to study.

***Slavic 97. Tutorial — Sophomore Year**
Catalog Number: 7595
Jonathan H. Bolton
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
An interdisciplinary introduction to major authors and themes of Slavic history and literature, focusing on relationships between literature, power, history, and myth. Theories of literary interpretation (including Russian Formalism and semiotics) as well as different approaches to placing literature in its social and political contexts. Readings introduce students to major figures in the Slavic literary traditions, including Pushkin, Dostoevsky, Tolstoy, Chekhov, Platonov, Kundera, Hrabal, and others.
Note: For concentrators in Slavic Literatures and Cultures. Open to non-concentrators provided they contact the instructor before the beginning of the semester.

***Slavic 98. Tutorial—Junior Year**
Catalog Number: 1684
William Mills Todd III (fall term) and Justin Weir (spring term)
Full course. Th., 2–4. EXAM GROUP: 16, 17

Fall term introduces students to Gogol's short fiction, read in the original, and explores a range of interpretive approaches. Spring term is devoted to a single topic and provides concentrators with a more intensive reading experience. This year's focus is on Tolstoy's *Anna Karenina*, which we will read in the original.
Note: Required of junior concentrators in Slavic Literatures and Cultures. Other students may enroll for one or both terms. Students who wish to concentrate on a different Slavic language may arrange a separate tutorial.

***Slavic 99a. Tutorial - Senior Year**
Catalog Number: 9278
Jonathan H. Bolton and others
Half course (fall term; repeated spring term). Hours to be arranged.
For senior concentrators in Slavic Literature and Culture. Students work with a faculty advisor on a senior thesis or capstone project.
Note: Required for senior concentrators in Slavic Literature and Culture. Students who wish to enroll must obtain the signature of the Director of Undergraduate Studies. Honors students must also complete Slavic 99b.

***Slavic 99b. Tutorial — Senior Year**
Catalog Number: 5592
Jonathan H. Bolton and others
Half course (spring term). Hours to be arranged.
Students work with a faculty adviser on a senior thesis.
Note: For senior concentrators in Slavic Literature and Culture. Students who wish to enroll must obtain the signature of the Director of Undergraduate Studies.
Prerequisite: Slavic 99a.

Cross-listed Courses

[Aesthetic and Interpretive Understanding 11. Poetry Without Borders]
[Aesthetic and Interpretive Understanding 41. How and What Russia Learned to Read: The Rise of Russian Literary Culture]
[Aesthetic and Interpretive Understanding 45. Art and Politics in Russia and Eastern Europe]
Aesthetic and Interpretive Understanding 60 (formerly Literature 164 and Slavic 190). Literature and Art in an Era of Crisis and Oppression: Modernism in Eastern Europe
[Culture and Belief 38 (formerly Literature and Arts C-28). Apocalypse Then! Forging the Culture of Medieval Rus']
[Culture and Belief 42 (formerly Foreign Cultures 92). Communism and the Politics of Culture: Czechoslovakia from the Prague Spring to the Velvet Revolution]
Ethical Reasoning 28. Moral Inquiry in the Novels of Tolstoy and Dostoevsky
[History 72e. The Life and Reign of Catherine the Great]
***History 82f. The Origins of the Cold War: The Yalta Conference (1945)**
[*History 82n. Mapping History]
Societies of the World 52 (formerly Slavic 144). The Phoenix and the Firebird: Russia in Global Perspective - *(New Course)*

For Undergraduates and Graduates

[Slavic 125. Modern Russian in Historical Perspective]
Catalog Number: 5646

Michael S. Flier
Half course (spring term). Hours to be arranged.
Analysis of apparent exceptions and oddities in the phonology, morphology, and syntax of contemporary Russian through the prism of historical changes and developments.
Note: Expected to be given in 2015–16.
Prerequisite: Russian B, Bab, Bt, or placement at the third-year level.

[Slavic 126. Structure of Modern Russian: Phonology and Morphology (formerly Slavic 126a)]
Catalog Number: 3083
Steven Clancy
Half course (spring term). Hours to be arranged.
Introduction to Russian phonetics, phonemics, morphophonemics, and inflectional and derivational morphology. Course goal is to give a deeper understanding and appreciation of the regularities and complexities of Russian through a close study of its sounds and words.
Note: Expected to be given in 2014–15.
Prerequisite: Russian B, Bab, Bt or placement at the third-year level. No knowledge of linguistics required.

[Slavic 137. Prague Between Two Empires: Czech Culture from 1914 to 1948]
Catalog Number: 9805
Jonathan H. Bolton
Half course (fall term). Hours to be arranged.
Introduction to Czech culture (literature, journalism, film) between the world wars, focusing on the interwar renaissance and Nazi occupation from 1939 to 1945. Examines how writers negotiated between the demands of aesthetics and politics, articulating a Czechoslovak identity while participating in the main currents of European modernism, from dadaism and expressionism through surrealism and existentialism. Readings include Kafka, Hasek, Capek, Olbracht, Seifert, Nezval, Jiri Langer, and others.
Note: Expected to be given in 2015–16. All readings in English. No prior knowledge of Czech literature or history necessary. Students who wish to read Czech texts in the original may arrange a special section with the instructor.

[Slavic 141. Russian Drama and Performance]
Catalog Number: 56433
Julie A. Buckler
Half course (fall term). Hours to be arranged.
Investigates performance and theatricality in imperial, Soviet, and post-Soviet contexts, in both art and life, through broad exploration of theoretical underpinnings (classical dramatic theory to contemporary performance studies) and case studies from drama, opera, ballet, film, musicals, performance art, religious ritual and folk festival, monarchy and court, mass spectacles, Cold War competitions and diplomacy, subcultures, and contemporary assertions of new orders.
Note: Expected to be given in 2014–15. All readings in English. No prior knowledge of Russian literature or history necessary. Students who wish to read Russian texts in the original may arrange a special section with the instructor.

[Slavic 143. Russian Formalism]
Catalog Number: 22157
Justin Weir
Half course (spring term). Hours to be arranged.
Considers works of Russian formalist theory by Bakhtin, Eikenbaum, Jakobson, Shklovsky, Tynianov, and others and their relationship to Russian literature, film, and psychology. Also evaluates more broadly

the role of formalist influences in contemporary literary theory.
Note: Expected to be given in 2015–16. All readings in English.

[Slavic 145 (formerly 145a). Russian Literature in Translation: The 19th-Century Tradition]
Catalog Number: 5191
Instructor to be determined
Half course (fall term). Hours to be arranged.
A survey of major works of fiction from Pushkin through Dostoevsky, Tolstoy, and Chekhov. Key themes include Russia's encounter with East and West; urban and rural life; the writer and the state; generational conflict and continuity; religion and science; reform and radicalism; and the collapse of empire. Primary materials are supplemented by readings in cultural and intellectual history.
Note: All readings in English.

[Slavic 146 (formerly Slavic 145b). Russian Literature and Revolution]
Catalog Number: 6663
Instructor to be determined
Half course (spring term). Hours to be arranged.
Examines 20th-century Russian literature and its attempts to inspire, record, and undermine the social upheaval of 1917. Themes include revolution, utopianism, self-creation, repression, war, nationalism, everyday life, non-conformism, emigration, reform, and memory. Considers a range of literary genres and movements and the sanctioned aesthetics of socialist realism.
Note: All readings in English.

Slavic 148. Strange Russian Writers
Catalog Number: 7101
Stephanie Sandler
Half course (fall term). Tu., Th., at 11and a weekly section to be arranged. EXAM GROUP: 13
Studies Russia's rebels, deviants, martyrs, loners, and losers as emblems of national identity. Stories, films and poems that project Russia's distinctive obsessions with history and religion. Includes Gogol, Dostoevsky, Tolstoy, Leskov, Kharms, Platonov, Nabokov, Petrushevskaya, Prigov; films by Eisenstein, Tarkovsky, Askoldov, Sokurov.
Note: All readings in English. Separate additional section for those able to read texts in Russian. This course, when taken for a letter grade, meets the General Education requirement for either Aesthetic and Interpretive Understanding or Culture and Belief, but not both. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts C. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[Slavic 150. Moscow and St. Petersburg]
Catalog Number: 7644
Julie A. Buckler
Half course (spring term). Hours to be arranged.
Explores the literary and cultural histories of Russia's two capital cities, their "urban geographies" and representations in visual and performing arts. Includes Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov, Bely, Zamyatin, Bunin, Bulgakov, Nabokov, Erofeev, Bitov, Tolstaya, Pelevin, Sokurov, Balabanov, Bekmambetov.
Note: Expected to be given in 2014–15. All readings in English. No prior knowledge of Russian literature or history necessary. Students who wish to read Russian texts in the original may arrange a special section with the instructor.

[Slavic 151. Experiments in Reading: Chekhov and Nabokov]
Catalog Number: 2505
Svetlana Boym
Half course (spring term). Hours to be arranged.
Literary close reading of Chekhov and Nabokov with special attention to narrative experimentation as well as to the cultural and historical contexts. The main reading is Nabokov's *Drugie berega/Speak Memory*, a text that combines fiction and autobiography, literature and criticism, English and Russian.
Note: Expected to be given in 2014–15. Readings in Russian (with English double-texts).
Prerequisite: Reading knowledge of Russian.

[Slavic 152. Pushkin]
Catalog Number: 8023
William Mills Todd III
Half course (spring term). Hours to be arranged.
A survey of the lyrics, narrative poems, fiction, and critical prose of Russia's "national poet." Close reading of the texts; attention to contemporary cultural issues. Lecture and discussion.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts A.
Prerequisite: Good reading knowledge of Russian.

Slavic 153. The Leningrad Affairs: On Cultural Lives of the Other City (1918-2013) - *(New Course)
Catalog Number: 86243
Polina Barskova (Hampshire College)
Half course (spring term). Th., 12–2. EXAM GROUP: 14, 15
Explores dynamics of cultural life in Petersburg-Petrograd-Leningrad in the 20th century analyzing its relation to the tempestuous historical and political context. Looks closely at the dichotomy between official and non-official Soviet cultures, searching for connections and moments of dialogue rather than strict demarcation lines. Includes Blok, Shklovsky, Zamiatin, Vaginov, Ginzburg, Kharms, Akhmatova, Brodsky.Films by Kozintsev, Sokurov, Loznitsa.
Note: Lectures in Russian with secondary readings both in Russian and English. Undergraduates admitted with permission of the instructor.

[Slavic 155. Dostoevsky]
Catalog Number: 6850 Enrollment: Limited to 20.
William Mills Todd III
Half course (fall term). Hours to be arranged.
Reading of Dostoevsky's major works, with a view to showing how the problems they contain (social, psychological, political, metaphysical) are inseparable not only from his time but from the distinctive novelistic form he created.
Note: Expected to be given in 2015–16. No knowledge of Russian required.

[Slavic 156. Nabokov: A Cross-Cultural Perspective]
Catalog Number: 8650
Svetlana Boym
Half course (spring term). Hours to be arranged.
Examines Nabokov's poetry, fiction, film scripts, and essays from Russian, European and American periods. Attention to issues of literary modernism, cultural translation and memory. Additional readings from Chekhov, Proust, Bergson, Borges, and others.
Note: Expected to be given in 2014–15.

[Slavic 157. Some Versions of Russian Pastoral]
Catalog Number: 99049
William Mills Todd III
Half course (spring term). Hours to be arranged.
Readings of 18th- through 20th-century Russian literature, including prose and verse by Karamzin, Pushkin, Sergei Aksakov, Goncharov, Turgenev, Saltykov-Shchedrin, Tolstoy, and Gorky. Discussion focuses on contemporary cultural contexts and on theoretical issues.
Note: Expected to be given in 2015–16. No knowledge of Russian required.

Slavic 158. Gogol's Short Fiction - *(New Course)*
Catalog Number: 30568
William Mills Todd III
Half course (fall term). Th., 2–4. EXAM GROUP: 16, 17
Close reading of Gogol's short fiction, read in the original, with special attention to humor and narrative structure. We will also explore contextual issues and possible critical approaches.
Note: Alternative to Slavic 98. Tutorial - Junior Year.
Prerequisite: Good reading knowledge of Russian.

[Slavic 166. Russian-Ukrainian Literary Relations in the 19th Century: Conference Course]
Catalog Number: 3513
George G. Grabowicz
Half course (fall term). Hours to be arranged.
Examines Russian-Ukrainian literary relations from 1798 to 1905, with special focus on canon formation, ethnic, national and imperial identity, and the interrelation of literature, society, and ideology. Topics include Decembrist historicism, Romantic poetics and folklore, Slavophilism and populism, literature as subversion (kotljarevshchyna), the uses of translation, the reception of major writers (Gogol, Shevchenko, and others), and the imperial attempt to suppress "Ukrainophilism."
Note: Expected to be given in 2014–15.
Prerequisite: Reading knowledge of Russian or Ukrainian.

Slavic 172. Experiment and Innovation in Eastern European Theatre - *(New Course)*
Catalog Number: 26361
Magda M. Romanska
Half course (spring term). M., 3–5. EXAM GROUP: 8, 9
Before there was Beckett and Ionesco, there was Witkacy and Kharms. Before there was Wilson, there was Kantor and Burian. Before there was Schechner, there was Grotowski. The Eastern European theatre is one of the most innovative and influential in the world, yet also one of the most misunderstood and enigmatic. This course traces the origins, context and history of the Eastern European theatre, with particular emphasis on Polish, Russian, and Czech avant-garde.
Note: All readings in translation.

Slavic 180. Russian Symbolist Poetry
Catalog Number: 6333
John E. Malmstad
Half course (fall term). M., 3–5. EXAM GROUP: 8, 9
A survey of the history of the Symbolist movement in Russia with emphasis on close reading of poetry by its major figures.
Prerequisite: Russian 101 or an equivalent acceptable to instructor.

[Slavic 181. Russian Poetry of the 19th Century]
Catalog Number: 3307
John E. Malmstad
Half course (fall term). Hours to be arranged.
The major themes and modes of Russian poetry from pre-Romanticism to "pure art." Selections from Zhukovsky, Batiushkov, Baratynsky, Yazykov, Lermontov, Tiutchev, Nekrasov, Fet, and others.
Note: Expected to be given in 2014–15.
Prerequisite: Russian 101 or an equivalent acceptable to instructor.

Slavic 183. Reading Anna Karenina - *(New Course)*
Catalog Number: 74812
Justin Weir
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
A course for students who want to read one of the great novels of the 19th century in the original Russian. To be tailored for students with different levels of Russian fluency.
Prerequisite: Reading knowledge of Russian required.

[Slavic 186. Poetry after Brodsky: How Russian Is It?]
Catalog Number: 9918
Stephanie Sandler
Half course (spring term). Hours to be arranged.
Studies poetic practice since 1970. Includes Brodsky, Aygi, Dragomoshchenko, Eremin, Fanailova, Gronas, Mnatsakanova, Prigov, Sedakova, Shvarts, and others. Studies border crossings (in language and geography), connections to other art forms, and the changing representations of emotion and mind in contemporary poetry.
Note: Expected to be given in 2014–15. Open to qualified undergraduates with good reading knowledge of Russian.

Slavic 192. Literature as Institutions: Conference Course
Catalog Number: 6120 Enrollment: Limited to 15.
William Mills Todd III
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
A study of literary production, dissemination, and reception in selected periods of Russian literature from the Middle Ages to the present. Readings in social theory, cultural studies, literary criticism, and imaginative literature.
Note: Open to advanced undergraduates and graduates. Students must pick up a syllabus in Barker 374 before the term begins, as there will be a brief assignment for the first class meeting.

[Slavic 195. Myths of Central Europe after World War II: Conference Course]
Catalog Number: 4701
Jonathan H. Bolton
Half course (spring term). Hours to be arranged.
For Milan Kundera, Central Europe was the kidnapped conscience of the West; for György Konrád it was "a subversive dream," for Josef Kroutvor a "melancholy grotesque." Considers major authors (Kundera, Havel, Hrabal, Kiš, Milosz, Herling-Grudziński, Márai, Albahari) and key motifs and situations (occupation, resistance, and collaboration; interrogation, censorship, and dissent; emigration and exile; "anti-politics") that have defined a "Central European" literature and identity in Austria, Czechoslovakia, Poland, Hungary, and Yugoslavia since World War II.
Note: Expected to be given in 2015–16. All readings in English.

Cross-listed Courses

Aesthetic and Interpretive Understanding 60 (formerly Literature 164 and Slavic 190). Literature and Art in an Era of Crisis and Oppression: Modernism in Eastern Europe
[History 1266. Central Europe, 1789-1918: Empires, Nations, States]
History 1270. Frontiers of Europe: Ukraine since 1500
[History 1280. History of the Soviet Union, 1917-1991]
History 1281. The End of Communism
[History 1290. The History of the Russian Empire]
Linguistics 101. The Science of Language: An Introduction
Literature 142. Narrative Theories of Prose and Film - *(New Course)*
[Literature 160. Literary Forgeries and Mystifications]
Visual and Environmental Studies 184. Imagining the City: Literature, Film, and the Arts

Primarily for Graduates

[Slavic 201. Introduction to East Slavic Languages]
Catalog Number: 5134
Michael S. Flier
Half course (spring term). Hours to be arranged.
Introduction to the structure and history of Russian, Ukrainian, and Belarusian.
Note: Expected to be given in 2014–15.
Prerequisite: Linguistics 250.

[Slavic 222. 20th-Century Ukrainian Poetry]
Catalog Number: 2638
George G. Grabowicz
Half course (spring term). Hours to be arranged.
A survey of the major poets and movements: Tychyna, the neo-classicists, Bazhan, the futurists, the Prague group, Antonych, Svidzins'kyj, émigré poetry, the New York group, late Soviet and post-Soviet poetry.
Note: Expected to be given in 2014–15.
Prerequisite: Reading knowledge of Ukrainian.

Slavic 223. 19th-Century Ukrainian Poetry
Catalog Number: 2097
George G. Grabowicz
Half course (fall term). M., 12–2. EXAM GROUP: 5, 6
A survey of the major poets: Kotljarevs'kyj, Hulak and the pre-Romantics, Shevchenko, Kulish, Rudans'kyj, Franko, and Lesja Ukrajinka.
Prerequisite: Reading knowledge of Ukrainian.

Slavic 230. Medieval, Renaissance, and Baroque Prague: A Cultural History - *(New Course)*
Catalog Number: 92043
Jonathan H. Bolton
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
History of Prague and Bohemian culture from the Middle Ages to the eighteenth century, including Kosmas's *Chronicle of the Czechs*, the medieval court of Charles IV, Jan Hus and the Hussite war, Renaissance learning under Rudolf II, Baroque literature and art, and the changing fates of Prague Jewish

culture. Special emphasis on the development of Czech literature and the Czech literary language.
Prerequisite: Reading knowledge of Czech.

Slavic 231. Czech Literary Culture, 1900-1945
Catalog Number: 46473
Jonathan H. Bolton
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Close reading of major works of poetry and prose in the original Czech, with attention to the larger cultural currents of Central European modernism. Prose by Čapek, Hašek, Vančura, Olbracht, Šalda; poetry by Nezval, Halas, Holan, Orten, Kolár, and others.
Prerequisite: Reading knowledge of Czech.

[Slavic 251. Reading *Anna Karenina*]
Catalog Number: 43465
Julie A. Buckler
Half course (fall term). Hours to be arranged.
Close reading of *Anna Karenina* in original Russian with exploration of cultural context, artistic biography, tradition of nineteenth-century psychological novel, reception and interpretive paradigms, potential for new ways of reading.
Note: Expected to be given in 2015–16. Reading will be done primarily in the original Russian. Advanced undergraduates may be admitted with permission of instructor.

[Slavic 280r. Slavic Culture: Seminar]
Catalog Number: 1909
Michael S. Flier
Half course (spring term). Hours to be arranged.
The Culture of Medieval Rus': Art, Architecture, Ritual, Literature.
Note: Expected to be given in 2014–15.

Slavic 281. Literature, Film, and Visual Arts in Russia, 1920-1930
Catalog Number: 1058
Svetlana Boym
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Examines poetry, prose and visual arts together with cultural theory. Explores issues of innovation and cultural memory, art and politics, bilingualism and exile. Works by Mayakovsky, Malevich, Mandelshtam, Tsvetaeva, Babel, Shklovsky, Nabokov, Vertov, and Eisenstein.
Note: Texts are available in English and Russian. Open to qualified undergraduates.
Prerequisite: Reading knowledge of Russian or with the permission of the instructor.

Slavic 282. Literature, Film, and Visual Art in Contemporary Russia
Catalog Number: 1286
Svetlana Boym
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Examines Russian culture from the 1950s to the present socialist realism to postcommunism. Topics: Socialist realist film, literature of the Gulag, writers' trials, non-conformist art and rethinking of history, utopia and kitsch. Works by Brodsky, Shalamov, Nabokov, Sinyavsky-Tertz, Tarkovsky, Muratova, and others.
Note: Most materials also available in English. Open to qualified undergraduates.
Prerequisite: Reading knowledge of Russian or a permission of the instructor.

[Slavic 287. Poetic Self-Creation in 20th-Century Russia: Seminar]
Catalog Number: 8028
Stephanie Sandler
Half course (spring term). Hours to be arranged.
Examines how poems create self-images for poets working in and after Russian modernism, including Khlebnikov, Vvedenskii, Mandel'shtam, Tsvetaeva, Barkova, Brodsky, Sedakova, Shvarts, Dragomoshchenko. Relies on literary and psychoanalytic theories of identity.
Note: Expected to be given in 2016–17. Open to qualified undergraduates with permission of instructor.
Prerequisite: Reading knowledge of Russian required.

Slavic 289. Elegy: The Art of Losing
Catalog Number: 56141
Stephanie Sandler
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Poems, films, visual artifacts, and music alongside theories of loss. Focuses on non-narrative forms, with examples from Pushkin, Baratynsky, Fet, Brodsky, Shvarts; Tarkovsky, Shemiakin, Sokurov; Silvestrov, Sebald.
Note: Open to qualified undergraduates.
Prerequisite: Reading knowledge of Russian.

Slavic 291. Problems in the History of Early Ukrainian Literature
Catalog Number: 0643
George G. Grabowicz
Half course (fall term). W., 12–2. EXAM GROUP: 5, 6
Examines Kievan and early Ukrainian literature. Topics include the system of genres of Kievan literature, the Renaissance and interaction with Polish literature, the confraternities, Vyshens'kyj, the Baroque, the Mohyla Academy, Skovoroda.
Prerequisite: Reading knowledge of Ukrainian.

[Slavic 292. 20th-Century Ukrainian Prose]
Catalog Number: 5733
George G. Grabowicz
Half course (spring term). Hours to be arranged.
A survey of Ukrainian prose focusing on the avant-garde of the 1920s-1940s (Khvyl'ovyj, Johansen, Domontovych, Kosach) and the most recent period (Andijevs'ka, Andrukhovych, Izdryk and others).
Note: Expected to be given in 2014–15.
Prerequisite: Reading knowledge of Ukrainian.

***Slavic 299. Proseminar**
Catalog Number: 7972
Julie A. Buckler
Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17
Introduction to graduate study in Slavic. Selected topics in literary analysis, history, and theory.
Note: Open to qualified undergraduates with permission of the instructor.

Cross-listed Courses

[Comparative Literature 242 (formerly Literature 242). Text, Image, Public Sphere]
Comparative Literature 253. Literature, Art and Exile
[Comparative Literature 256. Archeology of Modernity and Visual Culture]

[Comparative Literature 273. Approaches to Modernity: The Metropolis]
[Comparative Literature 275. Theory of Narrative: Conference Course]
[History 2272. The Soviet Union: Seminar]
History 2275hf. Subjectivities and Identities in Russia and Eurasia: Seminar - *(New Course)*
History 2277. Eastern Europe: Peoples and Empires: Proseminar - *(New Course)
[Linguistics 250. Old Church Slavonic]
[Linguistics 252. Comparative Slavic Linguistics]

Graduate Courses of Reading and Research

***Slavic 300. Direction of Doctoral Dissertations**
Catalog Number: 4477
Jonathan H. Bolton 4892, Svetlana Boym 1926, Julie A. Buckler 2960, Michael S. Flier 2878 (on leave 2013-14), George G. Grabowicz 4511, John E. Malmstad 1219 (on leave spring term), Stephanie Sandler 1343, William Mills Todd III 1634 (on leave spring term), and Justin Weir 3407

***Slavic 301. Reading and Research**
Catalog Number: 3385
Jonathan H. Bolton 4892, Svetlana Boym 1926, Julie A. Buckler 2960, Steven Clancy 7129, Michael S. Flier 2878 (on leave 2013-14), George G. Grabowicz 4511, John E. Malmstad 1219 (on leave spring term), Stephanie Sandler 1343, William Mills Todd III 1634 (on leave spring term), and Justin Weir 3407

Social Policy

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Social Policy

Bruce Western, Professor of Sociology *(Acting Chair)*
Jason Beckfield, Professor of Sociology *(spring term) (on leave fall term)*
Christopher Jencks, Malcolm Wiener Professor of Social Policy at the John F Kennedy School of Government *(Kennedy School)*
Theda Skocpol, Victor S. Thomas Professor of Government and Sociology
Mary C. Waters, M. E. Zukerman Professor of Sociology
William Julius Wilson, Lewis P. and Linda L. Geyser University Professor

Other Faculty Offering Instruction in Social Policy

Mary C. Brinton, Reischauer Institute Professor of Sociology *(on leave 2013-14)*
David T. Ellwood, Scott Black Professor of Political Economy, and Dean of the Faculty of Government *(Kennedy School)*
Peter A. Hall, Krupp Foundation Professor of European Studies

Jennifer L. Hochschild, Henry LaBarre Jayne Professor of Government and Professor of African and African American Studies *(on leave 2013-14)*
Torben Iversen, Harold Hitchings Burbank Professor of Political Economy
Michèle Lamont, Robert I. Goldman Professor of European Studies and Professor of Sociology and of African and African American Studies
Jeffrey B. Liebman, Malcolm Wiener Professor of Public Policy at the John F. Kennedy School of Government *(Kennedy School)*
Peter V. Marsden, Edith and Benjamin Geisinger Professor of Sociology and Dean of Social Science
Orlando Patterson, John Cowles Professor of Sociology *(on leave fall term)*
Paul E. Peterson, Henry Lee Shattuck Professor of Government
Robert D. Putnam, Peter and Isabel Malkin Professor of Public Policy
Robert J. Sampson, Henry Ford II Professor of the Social Sciences *(on leave spring term)*
Sidney Verba, Carl H. Pforzheimer University Professor, Emeritus
Martin K. Whyte, John Zwaanstra Professor of International Studies and of Sociology *(on leave spring term)*
Christopher Winship, Diker-Tishman Professor of Sociology

This program confers the PhD in Government and Social Policy or the PhD in Sociology and Social Policy. These joint PhD offerings are designed for students who wish to combine the full disciplinary depth of a PhD in political science or sociology with multidisciplinary study on issues of social policy.

Created in 1999, the PhD in Government & Social Policy and the PhD in Sociology & Social Policy constitute joint ventures linking the departments of Government and Sociology in Harvard's Faculty of Arts and Sciences with the Social Policy faculty of the Harvard Kennedy School. "Discipline-plus" in its philosophy, the Social Policy program ensures a solid disciplinary foundation in political science or sociology, while providing unique opportunities for multidisciplinary training and research in social policy, a doctoral experience enriched by the insights of neighboring social science disciplines.

This degree is intended for students whose research interests embrace such issues as economic inequality, poverty, urban neighborhoods and spatial segregation, changing family structures, race and ethnicity, immigration, educational access and quality, political inequalities and participation, distributive politics, and comparative and institutional studies of social policy, particularly in the U.S. and Europe.

Further information about the Social Policy Ph.D. program may be obtained from the program website *(www.hks.harvard.edu/socialpol)*. Questions or requests for additional printed materials should be directed to Pamela Metz, Director, via e-mail (social—policy@harvard.edu).

Graduate Courses of Reading and Research

***Social Policy 300. Reading and Research**
Catalog Number: 6290
Members of the Committee

***Social Policy 302. Doctoral Dissertation Research**
Catalog Number: 9707
Members of the Committee

***Social Policy 303qc. Introduction to Social Policy Research**
Catalog Number: 56297
Bruce Western 5763

Quarter course (spring term). Hours to be arranged.
Required of and limited to first-year PhD students in Social Policy. Explores current issues in Social Policy research based on the Multidisciplinary Program in Inequality & Social Policy Seminar Series.
Note: This course may be taken only for quarter credit.
Prerequisite: Limited to first-year PhD students in Social Policy.

Cross-listed Courses

[*Sociology 223. American Society and Public Policy: Research Seminar]
[*Sociology 296a. Proseminar on Inequality & Social Policy I]
***Sociology 307. Proseminar on Inequality and Social Policy III**

Social Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Degrees in Social Studies

James T. Kloppenberg, Charles Warren Professor of American History *(Acting Chair)*
David R. Armitage, Lloyd C. Blankfein Professor of History
Anya Bernstein Bassett, Senior Lecturer on Social Studies *(Director of Studies)*
Eric Beerbohm, Frederick S. Danziger Associate Professor of Government and of Social Studies *(on leave 2013-14)*
Anya Bernstein, Assistant Professor of Anthropology and of Social Studies
Richard N. Cooper, Maurits C. Boas Professor of International Economics
Matthew Stephen Desmond, Assistant Professor of Sociology and of Social Studies *(on leave fall term)*
Michael Frazer, Associate Professor of Government and of Social Studies *(on leave 2013-14)*
Peter E. Gordon, Amabel B. James Professor of History, Harvard College Professor
Peter A. Hall, Krupp Foundation Professor of European Studies
Jonathan M. Hansen, Senior Lecturer on Social Studies
Andrew Jewett, Associate Professor of History and of Social Studies *(on leave 2013-14)*
Steven R. Levitsky, Professor of Government
Charles S. Maier, Leverett Saltonstall Professor of History
Gwyneth McClendon, Assistant Professor of Government and of Social Studies
Amanda D. Pallais, Assistant Professor of Economics *(on leave 2013-14)*
Michael E. Rosen, Professor of Government
Nancy Lipton Rosenblum, Senator Joseph S Clark Professor of Ethics in Politics and Government
Emma Rothschild, Jeremy and Jane Knowles Professor of History
Michael J. Sandel, Anne T. and Robert M. Bass Professor of Government *(on leave spring term)*
Tommie Shelby, Caldwell Titcomb Professor of African and African American Studies and of Philosophy *(on leave 2013-14)*

Richard Tuck, Frank G. Thomson Professor of Government *(on leave spring term)*
Daniel F. Ziblatt, Professor of Government

Other Faculty Offering Instruction in Social Studies

Kiku Adatto, Lecturer on Social Studies
Terry K. Aladjem, Lecturer on Social Studies
Chiwen Bao, Lecturer on Social Studies
Kevin N. Caffrey, Lecturer on Social Studies
Rodrigo Chacon, Lecturer on Social Studies
Nara Dillon, Lecturer on East Asian Languages and Civilizations
Marshall L. Ganz, Lecturer on Social Studies
Jill Iris Goldenziel, Lecturer on Government, Lecturer on Social Studies
Meghan Elisabeth Healy, Lecturer on History and Literature, Lecturer on Studies of Women, Gender, and Sexuality
Alison Denton Jones, Lecturer on Social Studies
Brendan Jeffrey Karch, Lecturer on Social Studies
Cameron Macdonald, Visiting Assistant Professor of Social Studies
Stephen A. Marglin, Walter S. Barker Professor of Economics
Pratap Bhanu Mehta, Visiting Professor of Social Studies
Nicole D. Newendorp, Lecturer on Social Studies
Olivia K. Newman, Lecturer on Social Studies
Lisa Stampnitzky, Lecturer on Social Studies
Don Tontiplaphol, College Fellow in the Committee on Degrees in Social Studies
Carla Yumatle, Lecturer on Social Studies

Primarily for Undergraduates

***Social Studies 10a. Introduction to Social Studies**
Catalog Number: 5278
Richard Tuck and members of the Committee
Half course (fall term). Tu., 2-4, and a weekly section to be arranged. EXAM GROUP: 16, 17
This course offers an introduction to the classic texts of social theory of the eighteenth and nineteenth centuries. Our focus will be on the rise of democratic, capitalist societies and the concomitant development of modern moral, political, and economic ideas. Authors we will examine include Jean-Jacques Rousseau, Adam Smith, Alexis de Tocqueville, John Stuart Mill, and Karl Marx.
Note: This course is limited to sophomores and Social Studies concentrators. This course is a prerequisite for sophomores applying to Social Studies. Students planning to take this class must attend the first lecture to be admitted.

***Social Studies 10b. Introduction to Social Studies**
Catalog Number: 5097
Pratap Bhanu Mehta and members of the Committee
Half course (spring term). Tu., 2-4, and a weekly section Th., 2-4. EXAM GROUP: 16, 17
This class continues the introduction to the classic texts of social theory begun in Social Studies 10a through the twentieth century. Authors include Friedrich Nietzsche, Max Weber, Emile Durkheim, Sigmund Freud, and Michel Foucault.
Note: This course is limited to Social Studies concentrators who have taken Social Studies 10a.

Social Studies 40. Philosophy and Methods of the Social Sciences
Catalog Number: 0476
Cameron Macdonald and Don Tontiplaphol
Half course (spring term). Tu., Th., at 10. EXAM GROUP: 12
This course integrates research methods with an investigation of the philosophical foundations of the social sciences. Topics covered include causal explanation, interpretation, rational choice and irrationality, relativism, collective action, and social choice.

***Social Studies 91r. Supervised Reading and Research**
Catalog Number: 9855
Anya Bernstein Bassett and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Individual work in Social Studies on a topic not covered by regular courses of instruction. Permission of the Director of Studies required.

***Social Studies 99. Tutorial — Senior Year**
Catalog Number: 7501
Anya Bernstein Bassett
Full course (indivisible). Hours to be arranged.
Writing of senior honors essay.
Note: Required for concentrators.

Social Studies 98 — Junior Tutorials: Fall Term

Note: Admission is based on student preferences and a lottery system. Undergraduate non-concentrators may enroll in these tutorials if space is available.

***Social Studies 98ax. Development and Modernization: A Critical Perspective**
Catalog Number: 0752 Enrollment: Limited to 10. This course will be lotteried
Stephen A. Marglin
Half course (fall term). Tu., 12–2.
What assumptions about human beings underlie the conviction that development and modernization constitute progress, that the developed West points the way for the rest of the world? Does economic growth involve a package that necessarily changes the society, the polity, and the culture along with the economy? This tutorial provides a framework for thinking about these questions, both in the context of the West, and in the context of the Third World.
Note: This course will be lotteried.

***Social Studies 98eo. Culture and Society**
Catalog Number: 2114 Enrollment: Limited to 10.
Kiku Adatto
Half course (fall term). M., 2–4.
The course explores various approaches to the study of culture, drawing on studies in anthropology, history, philosophy, sociology, literature, and photography. Among the questions addressed are: How is historical memory constructed, and what are the competing forces that shape it? How do advertisements, photography, and film document cultural change? How is culture tied to power, domination, and resistance?
Note: This course will be lotteried. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

***Social Studies 98fu. Practicing Democracy: Leadership, Community, Power**
Catalog Number: 7432 Enrollment: Limited to 10.
Marshall L. Ganz
Half course (fall term). Tu., 7–9 p.m.
Making democracy work requires an "organized" citizenry with power to assert its interests effectively. Yet US political participation declines, growing more unequal, as new democracies struggle to make citizen participation possible. Students learn to address public problems by organizing: developing leadership, building community, and mobilizing power. Our pedagogy links sociological, political science, and social psychology theory with democratic practice.
Note: Ten hours per week of field work required. This course will be lotteried.

***Social Studies 98jl. Global Social Movements**
Catalog Number: 8965 Enrollment: Limited to 10. This course will be lotteried.
Alison Denton Jones
Half course (fall term). Tu., 3–5.
Social movements are often considered a driving force behind political, social, and cultural change. This course explores the major theoretical and empirical approaches used in the social sciences to understand the emergence, endurance, and outcomes of social movement activism. The course will examine a range of case studies including movements dealing with environmental justice, health, citizenship, and racial inclusion taken from a range of national (including the U.S.) and transnational contexts.
Note: This course will be lotteried.

***Social Studies 98lh. Education and American Society**
Catalog Number: 83855 Enrollment: Limited to 10.
Chiwen Bao
Half course (fall term). Tu., 3–5.
Explores how education has been and continues to be a central institution of American society, reflecting social ideals and ideologies while also directly shaping the contours and structures of society in both productive and detrimental ways. Examines different philosophical foundations of formal learning and how those theories have become manifested across time in various educational practices. Investigates how schools currently operate, specific issues the American educational system faces, and the implications of various schooling practices for structuring American society.
Note: This course will be lotteried.

***Social Studies 98li. Protest and Violence in Asia: Ethnicity, Religion, and Other Motivations**
Catalog Number: 12939 Enrollment: Limited to 10.
Kevin N. Caffrey
Half course (fall term). W., 3–5.
This course inquires into the conditions of protests, self-immolations, and rioting by examining cultural, social, and political difference to look at violence as phenomena. We examine cases such as discord in Sri Lankar; communal violence in South Asia; ethnic wars in Burma (Myanmar); discord and protest in China; ethno-religious violence in Indonesia; or Muslim 'insurgency' in southern Thailand. The course will bring critical attention to the issues of ethnicity, religion, conflict, and protest while analyzing violence as an anthropological category in order to situate current social and political events.
Note: This course will be lotteried.

***Social Studies 98mf. Liberalism and Its Critics**
Catalog Number: 36649 Enrollment: Limited to 10.
Carla Yumatle
Half course (fall term). Tu., 4:30–6:30.

This course provides a critical examination of key debates around liberalism. The first part analyzes both the classical accounts of liberalism and the relation between liberalism and democracy. The second part focuses on variants of liberalism and the relative importance that equality and freedom, culture, value pluralism, toleration and state neutrality play in the foundations of a liberal order. The third part examines various critical approaches of liberalism including utilitarianism, communitarianism, feminism, neo-republicanism, and radical views.
Note: This course will be lotteried.

***Social Studies 98mi. Migration in Theory and Practice**
Catalog Number: 34608 Enrollment: Limited to 10. This course will be lotteried.
Nicole D. Newendorp
Half course (fall term). Tu., 1–3.
In this course, we will examine how and why people migrate from one location to another, focusing both on the theoretical paradigms scholars use to explain migration processes as well as on the individual experiences of migrants. Topics include transnationalism, diaspora, identity formation, integration and assimilation, citizenship claims, and the feminization of migration. Ethnographic readings focus primarily on migration to the US, but also include cases from other world areas, most notably Asia.
Note: This course will be lotteried.

***Social Studies 98nb. Inequality and Social Mobility in America**
Catalog Number: 34432 Enrollment: Limited to 10. This course will be lotteried.
Anya Bernstein Bassett
Half course (fall term). W., 1:30–3:30.
The United States is currently experiencing high levels of income and wealth inequality and comparatively low levels of social mobility. This course will ask why this is and what, if anything, should be done about it. We will consider both social and individual explanations for inequality and social mobility, and we will examine efforts to increase mobility through educational and legal means.
Note: This course will be lotteried.

***Social Studies 98nd. Mass Violence, Memory, and Justice/Reconciliation**
Catalog Number: 25731 Enrollment: Limited to 10.
Jonathan M. Hansen
Half course (fall term). M., 1–3.
This tutorial examines the problem of national reconciliation after mass violence. How does a nation sundered by genocide, civil war, or political repression reestablish the social trust and civic consciousness required of individual and collective healing? What makes some reconciliations successful, others less so? The course will engage these and other questions from historical and contemporary perspectives, exploring the legacy of mass violence going back centuries, while comparing reconciliation projects across cultures, countries, and continents.
Note: This course will be lotteried.

***Social Studies 98ng. Heidegger and Social Thought**
Catalog Number: 16034 Enrollment: Limited to 10.
Rodrigo Chacon
Half course (fall term). W., 4–6.
Martin Heidegger was perhaps the most important and influential philosopher in the Continental tradition in the 20th century, yet the source of his influence has not been fully explored. To that end, we shall trace the development of his thought from his recently published lectures on Aristotle to Being and Time and his later works. Thus, we shall rediscover Heidegger as he appeared to young undergraduates in the early

1920s who would go on to develop some of the most powerful currents of contemporary social thought.
Note: This course will be lotteried.

***Social Studies 98nw. Health Care in America**
Catalog Number: 81774 Enrollment: Limited to 10. Course will be lotteried.
Cameron Macdonald
Half course (fall term). Hours to be arranged.
This course explores the social and cultural politics of healthcare in America, highlighting the ways in which "American Exceptionalism" has resulted in high costs, poor outcomes, and disparate access to care. We will discuss several case studies of controversy related to issues of cost, access, and equity, exploring how such issues have influenced strategies for reform. We will also compare the American healthcare system to systems in other industrialized nations.

Social Studies 98oa. Human Rights in Africa - *(New Course)
Catalog Number: 60646 Enrollment: Limited to 10.
Gwyneth McClendon
Half course (fall term). W., 1–3.
How and to what extent are human rights discussed, contested, and protected in Sub-Saharan Africa? This course considers answers to this question by taking seriously both variation and commonalities across Sub-Saharan African countries. Topics covered include slavery, apartheid, social and economic rights, LGBT rights, the International Criminal Court, and Kony 2012. The study of human rights in any context also requires some understanding of the configurations of power, state institutions and civil society in that context. We therefore also devote some time to considering colonial institutions, contemporary state-society relations, democratization, and social identity groups across SSA countries.
Note: This course will be lotteried.

Social Studies 98 — Junior Tutorials: Spring Term

***Social Studies 98cl. Law and American Society**
Catalog Number: 7389 Enrollment: Limited to 10.
Terry K. Aladjem
Half course (spring term). Th., 3–5.
Examines law as a defining force in American culture and society in four dimensions—as it establishes individual rights, liberties, and limits of toleration; as it attempts to resolve differences among competing constituencies; as it sets out terms of punishment and social control, and as a source of informing images and ideological consistency.
Note: A prison trip is planned, subject to approval. This course will be lotteried.

***Social Studies 98kb. Gender in Developing Nations**
Catalog Number: 2276 Enrollment: Limited to 10.
Meghan Elisabeth Healy
Half course (spring term). M., 3–5.
This seminar examines national identities, international solidarities, and struggles for social justice in the modern world from gendered perspectives. We take an historical approach, informed by ethnography and social theory. We first explore how gendered ideals and relations shaped colonial and anti-colonial projects in the nineteenth and twentieth centuries. We then analyze how gender has shaped transnational movements since the Second World War, emphasizing international development projects and 'Third World' and 'Global South' alliances.
Note: This course will be lotteried.

***Social Studies 98kg. The Political Economy of Health in the Developing World**
Catalog Number: 0037 Enrollment: Limited to 10.
Nara Dillon
Half course (spring term). Hours to be arranged.
This course places the politics of health care in the context of economic development. Although health care and social programs are often considered secondary to economic growth, they have come to play an increasingly central role in development policy. This course explores the interaction between development and health through a survey of different theoretical approaches to development, combined with empirical research on public health, AIDS, family planning, and development programs.
Note: This course will be lotteried.

***Social Studies 98lf. Globalization and the Nation State**
Catalog Number: 68748 Enrollment: Limited to 10.
Nikolas Prevelakis
Half course (spring term). Hours to be Arranged.
Despite globalization, the nation is still a major actor in today's world. This course tries to understand why this is so by examining the role that nationalism plays in peoples' identities and the effects of globalization on nations and nationalism. Examples from the United States, Western Europe, Latin America, India, and the Middle East.
Note: This course will be lotteried.

[*Social Studies 98nc. The Economics of Education]
Catalog Number: 98561 Enrollment: Limited to 10.
Amanda D. Pallais
Half course (spring term). Hours to be arranged.
This course examines economic aspects of education issues, using quantitative research. We will examine several of the major proposed strategies for improving schools including increasing school resources, enhancing school accountability, improving teacher selection and training, and creating school choice through vouchers and charter schools. We will also discuss how to write a quantitative research paper.
Note: Expected to be given in 2014–15. This course will be lotteried.

***Social Studies 98ne. Nation, Race, and Migration in Modern Europe**
Catalog Number: 52449 Enrollment: Limited to 10.
Brendan Jeffrey Karch
Half course (spring term). Hours to be arranged.
This course examines the nexus of migration and European politics since the late nineteenth century. Population movements across European borders have both shaped, and been shaped by, changing conceptions of race, nationality, and citizenship. These changes will be addressed through topics including forced population transfers, decolonization, guest worker programs, anti-immigrant politics, and migration in a unifying Europe. Readings will combine interdisciplinary historical study with contemporary debates.
Note: This course will be lotteried.

***Social Studies 98nq. Global East Asia**
Catalog Number: 49314 Enrollment: Limited to 10.
Nicole D. Newendorp
Half course (spring term). Hours to be arranged.
In this course, we will explore how social life in contemporary East Asia is both influenced by and contributes to processes of globalization. Ethnographic readings on China, Korea, and Japan focus on migration, gender roles, consumption, media, and markets as we trace the role of the global in everyday

life for rural and urban inhabitants of a variety of East Asian locations. For these individuals, engagement with the global structures how they make sense of the world and creates desires for future life change.
Note: This course will be lotteried.

***Social Studies 98ns. Culture and Politics in American Society**
Catalog Number: 95758 Enrollment: Limited to 10.
Lisa Stampnitzky
Half course (spring term). Hours to be arranged.
This course aims to provide a conceptual and methodological toolkit for studying the intersection of "culture," broadly understood, and politics in American society. Key questions to be addressed will include: How can "culture" help us understand American politics? What, if anything, is distinctive about American politics and society? And how does culture shape individual and societal approaches to particular political issues?
Note: This course will be lotteried.

***Social Studies 98ny. And Justice for All: Moral and Ethical Conflict in American Schools**
Catalog Number: 85576 Enrollment: Limited to 10.
Olivia K. Newman
Half course (spring term). Hours to be arranged.
This course explores moral and ethical questions concerning the provision of education in the United States. What kind of education is appropriate in a free society? What is a just distribution of educational resources? What rights do students (and parents) have? How should we settle conflicts over curricula? We will address these and related questions with help from classic and contemporary philosophers, political theorists, sociologists, legal scholars, educators, and policy analysts.
Note: This course will be lotteried.

Social Studies 98oc. Religion and Secularism in a Global World - *(New Course)
Catalog Number: 21793 Enrollment: Limited to 10.
Anya Bernstein
Half course (spring term). Hours to be arranged.
What constitutes the political and how does it relate to the religious? This course explores the relationship between recent religious resurgences and secular politics while paying particular attention to the mutually constitutive categories of the "secular" and the "religious." We start by exploring the classic secularization thesis and continue to examine its recent revisions. We will move beyond the assumption that secularism should be conceived in the singular to reflect on its global varieties, considering not only the Euro-American formations, but also debates around the place of religion in public life in China, India, Russia, Turkey and others.
Note: This course will be lotteried.

Social Studies 98od. Politics, Law, and Governance in the Middle East - *(New Course)
Catalog Number: 34527 Enrollment: Limited to 10.
Jill Iris Goldenziel
Half course (spring term). Hours to be arranged.
The first objective of this course is to give students a deeper understanding of political transition in the Middle East. The second is to prepare students for research on law, politics, and governance in the Middle East or other transitional regimes. Topics may include: why authoritarianism fails, why democratic transitions succeed, the relationship between Islam and democracy, and how constitutional and legal processes promote democracy and stability.
Note: This course will be lotteried.

Social Studies 98of. Democracy and the Psychology of Inequality - *(New Course)
Catalog Number: 42851 Enrollment: Limited to 10.
Gwyneth McClendon
Half course (spring term). Hours to be arranged.
This course explores individuals' and societies' responses to economic inequality in the context of democracy. Why is economic inequality met in some democracies and at some times with discontent and in other democracies and at other times with acceptance or even celebration? How do the sources and structure of economic inequality shape citizens' reactions to it? And do citizens' responses to inequality then actually shape politics and public policymaking in democracies? In investigating these questions, we examine research from political science, social psychology and economics conducted in Sub Saharan Africa, the United States, Western and Eastern Europe, and India.
Note: This course will be lotteried.

Social Studies 98og. Political Ideas in the Making of Modern India - *(New Course)
Catalog Number: 29596 Enrollment: Limited to 10. This course will be lotteried.
Pratap Bhanu Mehta
Half course (spring term). Hours to be arranged.
This course examines the validity of Sunil Khilnani's provocative claim that "the future of western political theory will be tested in India." India has been a laboratory for how political ideas shape an extraordinary political experiment. It has provided a fertile battleground for contending poltical ideologies and theories. These arguments shed light on the shape of Indian democracy and provide insights into how several important theroetical debates in poltiical theory over rights, liberty, justice, equality, democracy, multiculturalism, secularism, nationalism, ethics work out in practice. This course will examine the key texts that have shaped modern Indian political thinking.

Sociology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Sociology

Mary C. Brinton, Reischauer Institute Professor of Sociology *(Chair) (on leave 2013-14)*
Mary C. Waters, M. E. Zukerman Professor of Sociology *(Acting Chair)*
Jason Beckfield, Professor of Sociology *(Director of Graduate Studies, spring term) (on leave fall term)*
Lawrence D. Bobo, W. E. B. Du Bois Professor of the Social Sciences
Bart Bonikowski, Assistant Professor of Sociology *(on leave 2013-14)*
Catherine Simpson Bueker, Visiting Associate Professor of Sociology
Paul Y. Chang, Assistant Professor of Sociology
Matthew Stephen Desmond, Assistant Professor of Sociology and of Social Studies *(on leave fall term)*
Frank Dobbin, Professor of Sociology *(Acting Director of Graduate Studies, fall term)*
Dwight Fee, Preceptor in Expository Writing, Lecturer on Sociology
Filiz Garip, Associate Professor of Sociology

Justin Gest, Lecturer on Sociology, Lecturer on Government
Seth Donal Hannah, Lecturer on Sociology
Matthew E. Kaliner, Lecturer on Sociology
Tamara Kay, Associate Professor of Sociology *(on leave 2013-14)*
Rakesh Khurana, Professor of Sociology
Alexandra Achen Killewald, Assistant Professor of Sociology
Michèle Lamont, Robert I. Goldman Professor of European Studies and Professor of Sociology and of African and African American Studies
Kimberlyn Rachael Leary, Lecturer on Sociology; Associate Professor of Psychology in the Department of Psychiatry *(Medical School)*
David Luberoff, Visiting Lecturer on Sociology
Peter V. Marsden, Edith and Benjamin Geisinger Professor of Sociology and Dean of Social Science
Rachel Meyer, Lecturer on Sociology *(Assistant Director of Undergraduate Studies)*
Devah Pager, Professor of Sociology
Orlando Patterson, John Cowles Professor of Sociology *(on leave fall term)*
Hiro Saito, Lecturer on Sociology
Robert J. Sampson, Henry Ford II Professor of the Social Sciences *(on leave spring term)*
Adam B. Seligman, Visiting Professor of Sociology
Theda Skocpol, Victor S. Thomas Professor of Government and Sociology
Kaia Stern, Lecturer on Sociology
Jocelyn Viterna, Associate Professor of Sociology *(on leave spring term)*
Joshua Wakeham, College Fellow in the Department of Sociology
Cory Theodore Way, Lecturer on Sociology
Bruce Western, Professor of Sociology
Martin K. Whyte, John Zwaanstra Professor of International Studies and of Sociology *(on leave spring term)*
William Julius Wilson, Lewis P. and Linda L. Geyser University Professor
Christopher Winship, Diker-Tishman Professor of Sociology *(Director of Undergraduate Studies)*

Other Faculty Offering Instruction in the Department of Sociology

Amitabh Chandra, Professor of Public Policy *(Kennedy School)*
Kathryn Edin, Professor of Public Policy and Management at the John F. Kennedy School of Government *(Kennedy School)*
Mary-Jo Del Vecchio Good, Professor of Global Health and Social Medicine *(Medical School)*
Sheila Jasanoff, Pforzheimer Professor of Science and Technology Studies at the John F. Kennedy School of Government *(Kennedy School)*
Christopher Jencks, Malcolm Wiener Professor of Social Policy at the John F Kennedy School of Government *(Kennedy School)*
Christine Webb Letts, Rita E. Hauser Senior Lecturer in the Practice of Philanthropy and Nonprofit Leadership *(Kennedy School)*
Stanley Lieberson, Abbott Lawrence Lowell Professor of Sociology, Emeritus
Mary Ruggie, Adjunct Professor of Public Policy, Harvard Kennedy School *(Kennedy School)*

Introductory Courses

Sociology 10. Introduction to Sociology
Catalog Number: 4814
Catherine Simpson Bueker
Half course (fall term). M., W., at 11. EXAM GROUP: 4

Introduces students to the main objects and goals of Sociology—both for sociology concentrators and curious non-concentrators. Explores the theories of classical authors in the history of sociology (such as Marx, Durkheim, Weber, and beyond). Examines major topics in sociological research (including but not limited to social problems, deviance, inequality, social change, culture, education, social interaction).
Note: May be counted for introductory concentration requirement, if letter-graded.

Sociology 24. Introduction to Social Inequality
Catalog Number: 9417
Jason Beckfield
Half course (spring term). Tu., Th., at 1. EXAM GROUP: 15
Examines descriptions and explanations for inequality by social class, race, and gender, with a focus on the United States. Comparisons to other societies are also part of the course. Readings include classical and contemporary research reports in the form of nine classic and will-become-classic books; lectures update and contextualize the readings.
Note: May be counted for introductory concentration requirement, if letter-graded. This course, when taken for a letter grade, meets the Core requirement for Social Analysis.

Sociology 25. Introduction to the Sociology of Organizations
Catalog Number: 3609
Frank Dobbin
Half course (spring term). M., W., at 10. EXAM GROUP: 3
Introduces the sociological study of formal organizations. Surveys basic concepts, emphases, and approaches. Attention given to processes within organizations, as well as to relationships between organizations and their environments. Topics include bureaucracy, leadership and power in organizations, interorganizational networks, and coordination among organizations.
Note: May be counted for introductory concentration requirement, if letter-graded. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Sociology 26. Introduction to Global Social Change - *(New Course)*
Catalog Number: 37539
Rachel Meyer
Half course (spring term). Tu., Th., at 12. EXAM GROUP: 14
Focuses on the development of global capitalism and the relationship between markets, the state, and civil society. The course will pay particular attention to power and inequality, and to various forms of resistance against globalization.
Note: formerly Sociology 161: Globalization

Sociology 27. Introduction to Social Movements - *(New Course)*
Catalog Number: 67106
Jocelyn Viterna
Half course (fall term). Tu., Th., at 2, and a weekly section to be arranged. EXAM GROUP: 16
Social movements and revolution have long been driving forces behind political, social, and cultural change. From the Civil Rights movement of the 60s to the recent and unpredicted "Arab Spring," the extraordinary mobilization of ordinary people is routinely credited with fundamentally re-shaping societal institutions--the polity, the economy, religion, gender, race, and even the environment. But can we really define and study something as ephemeral as social mobilization? Do we know how social movements begin? Why might they become revolutionary? Can they make a difference in the societies they target? This course examines these questions within the sociological literature on collective action. Theories of social movements and revolutions are then applied to a series of case studies around the globe. Case studies may include the US, Iran, China, El Salvador, Chile, India, Poland, Argentina, Egypt, and Nigeria,

among others. Students will also be required to apply course readings to the collective action case of their choosing throughout the semester.
Note: formerly Sociology 132: Mobilizing for Change. This course, when taken for a letter grade, meets the General Education requirement for United States in the World.

[Sociology 29. Introduction to Urban Sociology] - *(New Course)*
Catalog Number: 75987
Instructor to be determined
Half course (fall term). M., W., at 11. EXAM GROUP: 4
Introduces the city as both object and site of social inquiry. We will start with the individual experience of living in cities, then explore the neighborhood structure of the modern metropolis, take on segregation and inequality, and conclude with globalization and world cities. We will also consider themes that cut across these levels, including crime, immigration, workforce issues, and arts and the creative economy. Throughout, students will use the cities of Cambridge and Boston to explore and evaluate ideas from class, via observational and fieldwork opportunities.
Note: Expected to be given in 2014–15.

[Sociology 43. Social Interaction]
Catalog Number: 9625
Timothy Nelson (Kennedy School)
Half course (spring term). M., W., at 1. EXAM GROUP: 6
Examines social interactions in public and semi-public spaces as well as small-group dynamics. We will analyze everyday activities like conversations and parties as well as more extreme forms like demonstrations and riots. Emphasizes outside observation of various kinds and components of social interaction. The University's residence halls, classrooms, activity groups and final clubs will serve as our laboratory. Students will record their observations and analyses in journal entries.
Note: Expected to be given in 2014–15. May be counted for introductory concentration requirement, if letter-graded. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis

Cross-listed Courses

African and African American Studies 10. Introduction to African American Studies
African and African American Studies 16. Sociology of the Black Community
Psychology 15. Social Psychology
[Societies of the World 21 (formerly Foreign Cultures 63). China's Two Social Revolutions]
[Societies of the World 34 (formerly Foreign Cultures 46). The Caribbean: Globalization, Socio-Economic Development & Cultural Adaptation]
Societies of the World 44. Human Trafficking, Slavery and Abolition in the Modern World
United States in the World 13 (formerly Historical Study A-34). Medicine and Society in America
United States in the World 24. Reinventing Boston: The Changing American City
[United States in the World 31 (formerly Social Analysis 54). American Society and Public Policy]

Tutorials

***Sociology 91r. Supervised Reading and Research**
Catalog Number: 4449
Rachel Meyer and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Individual work in sociology under the supervision of teaching staff in the department. A graded

supervised course of reading and research on a topic not covered by regular courses of instruction.
Note: Students negotiate topics on their own. A final paper must be filed in the Sociology undergraduate office.

[*Sociology 95. Research for Nonprofits]
Catalog Number: 0136 Enrollment: Limited to 25.

Half course (spring term). Tu., Th., 11:30–1.
Supports students in carrying out a research project for a nonprofit or volunteer organization of their own choice. Examines theories and practices of the nonprofit sector and research methods. Course combines guest speakers, case work, discussion, and student project presentations.
Note: Expected to be given in 2014–15. Required first meeting. Both concentrators and non-concentrators are welcome to apply.

***Sociology 96r. Community Based Research**
Catalog Number: 7425
Matthew E. Kaliner
Half course (spring term). Tu., 10–12.
One of the few courses at Harvard that integrates students' participation in activities outside the University with course work. Course integrates readings with hands-on research projects in the Boston area. Topics vary; refer to course website for details. Previous topics have included: immigration, marginalization, adolescents, civic activity.

Sociology 97. Tutorial in Sociological Theory
Catalog Number: 5079
Michèle Lamont
Half course (fall term; repeated spring term). Hours to be Arranged.
Provides a critical understanding of selected classical and contemporary theorists, including Marx, Durkheim, Weber, Simmel, Parsons, Coleman, Collins, Bourdieu, and an up-to-date selection of avant-garde theory.
Note: Required of concentrators, ordinarily sophomores, and secondary concentrators. Required first organizational meeting on Tuesday, September 3, 2013, 4-5pm, WJH 105 for the fall semester. Required first organizational meeting on Monday, January 27, 2014, 4pm, William James Hall, 105.

***Sociology 99. Senior Tutorial**
Catalog Number: 6237
Rachel Meyer and members of the Department
Full course. Hours to be arranged.
Supervision of theses or other honors projects.
Note: Limited to concentrators, ordinarily seniors. In addition, students of Sociology 99 may also participate in an optional, regularly scheduled weekly group seminar for consultation and discussion about choice of problems, possible data, and research procedures. Required first meeting Friday, September 13th 2-3:30, WJH 455.
Prerequisite: Sociology 98.

Sociology 98. Junior Tutorials

Small group research projects centered on common topics that vary by seminar, term, and year.

[*Sociology 98Bc. The Logic of Cultural Comparison]

Catalog Number: 87077 Enrollment: Limited to 10.
Bart Bonikowski
Half course (fall term). Th., 11–1.
In the context of recent theoretical advances in cultural sociology, the course considers how culture can be systematically compared across populations. While carrying out independent empirical studies, students will navigate the central problems associated with comparative cultural research: defining and measuring cultural phenomena, identifying appropriate units of cultural variation, understanding between- and within-unit heterogeneity, and demonstrating culture's causal effects.
Note: Expected to be given in 2014–15. Required of and limited to Sociology concentrators. Spring Tutorials are by assignment only.
Prerequisite: Sociology 97

Sociology 98Fa. Identity and Difference - *(New Course)
Catalog Number: 61333 Enrollment: Required of and limited to Sociology concentrators. Spring Junior Tutorials are by assignment only.
Dwight Fee
Half course (spring term). W., 11–1. EXAM GROUP: 4, 5
This course will explore how identity and difference are constructed, reproduced, and challenged. We will specifically focus on questions of power and culture in the making and resisting of social boundaries, especially with respect to gender, race, class, sexuality, citizenship, and health/illness. Students will propose and carry out an original research project using qualitative data and methods.
Prerequisite: Sociology 97.

[*Sociology 98Ga. Understanding Mexican Migration Flows to the US]
Catalog Number: 67322 Enrollment: Limited to 10.
Filiz Garip
Half course (spring term). M., 4–6.
This tutorial guides students through the preparation of an empirical research paper that explores the labor migration of workers from Mexico to the United States using quantitative data and methods.
Note: Expected to be given in 2014–15. Required of and limited to Sociology concentrators.
Prerequisite: Sociology 97.

Sociology 98Gc. Global Workers, Professionals & Entrepreneurs: The New Economic Order Across Borders - *(New Course)
Catalog Number: 16127
Filiz Garip
Half course (spring term). M., 4–6. EXAM GROUP: 9
Note: Required of and limited to Sociology concentrators. Spring junior tutorials are by assignment only.
Prerequisite: Sociology 97

***Sociology 98Ha. Sociology of Health**
Catalog Number: 57732 Enrollment: Limited to 10.
Seth Donal Hannah
Half course (spring term). Th., 11–1. EXAM GROUP: 13, 14
Examines how culture, politics, and finance "matters" in health care through an exploration of the diverse community health centers and major medical centers throughout greater Boston. Students will enhance their qualitative research skills through ethnographic observation, mapping, and historical and documentary analysis of the services provided and populations served in various clinical settings.
Note: Required of and limited to Sociology concentrators. Spring Junior Tutorials are by assignment only.



***Sociology 98Ka. Arts, Culture, and Urban Neighborhoods**
Catalog Number: 69744 Enrollment: Limited to 10.
Matthew E. Kaliner
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Reviews the major traditions in urban sociology and the sociology of culture, focusing on the connections between cultural creativity and urban change.
Note: Required of and limited to Sociology concentrators. Spring Junior Tutorials are by assignment only.
Prerequisite: Sociology 97

[*Sociology 98L. Racism and Anti-Racism in Comparative Perspective]
Catalog Number: 54637 Enrollment: Limited to 10.
Michèle Lamont
Half course (fall term). Tu., 1–3.
Students will familiarize themselves with the literatures on racism and anti-racism, as well as racial identity and boundaries and design their own qualitative research project.
Note: Expected to be given in 2014–15. Required of and limited to Sociology junior concentrators.
Prerequisite: Sociology 97

***Sociology 98M. Social Class in the United States: Identity, Culture, and Consciousness**
Catalog Number: 18222 Enrollment: Limited to 10.
Rachel Meyer
Half course (fall term). Th., 11–1. EXAM GROUP: 13, 14
This course will review a variety of empirical and theoretical perspectives on social class in the United States with a focus on class-based identities and class consciousness.
Note: Required of and limited to Sociology concentrators. Spring Junior Tutorials are by assignment only.
Prerequisite: Sociology 97

[*Sociology 98Va. Development in Theory and Practice]
Catalog Number: 12362
Jocelyn Viterna
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Why are some societies wealthier, healthier, and more highly educated than others? And how might we improve the lives of those individuals with the fewest opportunities? The purpose of this course is to investigate whether and how scholarly theories of development map onto the real world practices of development organizations (state development offices, intergovernmental agencies, not-for-profit organizations) and vice versa. Readings in development sociology will be interspersed with individual student analyses of specific development organizations across a range of issues including (but not limited to) gender, politics, the environment, education, health care, and the economy.
Note: Expected to be given in 2014–15.
Prerequisite: Sociology 97

***Sociology 98Wb. Race, Poverty, and Justice**
Catalog Number: 24423 Enrollment: Limited to 10.
Kaia Stern
Half course (fall term). W., 11–1. EXAM GROUP: 4, 5
Race, Poverty and Justice surveys some of the key topics in urban sociology, focusing on major social problems in American cities. With particular attention to factors associated with crime, such as poverty, race, education, gender and unemployment, the course draws from different academic, media and narrative sources. Our focus on urban communities of concentrated poverty is intended to challenge students to think about policy solutions to complex problems. How do we respond to under-resourced

schools, violence, joblessness, drug addiction and incarceration? Our methodological focus will be on qualitative data collection that includes ethnography and interviews. The last three weeks of the semester will be reserved for students to present original research projects designed to address the problems discussed in class. Questions for consideration: In what ways do various political, economic and religious ideologies shape our understandings of race? What kinds of practices lead us out of poverty? How do we understand justice? An optional visit to at least one Massachusetts state jail/prison will be incorporated into the curriculum.
Note: Required of and limited to Sociology concentrators.
Prerequisite: Sociology 97

[*Sociology 98Wc. Sports and Society]
Catalog Number: 62527 Enrollment: Limited to 10.
Mary C. Waters
Half course (fall term). Tu., 10–12.
This course will examine sports through a sociological lens. We will examine processes of stratification in sports including class, race and gender, as well as sports as a business, the media and sports, and sports and health. Students will do an in depth independent or team based research project on the topic.
Note: Expected to be given in 2014–15. Required of and limited to Sociology concentrators. Spring Junior Tutorials are by assignment only.
Prerequisite: Sociology 97

Sociology 98Wd. Occupations and Professions in a Bureaucratized World - *(New Course)
Catalog Number: 76136 Enrollment: Limited to 10.
Joshua Wakeham
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
What does it mean to do a job well? What does it mean to be a good teacher, doctor, social worker, lawyer, or business person? How does the bureaucratic arrangement of work change people's incentives, perceptions of their jobs, and their capacities to do their jobs well? This class will examine how people in various professional and occupational fields navigate the day-to-day demands of their work, with particular attention to how the demands of organizational life-rules, authority, formality, coordination- interact with the work itself. This course will draw on an array of research in the sociology of organizations, the sociology of occupations, and the sociology of professions. The goal of this course is to help students develop a research project in some professional or occupational field of their interest.
Note: Required of and limited to Sociology concentrators. Spring junior tutorials are by assignment only.

For Undergraduates and Graduates

Sociology 105. Sports and Society - *(New Course)
Catalog Number: 21618 Enrollment: Limited to 18.
Mary C. Waters
Half course (fall term). Tu., 10–12. EXAM GROUP: 12, 13
This course will examine the institution of sports and how it is shaped by society. Is sports a level playing field and meritocracy where the best person or team wins? Or is sports a mirror of an unequal society where power and wealth shape social life? How do class, race and gender shape the sports we play and how we play them? We will consider sports and higher education in the U.S. and at Harvard. We will also look at youth sports, sports as a business, the media and sports, and sports and health. Students will do an in depth research project on the topic and will actively discuss readings in class each week.

Sociology 107. The American Family
Catalog Number: 9124

Martin K. Whyte
Half course (fall term). M., W., at 12, and a weekly section to be arranged.
The American family is often thought to be changing in ways considered unfortunate for children and society. At the same time, the family continues to occupy a central place in people's lives. We examine how and why American families have changed and explore the consequences of these changes. Aspects of family life considered include premarital sex, mate choice, marriage relations, work and family, gender roles, childrearing, family violence, divorce, and intergenerational relations.
Note: This course, when taken for a letter grade, meets the General Education requirement for United States in the World or the Core area requirement for Historical Study A. This course fulfills the requirement that one of the eight General Education courses also engage substantially with Study of the Past.

[Sociology 108. Inequality at Work]
Catalog Number: 13485
Mary C. Brinton
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
The American workplace has become much more diverse over the past 30 years, with women and minorities moving into greater positions of authority. But significant inequalities remain. Why? This course explores how sociologists go about analyzing the reasons for workplace inequalities using a variety of methods from ethnography to surveys to experiments. Using case studies, we pay particular attention to how work can be restructured in ways that increase participation and equality.
Note: Expected to be given in 2014–15.

Sociology 114. Organizational Failures and Disasters: Leadership in Crisis
Catalog Number: 77614
Joshua Wakeham
Half course (spring term). M., W., at 11. EXAM GROUP: 4
Examines organizational failures and disasters from a variety of sectors and professional fields as way to understand how organizational life influences people's behavior, thinking, decision-making, and moral judgment.

Sociology 115. Media and Popular Culture - *(New Course)*
Catalog Number: 63027
Matthew E. Kaliner
Half course (spring term). M., W., at 11. EXAM GROUP: 4
Explores American society and culture through the lens of its various media, including television, literature, music, movies, and the internet. Topics include class and cultural consumption, the business dynamics of the art world, the power of advertising and mass media, children's media and the online worlds of adolescents, and the rise of urban creative economy. Throughout, students will have opportunities to explore and evaluate ideas from class via independent social and media research. Appropriate for sociology concentrators and non-concentrators alike.

Sociology 119. From Plantations to Prisons - *(New Course)*
Catalog Number: 17111
Kaia Stern
Half course (spring term). Tu., Th., at 2. EXAM GROUP: 16
From Plantations to Prisons serves as an introduction to the current crisis of mass incarceration. Specifically, it focuses on the religio-historical roots of the U.S. penal industry, suggesting a continuum between plantations and prisons that calls into question our basic notions of justice. The course draws from academic, media, and narrative sources to give particular attention to factors long associated with

crime and punishment, such as sin, race, and citizenship. We will also study the unprecedented prison-population explosion (in terms of race, gender and class), and its relationship to major social problems in American cities. Questions for consideration: How do we understand punishment? What is the relationship between race and crime? How are human rights, democracy, and family at risk? An optional visit to at least one Massachusetts state jail/prison will be incorporated into the curriculum.

Sociology 128. Models of Social Science Research
Catalog Number: 5979
Mary C. Waters
Half course (fall term). M., W., at 10 and a weekly discussion section to be arranged. EXAM GROUP: 3
Introduces the methods and logic social scientists use to study the empirical world. Topics include the scientific method, hypothesis testing, measurement of variables, survey research design and sampling, qualitative interviewing, ethnography, experiments, content analysis, GIS, demography, and the ethics of research.
Note: Required of concentrators, ordinarily sophomores, and secondary concentrators.

[Sociology 129. Education and Society]
Catalog Number: 6298 Enrollment: Limited to 40.
Mary C. Brinton
Half course (spring term). M., W., at 1. EXAM GROUP: 6
Examines the key role played by the educational system in reproducing and transforming modern society. Considers the purposes served by an educational system, the distinctiveness of the American educational system in comparison to other countries, the ways that education connects to the labor market in the U.S. and other societies, and why educational attainment is related to social class and ethnicity.
Note: Expected to be given in 2014–15.

Sociology 137. Money, Work, and Social Life
Catalog Number: 1589
Filiz Garip
Half course (spring term). M., W., at 12. EXAM GROUP: 5
Examining different sectors of the economy from corporations and finance to households, immigrants, welfare, and illegal markets, we explore how in all areas of economic life people are creating, maintaining, symbolizing, and transforming meaningful social relations. Economic life, from this perspective, is as social as religion, family, or education.

Sociology 138. Political Sociology
Catalog Number: 25214
Justin Gest
Half course (spring term). Tu., Th., 2–3:30. EXAM GROUP: 16, 17
This course examines power relations between people in different political contexts: the state, the market, civil society and the periphery. We consider these sociopolitical milieu from the perspectives of great thinkers like Marx, Weber, Durkheim and Foucault, and reconsider them in light of the globalization and postmodernity of the 21st Century. At hand each week are key questions that underpin power relations between people in modern societies.

***Sociology 143. Building Just Institutions**
Catalog Number: 10985 Enrollment: Limited to 25.
Joshua Wakeham
Half course (fall term). Th., 3–5. EXAM GROUP: 17, 18
How can and do people build institutions that are just? This course examines the psychological and

sociological underpinnings of people's understanding of justice and their motivation to make situations just. The course draws heavily on real world cases from a variety of social, cultural, and historical settings, as well thinking and research from sociology, philosophy, psychology, and anthropology.

Sociology 147. The Shareholder Value Management Revolution
Catalog Number: 94147 Enrollment: Limited to 25.
Frank Dobbin
Half course (fall term). M., 2–4. EXAM GROUP: 7, 8
Since the late 1970s, the American style of management has been revolutionized. This course reviews the history of American management strategies, focusing on the origins and effects of the shareholder value approach that now prevails among leading firms. Shareholder value traces its roots to America's lackluster performance in the global economy during the 1970s, and the prescriptions offered by agency theorists in the field of financial economics. We explore how the shareholder value approach was promoted in American firms. We look at how the approach has changed core corporate strategy, how it has affected corporate performance, and how it has shaped labor markets, income inequality, and global trade.

***Sociology 150. Neighborhood Effects and the Social Order of the City**
Catalog Number: 31834 Enrollment: Limited to 30.
Robert J. Sampson
Half course (fall term). M., 4–6; Tu., at 9; Tu., at 10. EXAM GROUP: 9
Ideas about order and disorder have driven debates about the city for over a century. After reviewing classic approaches we will examine contemporary research on neighborhood inequality, "broken-windows" and crime, racial segregation, ethnic diversity and immigration, the symbolic meanings of disorder, community organizations, and competing visions for the uses of public space. Students will conduct field-based observations drawing upon cutting-edge methods employed by urban sociologists to understand the workings of the modern city.

***Sociology 152. Philanthropy and Public Problem-Solving**
Catalog Number: 96881
Christine Webb Letts (Kennedy School) and Jim Bildner (Kennedy School)
Half course (spring term). Tu., Th., 2:30-4. EXAM GROUP: 16, 17
This course will explore the role of philanthropy in public problem-solving. Using cases and readings, the course will cover the history and role of philanthropy and the nonprofit sector, relationship of both to government, the nature of strategic philanthropy, organizational assessment and impact of private action for public good. Students will chose a problem area with a focus on Boston, and, in teams, research the policies, responses/interventions, role of institutions, strengths and weaknesses of the response and institutional arrangements associated with the problem. A foundation has provided 100,000 dollars (for an enrollment of more than 20 students) for the students to grant to organizations determined as a result of their research.
Note: Offered jointly with the Kennedy School as MLD-805. Course will meet at the Kennedy School.

[Sociology 155. Class and Culture]
Catalog Number: 8934
Timothy Nelson (Kennedy School)
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Examines the intersection of social class and culture--both popular culture and "culture" in the anthropological sense. Focus on different class cultures as well as the cultural views of the class system, how social class is embedded in various high and popular cultural products such as art, music books, movies and material goods, and finally the question of how class is reproduced through culture. There

will be several short research/analysis projects.
Note: Expected to be given in 2014–15. This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Social Analysis.

Sociology 156. Quantitative Methods in Sociology
Catalog Number: 8958
Alexandra Achen Killewald
Half course (spring term). M., W., (F.), at 10. EXAM GROUP: 3
Introduces quantitative analysis in social research, including principles of research design and the use of empirical evidence, particularly from social surveys. Descriptive and inferential statistics, contingency table analysis, and regression analysis. Emphasis on analysis of data and presentation of results in research reports.
Note: Required of and limited to Sociology concentrators, ordinarily sophomores. This course, when taken for a letter grade, meets the General Education requirement in Empirical and Mathematical Reasoning or the Core area requirement for Quantitative Reasoning.

[*Sociology 157. Mapping and Analyzing Social Patterns in Greater Boston]
Catalog Number: 88434 Enrollment: Limited to 30.
Daniel T. O'Brien
Half course (fall term). M., W., 2–3:30. EXAM GROUP: 7, 8
Introduces the skills necessary to work with spatial data, with a focus on community-level variation in the greater Boston metropolitan area. Includes managing and visualizing data with ArcGIS (v.10) and analytical techniques designed to address complications with spatial data.
Note: Expected to be given in 2014–15.

[Sociology 160. Medicine, Health Policy and Bioethics in Comparative and Global Perspective: Conference Course]
Catalog Number: 3456
Mary-Jo Del Vecchio Good (Medical School)
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
Complements Sociology 162. Examines the culture and political economy of biomedicine and health care institutions in the US and internationally. Analysis of current debates on medical education and the new professionalism; clinical narratives, the medical imaginary and the biotechnical embrace; cultural diversity, disparities and inequalities in medical and mental health care; medical error and quality of care; just use of societal resources; and bioethical dilemmas in clinical practice, medical missions and interventions, and international research and health policies.
Note: Expected to be given in 2014–15.

Sociology 162. Medical Sociology
Catalog Number: 5801
Seth Donal Hannah and Mary-Jo Del Vecchio Good (Medical School)
Half course (fall term). Tu., Th., at 10. EXAM GROUP: 12
Explores current topics in medical sociology organized around the theme of global and local environments of risk and trust in medicine and health care. Examines how medical education, knowledge, practice, research, technology, and health policies are culturally shaped and institutionally organized. Analyzes the culture and political economy of American medicine through comparative and global perspectives, utilizing country specific illustrations and global health examples.

Sociology 163. Science, Technology, and Democracy - *(New Course)*
Catalog Number: 72138

Hiro Saito
Half course (fall term). M., W., at 10. EXAM GROUP: 3
As an integral part of society, science and technology play increasingly important roles in shaping political debates and public policies. This course explores the roles of science and technology in democratic politics in light of the 2011 Fukushima Daiichi Nuclear Accident.

[Sociology 164. Successful Societies: Markers and Pathways]
Catalog Number: 64978
Michèle Lamont and Peter Hall
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
Analyzes the markers of societal success and the social conditions that sustain it. Discusses various indicators ranging from the standard economic measures to the human development index, inequality, resilience to shocks, educational, child development and health measures. Considers the role of cultural and institutional buffers (how cultural repertoires and myths feed strong collective identities, cultural and institutional supports for coping with stigma, models of citizenship and immigration, and multi-level governance and their impact on welfare and poverty). Similarly addresses factors that present major challenges, or 'wicked problems', like concentrated urban poverty, well-being of indigenous and other racialized groups and some of the solutions attempted. Particular attention will be put on the United States, Canada, and other advanced industrial societies and to the role of space, institutions, and culture in shaping the conditions for successful societies. Public policy implications will also be discussed.
Note: Expected to be given in 2014–15.

Sociology 165. Inequalities in Health Care
Catalog Number: 8272
Mary Ruggie (Kennedy School)
Half course (fall term). M., W., at 1. EXAM GROUP: 6
Asks why certain social groups are at greater risk for more severe health problems (e.g., infant mortality, HIV/AIDS, cancer) and yet receive unequal health care in the US. Examines what best practices foster adequate delivery of healthcare services, mutual respect between patient and provider, and healthy living. Considers the role of government, the private sector, family and community.
Note: This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

[Sociology 166. Sociology of Poverty]
Catalog Number: 49285 Enrollment: Limited to 35.

Half course (spring term). Tu., Th., at 2. EXAM GROUP: 16
Examines sociological research on poverty and inequality and engages current debates about the causes and consequences of poverty and inequality in the U.S. and other advanced industrialized countries. Explores policy approaches to reducing poverty and inequality.
Note: Expected to be given in 2014–15.

***Sociology 169. Negotiation and Conflict Transformation for Policy and Practice**
Catalog Number: 17367 Enrollment: Limited to 50.
Kimberlyn Rachael Leary (Medical School)
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
Applies negotiation frameworks to a rich array of cases about community organizing, health care reform, social enterprise ventures, and diplomacy, including cases that students will share from their own research and field study. The course will enable students to be more reflective about large-scale conflicts, organizational and neighborhood tensions, and everyday experiences of dispute and enmity. Students will

also engage in a series of lab exercises and negotiation simulations that will permit them to extend their relational problem-solving skills.

[Sociology 170. Culture and Networks]
Catalog Number: 65007
Bart Bonikowski
Half course (spring term). Tu., Th., at 10.
This course will serve as an overview of the growing field of network research with a particular focus on how patterns of social interaction shape and are themselves shaped by cultural preferences and meaning-making processes. We will discuss a variety of substantive topics, including musical tastes, romantic relationships, organizational collaboration and competition, and social movement mobilization, while paying particular attention to the increasingly important role of social media in establishing and maintaining social ties.
Note: Expected to be given in 2014–15.

***Sociology 172. Crime, Journalism and Law**
Catalog Number: 51199 Enrollment: Limited to 25.
Cory Theodore Way
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
Crime narratives have dominated news and entertainment since the beginning of mass communication. This course examines the prominence of crime narratives in Anglo-American societies in various media formats. We will explore why crime has been consistently compelling to societies and citizens, and how these narratives have been harnessed to advance religious, political, governmental and ideological objectives. We will then study the power of mass communication and the impact that crime events can have on societies and their legal systems. We will conclude by examining what responsibilities (if any) media organizations, individual journalists, media consumers, state officials and the legal system should assume when producing, consuming and otherwise engaging highly publicized crime events.

[Sociology 174. Contemporary Central Asia and the Caucasus]
Catalog Number: 5060
Laura L. Adams and Robyn E. Angley
Half course (fall term). Tu., Th., 11:30–1.
An introduction to the post-Soviet societies of Central Asia and the Caucasus (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan). Explores topics such as religion, politics, civil society, globalization, gender, ethnicity, migration, and culture.
Note: Expected to be given in 2014–15.

Sociology 175. Sociology of Immigration
Catalog Number: 76736
Justin Gest
Half course (fall term). Tu., Th., 3–4:30, and a weekly section to be arranged. EXAM GROUP: 17, 18
This course examines global migration and the sociopolitical responses of national communities to this phenomenon. In the first half of the course, students consider the process of international migration, and the dynamics of immigration policy, border control and citizenship. In the second half, students address contemporary approaches to settlement, integration and political incorporation. The course concludes by evaluating the impact of transnational affiliations and supranational governance on a process that conventionally has been overseen by national authorities. At hand each week are some of the great social and political debates confronting American society and many other countries today.

[Sociology 178. Social Network Analysis: Theory, Methods and Applications]
Catalog Number: 54236
Instructor to be determined
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
Interests in social network analysis have exploded in the past few years. Aimed to examine social relationships and interactions from a structural perspective, social network analysis has become an essential tool for us to understand and address a variety of social issues, including friendship formation, peer influence, career mobility, socioeconomic inequality, organizational alliance and competition, economic development, international trade, diffusion of innovations, political mobilization, crime proliferation, spreading of diseases, etc. This course covers the basic concepts and theory in social network analysis, and major approaches and methods to collect, represent, visualize and analyze social network data. Students will also have the opportunity to learn using the mainstream software in social network analysis to conduct their own research on social networks.
Note: Expected to be given in 2014–15.

Sociology 179. Crime, Justice, and the American Legal System
Catalog Number: 3962
Cory Theodore Way
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
Explores the causes and consequences of crime in society. Critically examines the role of key players in the American criminal justice system, including police, politicians, judges, lawyers, offenders, victims and the media. Considers historical, political and sociological dimensions of controversial issues in criminal justice practice and policy.

Sociology 180. Law, Science, and Society in America
Catalog Number: 38367
Sheila Jasanoff (Kennedy School)
Half course (spring term). M., W., at 10. EXAM GROUP: 3
This course explores the tensions, contradictions, and mutual appropriations that characterize the relationship between law, science, and technology in America. It examines how ideas of evidence, expertise, and public reason have changed over the past half-century in response to such phenomena as the rise of the risk society, environmentalism, patient advocacy, and the information revolution. Law is broadly construed to include the activities of legislatures, regulatory agencies, and courts. The course seeks to contextualize the interactions of law, science, and technology in relation to wider transformations in US culture and society.
Note: Offered jointly with the Kennedy School as IGA-516.

Sociology 181. Social Change in Modern Korea - *(New Course)*
Catalog Number: 28405
Paul Y. Chang
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This course explores the incredible transformation of Korean society in the modern period. We begin with the demise of the Chosŏn Dynasty at the end of the 19th century before covering the Japanese colonial period (1910-1945), the emergence of two Korean nation-states (1945-1948), the Korean War (1950-53), and the contemporary period (1960-present). The course is divided into two distinct parts. In the first part of the course we discuss Korea's political and economic transformation and in the second part, we cover social and cultural change. Upon completion of the course, students should have a thorough grasp of the vast social changes Korea underwent in the 20th century.

Sociology 183. Race and Ethnic Relations
Catalog Number: 70535
Lawrence D. Bobo
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
Focuses on ethno-racial distinctions as they have played out in the US, particularly in the period from post-World War II to the present. The specific topics covered include the concept of race itself, whiteness and white identity, sociological theories of racial and ethnic stratification, immigration and immigration politics, processes of assimilation, new and changing ethno-racial identities, and racial attitudes. In the process of addressing these large and cross-cutting topics we will also take up a host of related issues dealing with such matters as income and wealth differentials, schooling and its outcomes, crime and incarceration, families, interracial marriages, and racism and antiracism.

Sociology 189. Democracy and Social Movements in East Asia - *(New Course)*
Catalog Number: 82041
Paul Y. Chang
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Social movements are an important part of both democratic and non-democratic societies. This course assesses the state of civil society in East Asian nations by surveying contemporary social movements in China, Taiwan, Hong Kong, Japan, and South Korea. We start the course by discussing the main concepts and analytic approaches in social movement theory. We then apply these theoretical frameworks to specific mobilization efforts in East Asia, keeping in mind each country's unique historical context. With the theoretical and empirical tools gleaned from the lectures and readings, students will pursue a case analysis of an East Asian social movement of their choosing.

Cross-listed Courses

[African and African American Studies 115. HBO's The Wire and its Contribution to Understanding Urban Inequality]
African and African American Studies 197. Poverty, Race, and Health
[History of Science 157. Sociology of Science]

Primarily for Graduates

***Sociology 202. Intermediate Quantitative Research Methods**
Catalog Number: 4117
Jason Beckfield
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Descriptive and inferential techniques used in quantitative sociological research. Emphasis is on the fundamentals of the linear regression model for continuous response variables, focusing on assumptions and interpretation. Applications and implementation are stressed; topics include categorical covariates, interactions, and diagnostics. Models for binary and limited dependent variables are also introduced.
Note: Required of, and limited to, first-year graduate students in Sociology
Prerequisite: Familiarity with basic statistics.

***Sociology 203a. Advanced Quantitative Research Methods**
Catalog Number: 3315
Christopher Winship
Half course (fall term). Tu., Th., 10–12.
Matrix approach to regression analysis with an emphasis on the assumptions behind OLS. Instrumental variables, generalized least squares, probit and logit models, survival analysis, hierarchical linear models,

and systems of equations are studied.
Note: Required of, and ordinarily limited to, second-year graduate students in Sociology.
Prerequisite: Sociology 202 or basic course in regression analysis.

***Sociology 203b. Analysis of Longitudinal Data: Seminar**
Catalog Number: 1860
Alexandra Achen Killewald
Half course (spring term). Th., 4–6. EXAM GROUP: 18
This course takes an applied approach to the analysis of longitudinal data. Lectures will provide an overview of a variety of techniques, including fixed effects models, multilevel models, and duration models. Students will develop their own empirical projects and receive support as they begin to work with longitudinal datasets.
Note: Primarily for graduate students in sociology.

Sociology 204. Classical Social Theory
Catalog Number: 6189
Adam B. Seligman
Half course (fall term). W., 12–2. EXAM GROUP: 5, 6
Introduction to the formative ideas and socio-intellectual contexts of 19th and early 20th century sociological theory. Course will explore social thought from the perspective provided by the problem of social order - and the roles different thinkers attributed to such factors as solidarity, power, and meaning as solutions to this problem. Consideration of the continuing significance of these ideas for contemporary social thought.
Note: Required of and limited to first-year graduate students in Sociology.

***Sociology 205. Sociological Research Design**
Catalog Number: 8972
Jocelyn Viterna
Half course (fall term). W., 10–12. EXAM GROUP: 3, 4
This course covers the fundamentals of sociological research design. Emphasis is placed on principles that are applicable in all kinds of sociological research, including surveys, participant observation, comparative historical study, interviews, and quantitative analysis of existing data. The course also delves into current methodological controversies in several arenas.
Note: Required of, and ordinarily limited to, first-year graduate students in Sociology.

[Sociology 206. The Sociology of Development: Seminar]
Catalog Number: 9026
Martin K. Whyte
Half course (spring term). Tu., 1–3.
Examines debates surrounding the nature of the process of economic development. Major attention is devoted to rival theories of where and why development occurs and to a variety of social consequences of economic development.
Note: Expected to be given in 2014–15.

***Sociology 208. Contemporary Theory and Research: Seminar**
Catalog Number: 6080
Robert J. Sampson
Half course (fall term). W., 10–12. EXAM GROUP: 3, 4
Covers the development of sociology as a discipline in the US and the rise of distinct schools of sociological theory. Assesses the role of mechanisms in sociological theory and explores the use of theory

in empirical research.
Note: Required of and limited to second-year graduate students in Sociology.

***Sociology 209. Qualitative Social Analysis: Seminar**
Catalog Number: 1198
Michèle Lamont
Half course (spring term). W., 9–12. EXAM GROUP: 2, 3, 4
Examines approaches to non-numerical data used by social scientists to obtain valid, reliable, and meaningful insight into the social world through the analysis of ethnographic field notes, interview transcripts, and archival and other interpretative data.
Note: Required of and limited to first-year graduate students in Sociology.

[*Sociology 217. Sociology of Families and Kinship: Seminar]
Catalog Number: 8522
Martin K. Whyte
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
Examines research on family patterns, combining a focus on how family patterns vary and change over time and how individuals differ in their experience of life course transitions, such as marriage, divorce, and retirement.
Note: Expected to be given in 2014–15.

[*Sociology 221. Immigration, Identity and Assimilation: Seminar]
Catalog Number: 9699
Mary C. Waters
Half course (fall term). W., 12–2. EXAM GROUP: 5, 6
Examines the experiences of recent immigrants and their children — the second generation. Review of economic, political, and social assimilation, and ethnic identity formation. Discussion of recent theories and research on the link between identity and economic assimilation.
Note: Expected to be given in 2014–15.

[*Sociology 223. American Society and Public Policy: Research Seminar]
Catalog Number: 15067 Enrollment: Limited to 16.
Theda Skocpol and Mary C. Waters
Half course (fall term). Tu., 1–3.
Explores growing inequality in the U.S., and its implications for public policy in the areas of social support for families and workers, immigration and citizenship, and access to higher education. Students are expected to develop and present their own research.
Note: Expected to be given in 2014–15.

[*Sociology 224. Organizational Analysis: Seminar]
Catalog Number: 8202

Half course (spring term). Hours to be arranged.
Reviews classical and contemporary theories of organizations, including ecological, institutional, resource dependence, transaction-cost, agency theory, networks and social movements. Examines phenomena at multiple levels from the establishment to the organizational network or field.
Note: Expected to be given in 2014–15. Offered jointly with the Business School as HBS 4880. This course will meet until spring break.

[*Sociology 226. The Sociology of Culture]
Catalog Number: 30907
Orlando Patterson
Half course (fall term). Th., 2–4.
Note: Expected to be given in 2014–15.

[Sociology 234. Ethnographic Fieldwork]
Catalog Number: 34764
Matthew Stephen Desmond
Half course (spring term). Th., 12–2. EXAM GROUP: 14, 15
This seminar is about the practice, politics, and poetics of ethnographic fieldwork--the method of immersing oneself into people's daily routines and systematically recording social processes as they unfold in real time. Along with engaging with several classic and contemporary texts, participants will collect, analyze, and argue with ethnographic data.
Note: Expected to be given in 2014–15.

[*Sociology 235. Advanced Qualitative Methods]
Catalog Number: 80114
Instructor to be determined
Half course (spring term). Th., 2–4.
Explores qualitative research methods with a focus on interviewing, case studies, comparative case analysis, and ethnography, and with particular attention to international/transnational research. Geared towards students who are conducting fieldwork and/or collecting data.
Note: Expected to be given in 2014–15.
Prerequisite: Intended for students who have already taken sociology 209 or its equivalent.

Sociology 236. Cultural Processes in the Production of Inequality
Catalog Number: 0582
Michèle Lamont
Half course (fall term). F., 10–12. EXAM GROUP: 3, 4
This advanced course will consider recent developments at the intersection of cultural sociology and the sociology of inequality, mobility and poverty. Topics will include: the coproduction of social and symbolic boundaries; moral schemas and inequality; cultural scripts in the construction of racism and anti-racism; new developments in the study of identity, ethno-racial and class cultures; cognition, cultural repertoires and networks; evaluation and other cultural and social processes; and the conceptualization of context and explanations in cultural sociology.

Sociology 237. Contemporary Chinese Society: Seminar
Catalog Number: 4320
Martin K. Whyte
Half course (fall term). Tu., 1–3. EXAM GROUP: 15, 16
A seminar devoted to the intensive analysis of a particular aspect of contemporary Chinese society. This year the focus will be on trends in inequality and stratification in China.

[Sociology 239. Just Institutions (Graduate Seminar in General Education)]
Catalog Number: 38797
Christopher Winship
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
Examines the normative, psychological, and sociological underpinnings needed to develop and maintain social institutions that are considered "just". The seminar will design and develop a General Education

course for undergraduates.
Note: Expected to be given in 2014–15.

Sociology 243. Economic Sociology
Catalog Number: 2022
Frank Dobbin
Half course (fall term). M., 7:15–9:15 p.m. EXAM GROUP: 9
Introduction to economic sociology at the graduate level. Surveys economic inequality and the ways that economic behavior and outcomes are shaped by social institutions such as markets, networks, organizations, family, and culture.

Sociology 246. Seminar in Crime and Justice - *(New Course)*
Catalog Number: 56792
Bruce Western
Half course (spring term). W., 5–7 p.m. EXAM GROUP: 9
This multidisciplinary seminar will read and discuss research on crime, the social context in which it occurs, and criminal justice policy. We address this literature in the historic context of shifts in US crime policy to a less punitive regime, where incarceration rates may be significantly reduced. Besides studying empirical research on crime and punishment, we will also consider the future of crime policy, and how principles of justice can guide the role of police and corrections in poor communities.

[Sociology 248. Race, Politics, and Social Inequality: Seminar]
Catalog Number: 8035
Lawrence D. Bobo
Half course (spring term). W., 1–3.
Examines intersection of race, public will, and policy-making. Reviews theories of race-making and racial inequality, dynamics of public opinion, and effects of a racialized public sphere on social policy. Focuses on the welfare state, the criminal justice system, and the dynamics of a multiethnic society.
Note: Expected to be given in 2014–15.

Sociology 254. Social Structure and Culture in the Study of Race and Urban Poverty
Catalog Number: 80085
William Julius Wilson
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
The purpose of this course is to critically examine current writings and debates on how social structure and culture affect the social outcomes of the African Americans and immigrants in the US. The relevance of these works for public and social policy will also be discussed.
Note: Offered jointly with the Kennedy School as SUP-207 (Formerly AAAS 211)

Sociology 255. Social Stratification: Seminar
Catalog Number: 3839
Alexandra Achen Killewald
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
This graduate level seminar surveys contemporary research in the field of social stratification. We will discuss competing explanations of and empirical scholarship on the emergence, historical evolution and cross-national variation of social inequalities.

Sociology 263. Historical Sociology: Cultural and Institutional Perspectives
Catalog Number: 82536
Orlando Patterson

Half course (spring term). Th., 4–6. EXAM GROUP: 18
The seminar examines selected major problems in the origins, development and consequences of capitalism both in and out of the West. Among the topics explored are: merchant capital in the late medieval and renaissance periods; institutional factors in the rise of Western capitalism; honorific individualism in the making of modern Japanese culture; colonialism and the institutional origins of development and underdevelopment; the role of religion, slavery and freedom; civility, aesthetic publics and emergent modernities; gender, sexuality and familial change. Our readings and discussions will be guided by the recurring theoretical problems of causality, origins, continuity and change in institutional and cultural processes.

[Sociology 267. Political Sociology]
Catalog Number: 42489

Half course (fall term). Th., 2–4.
This course examines power relations between (and within) society and the state. We will focus on nation-state formation, revolutions, social movements, ideology and political attitudes, welfare state policies, and globalization, while interrogating the major theoretical traditions that have shaped the sociological study of politics.
Note: Expected to be given in 2014–15.

[*Sociology 275. Social Network Analysis: Seminar]
Catalog Number: 6899
Peter V. Marsden
Half course (fall term). F., 10–12. EXAM GROUP: 3, 4
Concepts and methods for studying social structure using social networks. Approaches to collecting network data; data quality; graph-theoretic, statistical, and visual approaches to analyzing network data, including blockmodels and multidimensional scaling.
Note: Expected to be given in 2014–15.

[*Sociology 296a. Proseminar on Inequality & Social Policy I]
Catalog Number: 67293
Christopher Jencks (Kennedy School) and Theda Skocpol
Half course (fall term). W., 2–4. EXAM GROUP: 7, 8
The first doctoral seminar in the Inequality and Social Policy three-course sequence, this course considers the effects of policies and institutions in creating or reducing inequality in the U.S. and other advanced democracies, we well as the reciprocal effects of inequality on political activity and policy choices.
Note: Expected to be given in 2014–15. For 2013-14, FAS offers this course as Government 2340a. Offered jointly with the Kennedy School as SUP-921.

***Sociology 296b. Proseminar on Inequality and Social Policy II**
Catalog Number: 9407
Jason Beckfield and Amitabh Chandra (Kennedy School)
Half course (spring term). M., 2–4. EXAM GROUP: 7, 8
Deals with causes and possible cures for economic inequality, including skill differences, discrimination, immigration, household composition, residential segregation, and the welfare state.
Note: Offered jointly with the Kennedy School as SUP 922.
Prerequisite: SUP-921

Cross-listed Courses

Graduate Courses of Reading and Research

[*Sociology 300hf. Workshop on Race: Black Youth Culture]
Catalog Number: 6654
Orlando Patterson 1091 (on leave fall term)
Half course (throughout the year). F., 12–2.
A venue for graduate students and advanced scholars working on all aspects of minority-majority relations, the condition of Afro-Americans and other disadvantaged ethnic groups, and the evaluation of related public policies and programs.
Note: Expected to be given in 2014–15.

***Sociology 301. Special Reading and Research**
Catalog Number: 4017
Jason Beckfield 5612 (on leave fall term), Lawrence D. Bobo 2919, Mary C. Brinton 4567 (on leave 2013-14), Frank Dobbin 4622, Kathryn Edin (Kennedy School) 5952, Filiz Garip 5887, Mary-Jo Del Vecchio Good (Medical School) 7721, Christopher Jencks (Kennedy School) 2160, Tamara Kay 5611 (on leave 2013-14), Alexandra Achen Killewald 7028, Michèle Lamont 4634, Stanley Lieberson 1937, Peter V. Marsden 1797, Orlando Patterson 1091 (on leave fall term), Robert J. Sampson 4546 (on leave spring term), Theda Skocpol 1387, Jocelyn Viterna 5860 (on leave spring term), Mary C. Waters 1498, Bruce Western 5763, Martin K. Whyte 3737 (on leave spring term), William Julius Wilson 2401, and Christopher Winship 3189
Half course (fall term; repeated spring term). Hours to be arranged.

***Sociology 302. Direction of Doctoral Dissertations**
Catalog Number: 5021
Members of the Department

***Sociology 303a. Advanced Topics in Quantitative Research**
Catalog Number: 5636
Christopher Winship 3189
Half course (fall term; repeated spring term). W., 12–1:30. EXAM GROUP: 5, 6
Examines current methodological scholarship in the social sciences with an eye to assessing its quality and potential for advancing quantitative methods. Recently published and unpublished work by local scholars examined.

***Sociology 304. Culture and Social Analysis Workshop**
Catalog Number: 2809
Michèle Lamont 4634
Half course (fall term; repeated spring term). M., 4–6.
A venue for those working on topics such as meaning-making, identity, collective memory, symbolic boundaries, cultural capital, class cultures, popular culture, media, disciplinary cultures, and the impact of culture on inequality.

***Sociology 305. Teaching Practicum**
Catalog Number: 0259
Jocelyn Viterna 5860 (on leave spring term)
Half course (fall term). Th., 3:30–5:30.
Note: Required of and limited to graduate students in Sociology. Attendance at first meeting is required. Not repeatable for credit.

***Sociology 307. Proseminar on Inequality and Social Policy III**
Catalog Number: 0137
William Julius Wilson 2401
Half course (fall term). M., 2–4.
Students develop previously completed papers from Sociology 296a or 296b into professional presentations and publishable articles, critique peer papers across disciplines, and discuss presentations of national experts.
Note: Offered jointly with the Kennedy School as SUP-923.
Prerequisite: Sociology 296a and Government 2340b (or SUP-921 and SUP-922 at the Kennedy School).

***Sociology 308. Workshop on Economic Sociology**
Catalog Number: 0086
Frank Dobbin 4622
Half course (fall term; repeated spring term). W., 4–5:30.
Presentations and discussions of new research by members of the community and visiting scholars. Students are exposed to the major paradigms in the field, and see how research articles are developed and refined.

***Sociology 309. Migration and Immigrant Incorporation Workshop**
Catalog Number: 9932
Mary C. Waters 1498
Half course (fall term; repeated spring term). Fall: Th., 12–2. EXAM GROUP: Fall: 14, 15
Bi-weekly colloquium for graduate students that examines international migration and the incorporation of migrants into host societies. Students participate in meetings and present original work in progress.
Note: The first meeting will be Thursday, February 6, 2014.

***Sociology 310. Qualifying Paper**
Catalog Number: 40662
Christopher Winship 3189
Half course (fall term). M., 8–10. EXAM GROUP: 1, 2
Guides students through the process of producing an original research paper of high quality. Readings and discussion cover the identification of appropriate research problems, the nature of causal reasoning, and data analysis and write-up.
Note: Required of, and ordinarily limited to, third-year graduate students while writing the qualifying paper. Not repeatable for credit.

[*Sociology 312. Workshop on Social Networks and Social Capital: Advanced Models and Empirical Applications]
Catalog Number: 49871
Filiz Garip 5887
Half course (fall term; repeated spring term). Th., 4–6.
The workshop brings together quantitative sociologists working with advanced descriptive, computational, causal or network models to empirically analyze issues broadly related to social networks and social capital.
Note: Expected to be given in 2014–15. Class meets bi-weekly. First class, September 8, 2011.

[*Sociology 314. Workshop on Urban Social Processes]
Catalog Number: 16972
Robert J. Sampson 4546 (on leave spring term)
Half course (fall term; repeated spring term). Th., 4–6.

Forum for discussion of analytic sociological research on city and community. Covering a range of topics with a focus on social mechanisms, processes, and structures. The workshop aims to support the presentation of graduate student research but will also include discussion sessions on selected readings and work-in-progress by faculty at Harvard and colleagues around the country.
Note: Expected to be given in 2014–15. First class, September 15, 2011.

***Sociology 315. Inequality and Social Policy: Seminar**
Catalog Number: 65203
Bruce Western 5763
Half course (fall term; repeated spring term). Fall: M., 12–2.

***Sociology 317. Culture, History and Society**
Catalog Number: 84118
Orlando Patterson 1091 (on leave fall term)
Half course (fall term; repeated spring term). F., 12–2.

Sociology 318. Workshop on Quantitative Methods in Sociology - *(New Course)
Catalog Number: 35881
Alexandra Achen Killewald 7028
Half course (fall term; repeated spring term). Fall: Tu., 12–2; Spring: Th., 12–2.
First meeting will be held Thursday, January 30, 2014.

[*Sociology 320. Workshop on Sociology of Education]
Catalog Number: 18817
Mary C. Brinton 4567 (on leave 2013-14)
Half course (fall term; repeated spring term). Tu., 12–2.
A forum for students and faculty across the university interested in the sociology of education, primarily for the discussion of research in progress. Domestic and comparative topics welcome. Meets bi-weekly, Fall and Spring.
Note: Expected to be given in 2014–15. First class meeting is September 4, 2012.

Cross-listed Courses

***Government 3004. Research Workshop in American Politics**

South Asian Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of South Asian Studies

Parimal G. Patil, Professor of Religion and Indian Philosophy *(Chair)*
Ali S. Asani, Professor of Indo-Muslim and Islamic Religion and Cultures *(on leave fall term)*
Amy Bard, Preceptor in Hindi and Urdu
Homi K. Bhabha, Anne F. Rothenberg Professor of the Humanities
Sugata Bose, Gardiner Professor of Oceanic History and Affairs
Richard S. Delacy, Preceptor in Hindi and Urdu
Diana L. Eck, Fredric Wertham Professor of Law and Psychiatry in Society
Jay Jasanoff, Diebold Professor of Indo-European Linguistics and Philology *(on leave spring term)*
Shenghai Li, College Fellow in the Department of South Asian Studies and ACLS New Faculty Fellow
Jonathan Ripley, Preceptor in Tamil
Amartya Sen, Lamont University Professor
Harpreet Singh, College Fellow in the Department of South Asian Studies
Ajantha Subramanian, Professor of Anthropology
Leonard W. J. van der Kuijp, Professor of Tibetan and Himalayan Studies
Alex Watson, Preceptor in Sanskrit
Michael Witzel, Wales Professor of Sanskrit
Richard K. Wolf, Professor of Music

Other Faculty Offering Instruction in the Department of South Asian Studies

Francis X. Clooney, Parkman Professor of Divinity and Professor of Comparative Theology *(Divinity School)*
Janet Gyatso, Hershey Professor of Buddhist Studies *(Divinity School)*
Anne E. Monius, Professor of South Asian Religions *(Divinity School)*

Affiliates of the Department of South Asian Studies

Asad A. Ahmed, Associate Professor of Anthropology
Prerna Singh, Assistant Professor of Government *(on leave fall term)*

Graduate students in the Faculty of Arts and Sciences may enroll in certain foreign language courses for the grade of Sat/UNS. Students should consult with course heads to determine if a course is offered on that basis. For further information and updates, please visit our website: *www.sas.fas.harvard.edu*.

South Asian Studies

Primarily for Undergraduates

***South Asian Studies 91r. Supervised Reading and Research**
Catalog Number: 26727
Parimal G. Patil and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading leading to a long term paper in a topic or topics not covered by regular courses of instruction.
Note: A graded course. Offered at the discretion of the individual instructors.

***South Asian Studies 98r. Tutorial—Junior Year**
Catalog Number: 93356
Parimal G. Patil and members of the Department

Half course (fall term; repeated spring term). Hours to be arranged.
Note: Required of concentrators.

***South Asian Studies 99r. Tutorial—Senior Year**
Catalog Number: 41834
Parimal G. Patil and members of the Department
Full course (indivisible). Hours to be arranged.
Note: Required of concentrators writing a thesis.

Cross-listed Courses

Aesthetic and Interpretive Understanding 30. Love In A Dead Language: Classical Indian Literature and Its Theorists
Aesthetic and Interpretive Understanding 54 (formerly Culture and Belief 12). For the Love of God and His Prophet: Religion, Literature, and the Arts in Muslim Cultures
[Culture and Belief 19 (formerly Foreign Cultures 70). Understanding Islam and Contemporary Muslim Societies]
Culture and Belief 25. Studying Buddhism, Across Place and Time
Culture and Belief 28. Hindu Worlds of Art and Culture
[Culture and Belief 46. Music, Debate, and Islam]
[*History 86e. Nation, Reason and Religion in South Asia]
[*History 86f. Tagore and his Times]
[*History 86h. Asia after Europe]
History of Art and Architecture 18s. Arts of South and Southeast Asia
Societies of the World 36 (formerly Historical Study A-16). Modern India and South Asia
Societies of the World 47. Contemporary South Asia: Entrepreneurial Solutions to Intractable Social & Economic Problems
***United States in the World 32 (formerly Religion 1007). The World's Religions in Multicultural America: Case Studies in Religious Pluralism**

For Undergraduates and Graduates

***South Asian Studies 100r. South Asian Language Tutorials**
Catalog Number: 78249
Parimal G. Patil and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged. EXAM GROUP: Fall: 4, 11; Spring: 10, 11
Individualized study of a South Asian language; emphasis on written expression, reading comprehension and oral fluency. Languages currently offered are Bahasa Indonesia and Bengali though others may be approved upon petition to the Director of Undergraduate Studies/Director of Graduate Studies.
Note: Not open to auditors.

[*South Asian Studies 123. Bollywood and Beyond: Commercial Cinema, Language and Culture in South Asia.]
Catalog Number: 6828 Enrollment: Limited to 20.
Richard S. Delacy
Half course (spring term). Th., 3–6. EXAM GROUP: 17, 18
This course examines concepts of personhood, community and culture in South Asia as expressed in contemporary film and literature. Works in Hindi-Urdu and in translation will be examined with emphasis on language as an index of cultural difference and of broad social shifts, notably the transformation of

audiences from citizens to culture-consumers. Knowledge of Hindi-Urdu is not required. However, there will be a section for students with intermediate proficiency utilizing language materials.
Note: Expected to be given in 2014–15. Students who enroll in the language section of this course may count it towards a citation in Urdu-Hindi.

[South Asian Studies 124. Introduction to World Mythology]
Catalog Number: 62478
Michael Witzel
Half course (spring term). Th., 10-11:30, and an additional hour to be arranged. EXAM GROUP: 12, 13
The course discusses current and past approaches to comparative mythology and explores the new field of historical comparative mythology. Close interdisciplinary attention is given to genetics, linguistics and archaeology, and an outline of the development of mythologies from the late Stone Age until the rise of current world religions is presented.

South Asian Studies 125 (formerly South Asian Studies 223). Indian History up to 1200 CE
Catalog Number: 82585
Michael Witzel
Half course (spring term). Th., 2–4. EXAM GROUP: 16, 17
Outline of the major cultural, religious and political developments, from the first human settlement around 65,000 CE. Concentrates on Indus civilization, the Vedic age, the pan-Indian Maurya empire, the interregnum up to the Guptas empire, the regional power centers of the Middle Ages.

South Asian Studies 190. Religious Nationalism and Ethnic Conflict in Modern South Asia
Catalog Number: 13053
Harpreet Singh
Half course (spring term). Tu., 3–5. EXAM GROUP: 17, 18
What prompts a person with a family to pick up a gun and join a militia? What drives a democratic state to engage in indiscriminate violence against its own citizens? Why do people frequently see George Washington as a "freedom fighter" but insurgents in Kashmir as "terrorists"? This course will consider such questions in the context of religious and ethnic conflict in modern South Asia. Using case studies on Gujarat, Kashmir, Panjab, and Nagaland, we will discuss the historical trajectory and dialectical interplay between different forms of nationalism led by Hindus, Muslims, Sikhs and Nagas in the colonial and post-colonial periods. Materials to be examined will be drawn from a wide range of sources, from theoretical texts and human rights reports to ethnographic accounts and films.
Note: Offered jointly with the Divinity School as 3414. This course, when taken for a letter grade, meets the General Education requirement for Societies of the World.

South Asian Studies 191. South Asian Literary Cultures: An Introduction
Catalog Number: 73789
Harpreet Singh
Half course (spring term). Th., 3–5. EXAM GROUP: 17, 18
In the beginning of the second millennium, a major literary transformation occurred in South Asia leading to the rise of local literary cultures. The goal of the course is to introduce students to a range of north Indian literary cultures and genres in Awadhi, Bengali, Brajbhasha, Panjabi, Sindhi and Urdu with an emphasis on religious, political and regional identity, and the ways in which literary production intersects with music and art of the region. All reading will be in English and no knowledge of languages of the region is required.
Note: Offered jointly with the Divinity School as 3402.

South Asian Studies 194. A Clash of Civilizations? Hindus and Muslims in South Asia - *(New Course)*
Catalog Number: 21986
Harpreet Singh
Half course (fall term). W., 3–6. EXAM GROUP: 8, 9
The objective of the course is to understand the rich and complex history of Hindu-Muslim interactions in one of most diverse regions in the world. Using literature, art, film and critical scholarship, we will study the ways in which religious identities have been negotiated and contested in the public sphere. We will attempt to respond to the question whether religious strife between Hindus and Muslims in South Asia represents a "clash of civilizations" or something more interesting.
Note: Offered jointly with the Divinity School as 3390.

South Asian Studies 195. Thinking Critically About Emptiness: History of Madhyamaka Philosophy in South Asia - *(New Course)*
Catalog Number: 84316
Shenghai Li
Half course (fall term). M., 2–5. EXAM GROUP: 7, 8, 9
This course is an advanced introduction to the literature of the Madhyamaka school of Buddhist thought in South Asia. Our initial goal is to trace the emergence and development of the Madhyamaka philosophical system as articulated by the school's founders and classical interpreters. The second part of the course will focus on the critical encounters of Madhyamaka writers with other South Asian philosophical traditions. Previous coursework in Buddhist studies or South Asian religions will be helpful, but not necessary.
Note: Offered jointly with the Divinity School as 3528.

South Asian Studies 196. Work and Religion in Modern South Asia - *(New Course)*
Catalog Number: 63634
Parimal G. Patil
Half course (spring term). M., W., at 12. EXAM GROUP: 5
This course will explore the everyday lives, politics, and theologies of working-class persons in modern South Asia. The course will examine contemporary debates on globalization, development, and precarity; workers' experiences of factory work, informality, and agitations; and workers' religious practices and theological visions. Core concerns of the course will include inquiries into the appropriate categories for understanding workers' lives and visions, and the possibilities for autonomous, nonviolent politics among working-class people in South Asia. The course will draw upon a range of sources, including ethnographies, oral histories, epics, novels, and Hindi cinema.
Note: Offered jointly with the Divinity School as 3529.

South Asian Studies 197. Buddhist Literature in South Asia and Beyond - *(New Course)*
Catalog Number: 54319
Shenghai Li
Half course (spring term). W., 4–6. EXAM GROUP: 9
Buddhist literary texts were an innovative force in the cultures of many parts of Asia. This course explores major Buddhist themes and genres in India, ranging from biographies of the Buddha, stories of his former lives, tales of magnificent exploits, to poetry and drama, and their continuing forms in other Asian literatures. While reading Asian Buddhist texts in translation, we will examine such questions as the role of language, the different functions of prose and verse, and the extent to which these texts are to be considered Buddhist.
Note: Offered jointly with the Divinity School as 3540.

Cross-listed Courses

Anthropology 1632. Contemporary South Asia - *(New Course)*
Anthropology 1656. History and Anthropology of Pakistan: seminar
Anthropology 1684. Anthropology of Debt: Seminar - *(New Course)*
Anthropology 1890. Making News: Journalists and Media in Comparative Perspective - *(New Course)*
History of Art and Architecture 183k. Himalayan Art - *(New Course)*
[Linguistics 107. Introduction to Indo-European]
[Linguistics 168. Introduction to Germanic Linguistics]
Music 190r. Topics in World Music: Proseminar
Philosophy 191. Philosophy without Borders: India and Europe: Proseminar - *(New Course)
Religion 1706. Dharmas, Emptiness, and Idealism

Primarily for Graduates

[South Asian Studies 224. Rebirth and Karma]
Catalog Number: 40633
Michael Witzel
Half course (fall term). Th., 10–12.
Discusses the origin and development of the seminal Indian concepts of Rebirth and Karma as well as their eventual combination in the Upanishadic period. Follows some of their developments in the subsequent texts and beliefs of the past 2500 years

[South Asian Studies 226. Indian Rites, Customs, and Beliefs]
Catalog Number: 30936
Michael Witzel
Half course (spring term). Hours to be arranged.
Focuses on little studied aspects of personal beliefs, customs followed in various parts of the subcontinent, and rites connected with them. Comparisons of Hindu and Muslim aspects, leading up to a picture of South Asian life style.

[South Asian Studies 250r. Advanced Topics in Buddhist Philosophy - Conference Course]
Catalog Number: 44296 Enrollment: Limited to 35.
Parimal G. Patil
Half course (fall term). Th., 3–6. EXAM GROUP: 17, 18
A detailed treatment of specific topics in Indian Buddhist Philosophy. This term our focus will be the Buddhist theory of momentariness.
Note: Expected to be given in 2014–15. Jointly offered with the Divinity School as 3568.

Cross-listed Courses

[Anthropology 2638. Political Anthropology of Colonial and Postcolonial South Asia]
Anthropology 2676. Muslims, Islam and Anthropology - *(New Course)*
Anthropology 2727. Anthropology of Media - *(New Course)*
Anthropology 2864. Anthropology of Financial Systems - *(New Course)*
[Economics 2057. Rationality and Choice]
[Economics 2085. Economics of Inequality and Poverty]
History 2692. Colonial and Post-Colonial Histories of South Asia: Seminar
History of Art and Architecture 285m. South Asian Temple : Theory and Practice

[*Islamic Civilizations 241r. Approaches to Studying Indo-Muslim Culture and South Asian Islam]
Linguistics 220ar. Advanced Indo-European
Linguistics 221r. Workshop in Indo-European
Music 207r. Ethnomusicology: Seminar

Graduate Courses of Reading and Research

***South Asian Studies 302. Reading and Research**
Catalog Number: 1405
Ali S. Asani 7739 (on leave fall term), Francis X. Clooney (Divinity School) 1785, Diana L. Eck 4514, Anne E. Monius (Divinity School) 4489, Parimal G. Patil 4478, and Michael Witzel 1602

Nepali

For Undergraduates and Graduates

Nepali 101a. Introductory Nepali
Catalog Number: 8974
Michael Witzel and members of the Department
Half course (fall term). Hours to be arranged.
This course introduces the basic grammatical structures of modern Nepali, enabling students to read and produce simple, standard prose as well as engage in basic conversation by the end of the first year. Nepali is taught with a concern for the cultural context in which this language is spoken and written.

Nepali 101b. Introductory Nepali
Catalog Number: 3039
Michael Witzel and members of the Department
Half course (spring term). Hours to be arranged.
Continuation of Nepali 101a.

Nepali 102a. Intermediate Nepali
Catalog Number: 8921
Michael Witzel and members of the Department
Half course (fall term). Hours to be arranged.
This course is designed to provide students with a more sophisticated knowledge of Nepali grammar. Students will also have an opportunity to use Nepali language for communication purposes and will be able to analyze more complex sentence types than the ones taught in the introductory course.

Nepali 102b. Intermediate Nepali
Catalog Number: 2720
Michael Witzel and members of the Department
Half course (spring term). Hours to be arranged.
This course is designed to provide students with a more sophisticated knowledge of Nepali grammar. Students will also have an opportunity to use Nepali language for communication purposes and will be able to analyze more complex sentence types than the ones taught in the introductory course.

Nepali 103a. Advanced Nepali
Catalog Number: 19267
Michael Witzel and members of the Department
Half course (fall term). Hours to be arranged.

A reading course in Modern Nepali Literature, suitable for students who have at least three years of Nepali learning. This course is designed to help students understand some of the complex literary materials composed in modern Nepali language. The students will have an opportunity to read a wide variety of selected texts, understand the linguistic systems operative in those writings, and come up with their own informed understanding of them.

Nepali 103b. Advanced Nepali
Catalog Number: 85896
Michael Witzel
Half course (spring term). Hours to be arranged.
A reading course in Modern Nepali Literature, suitable for students who have at least three years of Nepali learning. This course is designed to help students understand some of the complex literary materials composed in modern Nepali language. The students will have an opportunity to read a wide variety of selected texts, understand the linguistic systems operative in those writings, and come up with their own informed understanding of them.

Nepali 104a. Readings in Modern Nepali Literature
Catalog Number: 46805
Michael Witzel and members of the Department
Half course (fall term). Hours to be arranged.
A reading course in Modern Nepali Literature, suitable for students who have at least three years of Nepali learning. This course is designed to help students understand some of the complex literary materials composed in modern Nepali language. The students will have an opportunity to read a wide variety of selected texts, understand the linguistic systems operative in those writings, and come up with their own informed understanding of them

Nepali 104b. Readings in Modern Nepali Literature
Catalog Number: 61912
Michael Witzel and members of the Department
Half course (spring term). Hours to be arranged.
A reading course in Modern Nepali Literature, suitable for students who have at least three years of Nepali learning. This course is designed to help students understand some of the complex literary materials composed in modern Nepali language. The students will have an opportunity to read a wide variety of selected texts, understand the linguistic systems operative in those writings, and come up with their own informed understanding of them.

Nepali 105a. Development of Nepali Language and Literature: Contributions of Local Languages
Catalog Number: 50945
Michael Witzel
Half course (fall term). Hours to be arranged.
Investigates the impact of the various non-Nepali speaking groups (janajati)on Nepali literature, as well as their linguistic contributions.

Nepali 105b. Development of Nepali Language and Literature: Contributions of Local Languages
Catalog Number: 66052
Michael Witzel
Half course (spring term). Hours to be arranged.
Investigates the impact of the various non-Nepali speaking groups (janajati)on Nepali literature, as well as their linguistic contributions.

Pali

For Undergraduates and Graduates

Pali 101a. Introductory Pali
Catalog Number: 4129
Parimal G. Patil and members of the Department
Half course (fall term). Hours to be arranged.
Considered sacred by the Theravada Buddhist tradition of Sri Lanka, India and Southeast Asia, as it was held to convey the actual "words of the Buddha", Pali came to be used as an authoritative, cosmopolitan language throughout the Theravada world. Pali texts display a rich variety of genres, including some of the earliest extant Indian poetry. The course is geared toward allowing the student to read Pali texts as quickly as possible.
Note: Offered jointly with the Divinity School as 4050.

Pali 101b. Introductory Pali
Catalog Number: 7320
Parimal G. Patil and members of the Department
Half course (spring term). Hours to be arranged.
Continuation of Pali 101a.
Note: Offered jointly with the Divinity School as 4051.

Pali 102a. Intermediate Pali
Catalog Number: 8376
Parimal G. Patil and members of the Department
Half course (fall term). Hours to be arranged.
Developing the skills gained in Introduction to Pali, the student reads texts of greater linguistic complexity in a wide variety of genres. The choice of text can be influenced by the students' particular interests. Where applicable, we will use the Pali commentarial tradition as a tool to understanding the texts, thus providing the student with access to this illuminating but challenging body of material.

***Pali 102b. Intermediate Pali**
Catalog Number: 7748
Parimal G. Patil and members of the Department
Half course (spring term). Hours to be arranged.
Continuation of Pali 102a.
Prerequisite: Pali 102a or equivalent.

Pali 103r. Readings in Pali
Catalog Number: 6985
Parimal G. Patil and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.

Sanskrit

Primarily for Undergraduates

***Sanskrit 91r. Supervised Reading and Research**
Catalog Number: 5497
Parimal G. Patil and members of the Department

Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading of texts in Sanskrit not covered by regular courses of instruction.
Note: A graded course. Offered at the discretion of the individual instructors.

For Undergraduates and Graduates

Sanskrit 101a. Elementary Sanskrit
Catalog Number: 8140
Alex Watson
Half course (fall term). M., W., F., at 12; F., at 11; F., at 1. EXAM GROUP: 5
Introduction to Classical Sanskrit, the translocal language of intellectual life in South Asia for much of the last two millennia. This course provides the essential grammar and reading proficiency necessary to take up the language's many rich literary traditions: scripture (*Upaniṣad*), epic (*Rāmāyaṇa* and *Mahābhārata*), poetry, Hindu and Buddhist philosophy, etc. After completing the textbook, we will read a narrative (*Hitopadeśa*) drawn from one of the most popular literary works in the pre-modern world.

Sanskrit 101b. Elementary Sanskrit
Catalog Number: 6892
Alex Watson
Half course (spring term). M., W., F., at 12. EXAM GROUP: 5
Continuation of Sanskrit 101a.

Sanskrit 102a. Intermediate Sanskrit I
Catalog Number: 4843
Parimal G. Patil and members of the Department
Half course (fall term). M., W., F., at 1. EXAM GROUP: 6
A reading course designed to give students the tools necessary for advanced study in Classical Sanskrit. Readings in epic (*itihāsa*) or narrative (*kathā*), poetry (*kāvya*) or systematic thought (*śāstra*) will introduce students to a variety of important genres and their distinctive conventions. A focus upon the Sanskrit tradition's categories of analysis - grammatical, commentarial and prosodic - will enable students to begin to make sense of original Sanskrit texts as generations of the tradition's own readers have.

Sanskrit 102b. Intermediate Sanskrit II
Catalog Number: 4916
Alex Watson
Half course (spring term). Tu., Th., 10–11:30, and an additional section M., at 12 or M., at 1. EXAM GROUP: 12
Continuation of Sanskrit 102a.

Sanskrit 105. Survey of Early Vedic Literature - *(New Course)*
Catalog Number: 48096
Michael Witzel and members of the Department
Half course (fall term). Hours to be arranged.
This course examines the earliest texts which constitute Vedic Literature. The class will first read selections of the Ṛg Vedic 'apocrypha:' poetic material which was not accepted by all schools of Ṛg Veda. Next, the study of the Atharva Veda will yield insight into early Vedic systems of sorcery, cosmology, and politics. Finally, the focus turns to the earliest Indic prose commentary on the Agnihotra found in the Black Yajur Veda, which will prove foundational to the study of Vedic ritual generally.

Sanskrit 106a. Readings from the Brahmanas and Upanisads - *(New Course)*
Catalog Number: 29088
Michael Witzel and members of the Department
Half course (fall term). Hours to be arranged.
Prose texts on ritual and early Indian philosophy are read and analyzed. Special attention is paid to the underlying method of establishing correlations between macro and microcosm in sacrificial proceedings.

Sanskrit 106b. Readings in the Upanisads - *(New Course)*
Catalog Number: 23618
Michael Witzel and members of the Department
Half course (spring term). Hours to be arranged.
Prose texts on early Indian philosophy are read and analyzed. Special attention is paid to the unfolding philosophical terminology. The main focus will lie on the concepts of atman and brahman: essential terms that come to dominate Indian philosophy for centuries. This course will provide the foundation for a successful engagement with philosophy in India.
Prerequisite: At least one year of Sanskrit.

Sanskrit 107. Vâlmîki's Râmâyana - *(New Course)*
Catalog Number: 87193
Michael Witzel and members of the Department
Half course (spring term). Hours to be arranged.
This course will read selections of the "first kâvya" in Epic Sanskrit. The objectives of the course include gaining speed and facility with the Epic poetic tradition, while focusing on the manner in which the text constitutes the figure of "the hero."
Prerequisite: At least one year of Sanskrit.

Primarily for Graduates

[Sanskrit 200ar. Advanced Poetic Sanskrit]
Catalog Number: 3658
Alex Watson
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
Selected readings from inscriptions and documents.
Note: Expected to be given in 2014–15.

[Sanskrit 200br. Advanced Literary Sanskrit]
Catalog Number: 3526
Parimal G. Patil
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
Note: Expected to be given in 2014–15.

Sanskrit 201ar. Advanced Philosophical Sanskrit
Catalog Number: 9986
Alex Watson
Half course (fall term). M., W., F., at 10.
Topic to be announced.

Sanskrit 201br. Advanced Philosophical Sanskrit
Catalog Number: 5965
Alex Watson

Half course (spring term). M., W., F., at 10.
Topic to be announced.

Sanskrit 214r. Ritual Sutras
Catalog Number: 6626
Michael Witzel
Half course (fall term; repeated spring term). Th., 5–7 p.m. EXAM GROUP: 18
Discussions of the Atiratra-Agnicayana ritual.

[Sanskrit 216. Advanced Skt: Kashmir drama/Prahasana texts]
Catalog Number: 33768
Michael Witzel
Half course (spring term). Hours to be arranged.
Reading of classical Sanskrit texts with a regional, Kashmiri flavor. Concentrates on comedy texts in early drama and verse compositions by Ksemendra.

[Sanskrit 217. Introduction to Vedic Studies: language and texts - (New Course)]
Catalog Number: 58445
Michael Witzel
Half course (fall term). W., 4–6. EXAM GROUP: 9
Presents a history of Vedic texts and religion. Reading of pertinent texts from the period, 1200-500 BCE.

[Sanskrit 218. Advanced Skt: Upanisads - (New Course)]
Catalog Number: 37137
Michael Witzel
Half course (fall term). Hours to be arranged.
Reading and interpretation of the earliest philosophical texts against their Vedic background found in the Brahmana texts.

***Sanskrit 250r. Nth Year Sanskrit: Seminar**
Catalog Number: 63939 Enrollment: Limited to 15.
Parimal G. Patil
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
An advanced course for students who have completed at least four years of formal Sanskrit instruction. Texts and topics will vary from year to year.

Graduate Courses of Reading and Research

***Sanskrit 301. Reading and Research**
Catalog Number: 2158
Francis X. Clooney (Divinity School) 1785, Diana L. Eck 4514, Anne E. Monius (Divinity School) 4489, Parimal G. Patil 4478, and Michael Witzel 1602

***Sanskrit 310. Direction of Doctoral Dissertations**
Catalog Number: 4371
Francis X. Clooney (Divinity School) 1785, Diana L. Eck 4514, Anne E. Monius (Divinity School) 4489, Parimal G. Patil 4478, and Michael Witzel 1602

Tamil

For Undergraduates and Graduates

Tamil 101a. Elementary Tamil
Catalog Number: 27362
Jonathan Ripley
Half course (fall term). M., W., F., at 11. EXAM GROUP: 4
An introduction to the oldest of the Dravidian languages of South India. Tamil has a rich and well-developed literary tradition that ranges from ancient classical poetry and medieval devotional compositions and epics to the present-day where the modern novel, short story and drama coexist with vibrant traditions of folk poetry and folk drama. Students will be introduced to the Tamil script and to reading, writing, and speaking the Tamil language and to basic elements of grammar. Materials from popular culture and the folk tradition will supplement modern teaching materials.

Tamil 101b. Elementary Tamil
Catalog Number: 93991
Jonathan Ripley
Half course (spring term). M., W., F., at 11; M., W., F., at 9. EXAM GROUP: 4
Continuation of Tamil 101a.

Tamil 102a. Intermediate Tamil
Catalog Number: 42469
Jonathan Ripley
Half course (fall term). M., W., F., at 2. EXAM GROUP: 7
Second year Tamil will focus on reading, writing, and speaking at an intermediate level. Students will read Tamil essays, short stories, and published literature as well as materials from the Tamil folk tradition. There will also be a significant emphasis on using spoken and written Tamil. Tamil cinema and audiovisual materials presenting contemporary and traditional Tamil culture will be used as supplementary class material.

Tamil 102b. Intermediate Tamil
Catalog Number: 57576
Jonathan Ripley
Half course (spring term). M., W., at 1; Th., at 3; M., W., F., at 2. EXAM GROUP: 6
Continuation of Tamil 102a.

Tamil 103a. Advanced Tamil
Catalog Number: 72683
Jonathan Ripley
Half course (fall term). M., W., F., at 1. EXAM GROUP: 6
This course will focus on listening, speaking, reading and writing Tamil at the advanced level. Course materials will include modern short stories and essays, excerpts from novels, as well as Tamil literature from other periods and genres. Texts include Tamil classical poetry, devotional literature, epic literature, and selections from minor literary forms.

Tamil 103b. Advanced Tamil
Catalog Number: 21161
Jonathan Ripley
Half course (spring term). M., W., F., at 1; M., W., F., at 8. EXAM GROUP: 6
Continuation of Tamil 103a.

Thai

For Undergraduates and Graduates

***Thai 101a. Introductory Thai I**
Catalog Number: 5395
Parimal G. Patil and members of the Department
Half course (fall term). Hours to be arranged.
This course introduces the basic grammatical structures of modern Thai, enabling students to read and produce simple, standard prose as well as engage in basic conversation by the end of the first year. Thai is taught with a concern for the cultural context in which this language is spoken and written.

***Thai 101b. Introductory Thai II**
Catalog Number: 6557
Parimal G. Patil and members of the Department
Half course (spring term). Hours to be arranged.
Continuation of Thai 101a.

***Thai 102a. Intermediate Thai I**
Catalog Number: 8582
Parimal G. Patil and members of the Department
Half course (fall term). Hours to be arranged.
A two-term continuation of the study of Thai at the intermediate level. Students build on acquired proficiency at the elementary level (or its equivalent) towards achieving more fluency in reading, speaking, writing, and listening comprehension of standard Thai, as well as in cultural-social skills. Introduces new vocabulary and grammar through communicative tasks and text readings, mainly using the situational-communicative methodology.
Prerequisite: Successful completion of Elementary Thai (or equivalent) is required. Continuing students who did not take Introductory Thai, as well as new students, are encouraged to talk to the instructor prior to registration.

***Thai 102b. Intermediate Thai II**
Catalog Number: 3751
Parimal G. Patil and members of the Department
Half course (spring term). Hours to be arranged.
Continuation of Thai 102a
Prerequisite: Thai 102a.

***Thai 103ar. Readings in Thai I**
Catalog Number: 7590
Parimal G. Patil and members of the Department
Half course (fall term). Hours to be arranged.

***Thai 103br. Readings in Thai II**
Catalog Number: 7593
Parimal G. Patil and members of the Department
Half course (spring term). Hours to be arranged.

Graduate Courses of Reading and Research

***Thai 300. Reading and Research**
Catalog Number: 5368
Parimal G. Patil 4478 and members of the Department

Tibetan and Himalayan Studies

Primarily for Undergraduates

Tibetan 91r. Supervised Reading and Research
Catalog Number: 2288
Leonard W. J. van der Kuijp
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading of texts in Tibetan not covered by regular courses of instruction.

For Undergraduates and Graduates

Tibetan 101a. Elementary Classical Tibetan
Catalog Number: 4132
Leonard W. J. van der Kuijp and members of the Department
Half course (fall term). Tu., Th., 10–11:30. EXAM GROUP: 13
A introductory course designed for students with no background in classical Tibetan. Students begin with the Tibetan script, its standard transliteration into Roman characters, and pronunciation before proceeding to the basics of Tibetan grammar. After mastering a foundational vocabulary, students begin translating simple Tibetan texts.

Tibetan 101b. Elementary Classical Tibetan
Catalog Number: 5299
Leonard W. J. van der Kuijp and members of the Department
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
Continuation of Tibetan 101a
Prerequisite: Tibetan 101a.

Tibetan 102a. Intermediate Classical Tibetan
Catalog Number: 9088
Leonard W. J. van der Kuijp and members of the Department
Half course (fall term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
An intermediate classical Tibetan course emphasizing reading and translation of various Tibetan texts covering different genres, such as religious history, biography of Tibetan masters and folk literature writings. Please check the course website for the most updated information.
Prerequisite: Tibetan 101a and 101b or equivalent courses.

Tibetan 102b. Intermediate Classical Tibetan
Catalog Number: 8580
Leonard W. J. van der Kuijp and members of the Department
Half course (spring term). Tu., Th., 8:30–10. EXAM GROUP: 10, 11
Continuation of 102a.
Prerequisite: 101a, 101b or equivalent courses.

Tibetan 104ar. Elementary Colloquial Tibetan
Catalog Number: 4158

Leonard W. J. van der Kuijp and members of the Department
Half course (fall term). M., W., F., at 10.

Tibetan 104br. Elementary Colloquial Tibetan
Catalog Number: 7026
Leonard W. J. van der Kuijp and members of the Department
Half course (spring term). M., W., F., at 10. EXAM GROUP: 3
Continuation of Tibetan 104ar.

Tibetan 105ar. Intermediate Colloquial Tibetan
Catalog Number: 1314
Leonard W. J. van der Kuijp and members of the Department
Half course (fall term). M., W., F., at 12.

Tibetan 105br. Intermediate Colloquial Tibetan
Catalog Number: 1151
Leonard W. J. van der Kuijp and members of the Department
Half course (spring term). M., W., F., at 12. EXAM GROUP: 5

Tibetan 106ar. Advanced Colloquial Tibetan
Catalog Number: 7094
Leonard W. J. van der Kuijp and members of the Department
Half course (fall term). Hours to be arranged.
Prerequisite: Tibetan 101 and 102, or equivalent.

Tibetan 106br. Advanced Colloquial Tibetan
Catalog Number: 5352
Leonard W. J. van der Kuijp and members of the Department
Half course (spring term). Hours to be arranged.
Prerequisite: Tibetan 101 and 102, or equivalent.

Primarily for Graduates

Tibetan 205r. Readings in Tibetan Dunhuang Documents - *(New Course)
Catalog Number: 28546 Enrollment: At least two years of training in classical Tibetan is required.
Leonard W. J. van der Kuijp
Half course (fall term). Tu., 1–4. EXAM GROUP: 15, 16, 17
This course will focus on a select number of Tibetan texts uncovered from the Dunhuang area at the beginning of the twentieth century, texts that do not postdate the early eleventh century. The subject matter of the selected texts will range from historiography, belles lettres, and Buddhist theory and practice.

Tibetan 206r. Tibetan Epigraphy - *(New Course)
Catalog Number: 83631 Enrollment: At least two years of training in classical Tibetan is required.
Leonard W. J. van der Kuijp
Half course (fall term). Th., 1–4. EXAM GROUP: 15, 16, 17
In this course, we will be reading different kinds of inscriptions from the eighth to the ninth century. Special attention will be given to several of these, including the famous Sino-Tibetan inscription of 822-3.

Tibetan 207r. Readings in Bilingual Texts - *(New Course)
Catalog Number: 64094 Enrollment: At least two years of training in classical Tibetan is required.
Leonard W. J. van der Kuijp
Half course (spring term). Tu., 1–4. EXAM GROUP: 15, 16, 17
In this course, we will be reading Śaṅkarasvāmin's primer on logic, the *Nyāyapraveśa*, using the Sanskrit text, the two slightly different Tibetan translations, and the Chinese translation.

Tibetan 208. Readings in the Tibetan Literature on the Philosophical Systems - *(New Course)
Catalog Number: 50492
Leonard W. J. van der Kuijp
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
This course will focus on such non-Buddhist Indian philosophical systems as Sâṃkhya that are analyzed and in the grub mtha' texts of Dar ma rgyal mtshan (1227-1305), his disciple Dbus pa Blo gsal, and Klong chen pa (1308-64).
Note: The prerequisites for this course are at least one year of Classical Tibetan and much enthusiasm for reading philosophical texts.
Prerequisite: At least one year of Classical Tibetan.

Tibetan 219r. Tibetan Religious Literature: Seminar
Catalog Number: 9500
Janet Gyatso (Divinity School)
Half course (spring term). Tu., Th., 10–11:30. EXAM GROUP: 12, 13
An intermediate to advanced reading class in Tibetan religious literature. The topic in Spring 2013 is Tibetan historiography. We will read several outstanding works that recount the past, including histories of the world, of Buddhism, of specific traditions, and of specific monasteries and places. Each present disparate notions of the past and its status vis-a-vis the present, how knowledge should be constituted and organized, how various discursive and poetic forms can effect that presentation, what kinds of things are most important to recount, and what is thereby accomplished.
Note: An intermediate to advanced reading class on Tibetan religious literature. Offered jointly with the Divinity School as 3831.
Prerequisite: At least one full year of training in classical Tibetan is required.

[Tibetan 223b. The Life and Times of Dol po pa Shes rab rgyal mtshan (1292-1361), Part Two]
Catalog Number: 77048
Leonard W. J. van der Kuijp
Half course (spring term). Hours to be arranged.

[Tibetan 230. Readings in the Life of the Kashmirian Scholar Shakyashribhadra: Seminar]
Catalog Number: 92097
Leonard W. J. van der Kuijp
Half course (spring term). Th., 1-4.
Various Tibetan biographies of the life of this influential scholar will be examined and special problem areas will be analyzed in full detail.
Note: Expected to be given in 2014–15.
Prerequisite: Reading knowledge of Tibetan.

[Tibetan 234. Readings in the Letters and Instructions of Spyan snga Grags pa byung gnas (1175-1255), abbot of Bri gung and Gdan sa mthil -(New Course)]
Catalog Number: 46834
Leonard W. J. van der Kuijp

Half course (fall term). Tu., 1–4.
Note: Expected to be given in 2014–15.

[Tibetan 235. Introduction in reading traditional Tibetan archival (yig tshags) and government documents (gzhung yig)]
Catalog Number: 79089
Leonard W. J. van der Kuijp
Half course (fall term). Th., 1–4.
This course is designed to introduce students to the vocabulary and grammar of two little studied genres of Tibetan literature called yig tshags and gzhung yig. We will be reading specimen of this literature that date from the thirteenth to the eighteenth centuries.
Note: Expected to be given in 2014–15.

Graduate Courses of Reading and Research

***Tibetan 300. Reading and Research**
Catalog Number: 0666
Leonard W. J. van der Kuijp 1556

***Tibetan 302. Direction of AM Theses**
Catalog Number: 6927
Leonard W. J. van der Kuijp 1556

Urdu and Hindi

Primarily for Undergraduates

***Urdu 91r. Urdu-Hindi Supervised Readings**
Catalog Number: 99557
Richard S. Delacy and Amy Bard
Half course (fall term; repeated spring term). Hours to be arranged.
Instruction in Urdu Hindi in topics not covered in the regular curriculum.
Note: Offered at the discretion of the instructors. Not open to auditors.

For Undergraduates and Graduates

Urdu 101. Introductory Urdu-Hindi
Catalog Number: 4078
Richard S. Delacy and Amy Bard
Full course (indivisible). M. through Th., (F.), at 11; M. through Th., (F.), at 3. EXAM GROUP: 4, 13
An introduction to the lingua franca of the subcontinent in its "Hindustani" form. Students are introduced to both the Perso-Arabic and the Devanagari script systems. Conventional teaching materials are supplemented by popular songs and video clips from Bollywood.
Note: Not open to auditors.

Urdu 102. Intermediate Urdu-Hindi
Catalog Number: 2941
Amy Bard
Full course (indivisible). Fall: M., W., F., at 2; Spring: Tu. through Th., at 9. EXAM GROUP: Fall: 7
Continuation of Urdu 101. Emphasis on written expression and texts in both Perso-Arabic and

Devanagari script systems. Students are introduced to Urdu/Hindi fables, short stories, and various other genres of literature, including poetry.
Note: Not open to auditors.
Prerequisite: Urdu 101 or equivalent.

Urdu 103a. Advanced Urdu-Hindi
Catalog Number: 0700
Richard S. Delacy and Amy Bard
Half course (fall term). M., W., 4–6. EXAM GROUP: 9
Continuation of Urdu 102; covers topics in advanced grammar; designed to improve proficiency in speaking, listening, reading, and writing.
Prerequisite: Urdu 102 or equivalent.

Urdu 103b. Advanced Urdu-Hindi
Catalog Number: 4615
Richard S. Delacy and Amy Bard
Half course (spring term). M., W., 4–6. EXAM GROUP: 9
Continuation of Urdu 103a.

Urdu 104. The Classical Urdu Ghazal and Its Symbolism: Seminar
Catalog Number: 0927
Amy Bard
Half course (spring term). Tu., 5–7 p.m. EXAM GROUP: 18
A survey of the popular literary genre including selections from poets such as Wali Dakkani, Siraj Aurangabadi, Mir Dard, Haidar Ali Atish, Mirza Ghalib, and others. Special attention to religious and mystical symbolism.
Prerequisite: Urdu 102 or equivalent.

Urdu 105r. Topics in Urdu-Hindi Literature
Catalog Number: 5963
Richard S. Delacy, and members of the Department
Half course (fall term; repeated spring term). Fall: Tu., 4–6. EXAM GROUP: Fall: 18
Individual reading course. A course for students with native or near-native proficiency with readings in a variety of genres from Urdu and/or Hindi literature based on student interest.

Urdu 106r. Advanced Oral Proficiency in Urdu-Hindi
Catalog Number: 70789
Richard S. Delacy
Half course (fall term; repeated spring term). Hours to be arranged.
A course intended to raise levels of oral proficiency for advanced students and consolidate command over complex grammatical structures. By the end of the term, students will be expected to converse in a clearly participatory fashion, initiate, sustain and bring closure to a wide variety of communicative tasks using diverse strategies.
Prerequisite: Urdu 103 or Instructor's permission.

Graduate Courses of Reading and Research

***Urdu 300. Reading and Research**
Catalog Number: 2131
Ali S. Asani 7739 (on leave fall term)

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Special Concentrations

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Degrees in Special Concentrations

Julie A. Buckler, Professor of Slavic Languages and Literatures and of Comparative Literature, Harvard College Professor, and Director of the Humanities Program *(Chair)*
Deborah D. Foster, Senior Lecturer on Folklore and Mythology
Byron J. Good, Professor of Medical Anthropology in the Department of Social Medicine *(Medical School)*
Mary-Jo Del Vecchio Good, Professor of Global Health and Social Medicine *(Medical School)*
Joshua D. Greene, John and Ruth Hazel Associate Professor of the Social Sciences
David A. Haig, George Putnam Professor of Organismic and Evolutionary Biology *(on leave 2013-14)*
Jerold Kayden, Frank Backus Williams Professor of Urban Planning and Design *(Design School)*
Ruth S. Lingford, Senior Lecturer on Visual and Environmental Studies
Stephen A. Marglin, Walter S. Barker Professor of Economics
Andrew W. Murray, Herchel Smith Professor of Molecular Genetics
Sandra Naddaff, Senior Lecturer on Literature and Comparative Literature
Richard K. Wolf, Professor of Music
Richard W. Wrangham, Ruth Moore Professor of Biological Anthropology

Application forms and information on completing petitions for Special Concentrations may be obtained from the Committee's office, located in Warren House (near the Barker Center).

Primarily for Undergraduates

***Special Concentrations 91r. Supervised Reading and Research**
Catalog Number: 2815
Deborah D. Foster and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Open to Special Concentrations concentrators who wish to pursue supervised study for graded credit in an area not covered by courses currently offered by regular Departments and Committees. Students must secure the written approval of the faculty member with whom they wish to study and the signature of the Faculty Adviser and the Director of Undergraduate Studies of Special Concentrations.

***Special Concentrations 96r. Senior Projects**
Catalog Number: 0829
Deborah D. Foster and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Designed for seniors in their final term completing their senior project to meet the Basic (rather than Honors) requirements for concentration. May be repeated with the permission of the Director of

Undergraduate Studies and the Faculty Adviser. Students must secure the written approval of the faculty member with whom they wish to study and the signature of the Faculty Adviser and the Director of Undergraduate Studies of Special Concentrations.

***Special Concentrations 97r. Tutorial — Sophomore Year**
Catalog Number: 2660
Deborah D. Foster and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Ordinarily taken by honors sophomores.

***Special Concentrations 98r. Tutorial — Junior Year**
Catalog Number: 2497
Deborah D. Foster and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Successful completion two terms of *Special Concentrations 98r are ordinarily required of all honors concentrators in their junior year. Exceptions to this can only be granted with the consent of the Faculty Adviser and the Director of Undergraduate Studies of Special Concentrations.

***Special Concentrations 99. Tutorial — Senior Year**
Catalog Number: 3294
Deborah D. Foster and members of the Committee
Full course. Hours to be arranged.
Note: Ordinarily taken by honors seniors as a full course. Either half year may be taken as a half course only with the consent of the Faculty Adviser and the Director of Undergraduate Studies of Special Concentrations. Graded Sat/Unsat.

Statistics

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Statistics

Alan Agresti, Visiting Professor of Statistics *(University of Florida)*
Edoardo Maria Airoldi, Associate Professor of Statistics
Joseph K. Blitzstein, Professor of the Practice in Statistics *(Co-Director of Undergraduate Studies)*
Stephen James Blyth, Professor of the Practice of Statistics
Luke Bornn, Assistant Professor of Statistics
Tirthankar Dasgupta, Associate Professor of Statistics
Valeria Espinosa, Lecturer on Statistics
Mark E. Glickman, Visiting Professor of Statistics *(Boston University)*
David P. Harrington, Professor of Statistics *(FAS)* and Professor of Biostatistics *(Public Health) (Acting Chair, and Co-Director of Undergraduate Studies)*

Jiashun Jin, Visiting Professor of Statistics *(Carnegie Mellon)*
S.C. Samuel Kou, Professor of Statistics *(on leave 2013-14)*
Jun S. Liu, Professor of Statistics
Viktoriia Liublinska, College Fellow in Statistics
Xiao-Li Meng, Whipple V.N. Jones Professor of Statistics, and Dean of the Graduate School of Arts and Sciences
Luke Weisman Miratrix, Assistant Professor of Statistics
Mayumi Morimoto, Preceptor in Statistics
Carl N. Morris, Professor of Statistics *(on leave spring term)*
Michael Isaac Parzen, Senior Lecturer on Statistics
Natesh S. Pillai, Assistant Professor of Statistics *(Co-Director of Graduate Studies)*
Kevin Andrew Rader, Preceptor in Statistics
Donald B. Rubin, John L. Loeb Professor of Statistics
Neil Shephard, Professor of Economics and of Statistics

Other Faculty Offering Instruction in the Department of Statistics

Xiaole Shirley Liu, Associate Professor of Biostatistics *(Public Health)*
Hanspeter Pfister, An Wang Professor of Computer Science
Alan M. Zaslavsky, Professor of Health Care Policy (Statistics) *(Medical School)*

Affiliates of the Department of Statistics

Raj Chetty, William Henry Bloomberg Professor of Economics

Statistics is a relatively young discipline organized around the rapidly growing body of knowledge about quantitative methods for the analysis of data, the making of rational decisions under uncertainty, the design of experiments, and the modeling of randomness and variability in the social and natural sciences.

A basic introduction to the field is provided by any of Statistics 100 through 104, which introduce statistical principles (without any mathematical or statistical prerequisite), with different areas of application emphasized as indicated in the descriptions. Statistics 100, 101, and 104 are Gen Ed-eligible, within the Empirical and Mathematical Reasoning category.

Empirical and Mathematical Reasoning 16: Real Life Statistics: Your Chance at Happiness (or Misery) is a newly designed Gen Ed course introducing statistical principles and reasoning as they arise in everyday life, organized through modules on various areas of application such as health, wine-tasting, and finance.

An introduction to probability and statistics at a higher mathematical and theoretical level is provided by Statistics 110 together with Statistics 111. These courses provide a foundation for understanding random variables, statistical models, and statistical inference, and are prerequisites for most of the department's more advanced courses.

Statistics 101 and 104 will be accepted as fulfilling any requirement or prerequisite that is fulfilled by Statistics 100. Consult the Statistics Department or your tutorial office for more information about courses that satisfy your concentration requirements or for guidance on selecting courses. More detailed information can be accessed at the Statistics Department website: www.stat.harvard.edu.

Primarily for Undergraduates

***Statistics 91r. Supervised Reading and Research**
Catalog Number: 6641
Joseph K. Blitzstein, David P. Harrington (Public Health), and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Supervised reading and research in an area of statistics agreed upon by the student and a faculty adviser.
Note: Normally may not be taken more than twice; may be counted once for concentration credit in Statistics, if taken for a letter grade; may be taken in either term; for further information, consult Co-Directors of Undergraduate Studies.

***Statistics 98. Tutorial — Junior Year**
Catalog Number: 14706
David P. Harrington (Public Health) and Viktoriia Liublinska
Half course (spring term). W., 4–6.
Introduction to reading, writing, presenting, and research in statistics. Students will learn to formulate and approach a research question, critically review papers that make use of statistics, and clearly communicate statistical ideas and arguments orally and in writing. Limited to junior concentrators in statistics.

***Statistics 99hf. Tutorial — Senior Year**
Catalog Number: 4381
David P. Harrington (Public Health) and Joseph K. Blitzstein
Half course (throughout the year). Hours to be arranged.
The systematic application of statistical ideas to a problem area.

For Undergraduates and Graduates

Statistics 100. Introduction to Quantitative Methods for the Social Sciences and Humanities
Catalog Number: 3808
Luke Weisman Miratrix
Half course (fall term). M., W., F., at 10, and weekly sections to be arranged. EXAM GROUP: 3
Introduction to some key ideas underlying statistical and quantitative reasoning. Topics covered: methods for organizing, summarizing and displaying data; sample surveys, experimental design and observational studies; parameter estimation and hypothesis testing in one- and two-sampleproblems; regression with one or more predictors; and analysis of variance. Explores applications in a wide range of fields, including the social and political sciences, medical research, andbusiness and economics.
Note: Only one of the following courses may be taken for credit: Statistics 100, 101, 102, 104. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning.

Statistics 101. Introduction to Quantitative Methods for Psychology and the Behavioral Sciences
Catalog Number: 5128
Kevin A. Rader
Half course (fall term). Tu., Th., 10–11:30, and weekly sections to be arranged. EXAM GROUP: 12, 13
Similar to Statistics 100, but emphasizes concepts and practice of statistics used in psychology and other social and behavioral sciences. Topics covered: describing center and variability; probability and sampling distributions; estimation and hypothesis testing for comparing means and comparing proportions; contingency tables; correlation and regression; multiple regression; analysis of variance. Emphasis on translation of research questions into statistically testable hypotheses and models, and interpretation of results in context.
Note: Only one of the following courses may be taken for credit: Statistics 100, 101, 102, 104. This

course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning.

Statistics 102. Statistics in Medicine and Modern Biology - *(New Course)*
Catalog Number: 38791
David P. Harrington (Public Health)
Half course (spring term). M., W., F., at 11, and weekly sections to be arranged. EXAM GROUP: 4
Introduces the basic concepts of probability, statistics and statistical computing used in medical and biological research. The emphasis is on data analysis and visualizationinstead of theory. Designed for students who intend to concentrate in a discipline from the lifesciences.
Note: Only one of the following courses may be taken for credit: Statistics 100, 101, 102, 104. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning.

Statistics 104. Introduction to Quantitative Methods for Economics
Catalog Number: 4582
Michael Isaac Parzen
Half course (fall term; repeated spring term). Lecture 1: M., W., F., at 10, or Lecture 2: M., W., F., at 11, and weekly sections to be arranged. EXAM GROUP: Fall: 3; Spring: 4
A rigorous introduction to statistics for students intending to study economics. Examples drawn from finance, decision analysis and economic decision-making. In addition to descriptive statistics, probability, inference and regression modeling, also covers portfolio optimization, decision analysis, and time series analysis. Students with prior exposure to introductory statistics will find some overlap of material but be exposed to new applications and learn more advanced modeling techniques.
Note: Only one of the following courses may be taken for credit: Statistics 100, 101, 102, 104. This course, when taken for a letter grade, meets the General Education requirement for Empirical and Mathematical Reasoning.

Statistics 107. Introduction to Business and Financial Statistics
Catalog Number: 76433
Michael Isaac Parzen
Half course (spring term). Tu., Th., 10–11:30, and weekly sections to be arranged. EXAM GROUP: 12, 13
Introduces the technical skills required for data-driven analysis of business and financial data. Emphasis on applying statistical methods to summarize and make inferences from complex data and to develop quantitative models to assist business decision making. Topics include: how to collect and summarize financial data, understanding the concept of risk, portfolio construction and analysis, testing trading systems, and simulation techniques.
Note: The software packages Excel and R will be used to obtain quantitative solutions to financial problems.
Prerequisite: Statistics 100, 101, 104 or equivalent.

Statistics 110. Introduction to Probability
Catalog Number: 0147
Joseph K. Blitzstein
Half course (fall term). M., W., 2:30-4, and weekly sections to be arranged. EXAM GROUP: 7, 8
A comprehensive introduction to probability. Basics: sample spaces and events, conditional probability, and Bayes' Theorem. Univariate distributions: density functions, expectation and variance, Normal, t, Binomial, Negative Binomial, Poisson, Beta, and Gamma distributions. Multivariate distributions: joint and conditional distributions, independence, transformations, and Multivariate Normal. Limit laws: law of

large numbers, central limit theorem. Markov chains: transition probabilities, stationary distributions, convergence.
Prerequisite: Mathematics 18 or above (may be taken concurrently).

Statistics 111. Introduction to Theoretical Statistics
Catalog Number: 1836
Kevin Andrew Rader
Half course (spring term). Tu., Th., 1-2:30, and weekly sections to be arranged. EXAM GROUP: 15, 16
Basic concepts of statistical inference from frequentist and Bayesian perspectives. Topics include maximum likelihood methods, confidence and Bayesian interval estimation, hypothesis testing, least squares methods and categorical data analysis.
Prerequisite: Mathematics 19a and 19b or equivalent and Statistics 110.

Statistics 115. Introduction to Computational Biology and Bioinformatics
Catalog Number: 9776
Xiaole Shirley Liu (Public Health)
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
The course will cover basic technology platforms, data analysis problems and algorithms in computational biology. Topics include sequence alignment and search, high throughput experiments for gene expression, transcription factor binding and epigenetic profiling, motif finding, RNA/protein structure prediction, proteomics and genome-wide association studies. Computational algorithms covered include hidden Markov model, Gibbs sampler, clustering and classification methods.
Prerequisite: Good quantitative skills, strong interest in biology, willingness and diligence to learn programming.

Statistics 121. Data Science - *(New Course)*
Catalog Number: 97597
Joseph K. Blitzstein and Hanspeter Pfister
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Learning from data to gain useful predictions and insights. Introduces methods for five key facets of an investigation: data wrangling, cleaning and sampling to get a suitable data set; data management to be able to access big data quickly and reliably; exploratory data analysis to generate hypotheses and intuition; prediction based on statistical methods such as regression and classification; and communication of results through visualization, stories, and interpretable summaries. Built around three modules: predictions and elections, recommendation and business analytics, and sampling and social network analysis.
Note: Only one of Computer Science 109, Applied Computation 209, or Statistics 121 can be taken for credit.
Prerequisite: Programming knowledge at the level of Computer Science 50 or above, and statisticsknowledge at the level of Statistics 100 or above (Statistics 110 recommended).

Statistics 123. Applied Quantitative Finance
Catalog Number: 71785
Stephen James Blyth
Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
Introduction to financial derivative markets and the probabilistic techniques used to navigate them. Topics include: forwards, swaps and options; risk-neutrality, numeraires and the fundamental theorem of asset pricing; and an introduction to interest-rate derivatives and their valuation. Methodology motivated by real problems from the financial industry.
Note: Expected to be omitted in 2014–15. Designed for those seeking an understanding of the quantitative

challenges on Wall Street and the probabilistic tool-kit developed to address them. Expected to be omitted in 2014-15.
Prerequisite: Statistics 110 or equivalent.

[Statistics 131. Time Series Analysis and Forecasting]
Catalog Number: 8291
Tirthankar Dasgupta
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
Introduction to time series models and associated methods of data analysis and inference. Auto regressive (AR), moving average (MA), ARMA, and ARIMA processes, stationary and non-stationary processes, seasonal processes, auto-correlation and partial auto-correlation functions, identification of models, estimation of parameters, diagnostic checking of fitted models, forecasting, spectral analysis, and transfer function models.
Note: Expected to be given in 2014–15.
Prerequisite: Statistics 111 and 139 or equivalent.

Statistics 135. Statistical Computing Software
Catalog Number: 3451 Enrollment: Limited to 25.
Steven Richard Finch
Half course (fall term). M., W., F., at 10. EXAM GROUP: 3
An introduction to major statistics packages used in academics and industry (SAS and R). Will discuss data entry and manipulation, implementing standard analyses and graphics, exploratory data analysis, simulation-based methods, and new programming methods.
Prerequisite: Statistics 110 and 139 (may be taken concurrently) or with permission of instructor.

Statistics 139. Statistical Sleuthing Through Linear Models
Catalog Number: 1450
Viktoriia Liublinska
Half course (fall term). Tu., Th., 11:30-1, and weekly sections to be arranged. EXAM GROUP: 13, 14
A serious introduction to statistical inference with linear models and related methods. Topics include t-tools and permutation-based alternatives, multiple-group comparisons, analysis of variance, linear regression, model checking and refinement, and causation versus correlation. Emphasis on thinking statistically, evaluating assumptions, and developing tools for real-life applications.
Prerequisite: Statistics 100 or equivalent and Mathematics 19a and 19b or equivalent.

[Statistics 140. Design of Experiments]
Catalog Number: 7112
Tirthankar Dasgupta and Donald B. Rubin
Half course (fall term). M., W., 2:30–4. EXAM GROUP: 7, 8
Statistical designs for efficient experimentation in the physical, life, social and management sciences and in engineering. A systematic approach to explore input-output relationships by deliberately manipulating input variables. Topics include analysis of variance, completely randomized and randomized block designs, Latin square designs, balanced incomplete block designs, factorial designs, confounding in blocks, fractional replications, orthogonal arrays, and response surface designs. Each topic motivated by a real-life example.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Statistics 100 or equivalent and Mathematics 19a and 19b.

Statistics 149. Statistical Sleuthing through Generalized Linear Models
Catalog Number: 6617

Mark E. Glickman (Boston University)
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Sequel to Statistics 139, emphasizing common methods for analyzing continuous non-normal and categorical data. Topics include contingency tables, log-linear models, logistic, Probit and Poisson regression, model selection, model checking, and an introduction to non-parametric methods.
Note: Examples will be drawn from several fields, particularly from biology and social sciences.
Prerequisite: Statistics 139 or with permission of instructor.

Statistics 160. Design and Analysis of Sample Surveys
Catalog Number: 2993
Alan M. Zaslavsky (Medical School)
Half course (fall term). M., W., 2:30–4. EXAM GROUP: 7, 8
Methods for design and analysis of sample surveys. The toolkit of sample design features and their use in optimal design strategies. Sampling weights and variance estimation methods, including resampling methods. Brief overview of nonstatistical aspects of survey methodology such as survey administration and questionnaire design and validation (quantitative and qualitative). Additional topics: calibration estimators, variance estimation for complex surveys and estimators, nonresponse, missing data, hierarchical models, and small-area estimation.
Note: Expected to be omitted in 2014–15.
Prerequisite: Statistics 111 or 139 or with permission of instructor.

Statistics 170. Quantitative Analysis of Capital Markets
Catalog Number: 1202
Neil Shephard
Half course (spring term). M., F., 2:30-4:00. EXAM GROUP: 7, 8
An introduction to the analysis of capital markets using quantitative methods. Concepts include risk, expected utility, discounting, binomial-tree valuation methods, martingales, continuous time stochastic calculus methods, stochastic discount factors, financial econometric models and Monte Carlo simulations. These concepts are applied to equities, risk management and derivative pricing.
Prerequisite: Good quantitative skills including calculus and linear algebra, Statistics 110 or equivalent (i.e. multivariate random variables and conditional distributions), strong interest in finance. Willingness to do some programming.

Statistics 171. Introduction to Stochastic Processes
Catalog Number: 4180
Natesh S. Pillai
Half course (spring term). M., W., 2:30–4, and weekly sections to be arranged. EXAM GROUP: 7, 8
An introductory course in stochastic processes. Topics include Markov chains, branching processes, Poisson processes, birth and death processes, Brownian motion, martingales, introduction to stochastic integrals, and their applications.
Prerequisite: Statistics 110 or equivalent.

Statistics 183. Learning from Big Data - *(New Course)
Catalog Number: 22432
Luke Bornn
Half course (spring term). M., W., 10–11:30.
Through a series of forecasting and prediction competitions, each based on a large real-world dataset, students will acquire the tools and experience to explore and model large-scale, real-life data. In addition, the course will cover a series of tools for statistical modeling in real-world environments. Some examples

include bagging, boosting, collaborative model development, cross-validation, and model validation and verification.

Statistics 186. Statistical Methods for Evaluating Causal Effects - *(New Course)*
Catalog Number: 48805
Valeria Espinosa
Half course (spring term). Tu., Th., 11:30–1.
Statistical methods for inferring causal effects from data from randomized experiments or observational studies. Students will develop expertise to assess the credibility of causal claimsand the ability to apply the relevant statistical methods for causal analyses. Examples from many disciplines: economics, education, other social sciences, epidemiology, and biomedical science. Evaluations of job training programs, educational voucher schemes, changes in laws such as minimum wage laws, medical treatments, smoking, military service.
Prerequisite: Statistics 100; Mathematics 21a, b or permission of instructor.

Cross-listed Courses

[Economics 1127. Statistical Methods for Evaluating Causal Effects]

Primarily for Graduates

Statistics 210. Probability Theory
Catalog Number: 2487
Joseph K. Blitzstein and Carl N. Morris
Half course (fall term). T., Th., 1-2:30, and weekly sections to be arranged. EXAM GROUP: 15, 16
Random variables, measure theory, reasoning by representation. Families of distributions: Multivariate Normal, conjugate, marginals, mixtures. Conditional distributions and expectation. Convergence, laws of large numbers, central limit theorems, and martingales.
Prerequisite: Statistics 110 or equivalent required; Statistics 111 or equivalent recommended.

Statistics 211. Statistical Inference
Catalog Number: 1946
Joseph K. Blitzstein and Tirthankar Dasgupta
Half course (spring term). Tu., Th., 1–2:30, and weekly sections to be arranged. EXAM GROUP: 15, 16
Inference: frequency, Bayes, decision analysis, foundations. Likelihood, sufficiency, and information measures. Models: Normal, exponential families, multilevel, and non-parametric. Point, interval and set estimation; hypothesis tests. Computational strategies, large and moderate sample approximations.
Prerequisite: Statistics 111 and 210 or equivalent.

[Statistics 212. Advanced Stochastic Processes]
Catalog Number: 7864

Half course (fall term). Hours to be arranged.
Measure theory, central limit theorems and Stein's method, Markov chains, martingales, Brownian motion, approximations, and inequalities.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Statistics 210 or Statistics 211 or with permission of instructor.

Statistics 215. Introduction to Computational Biology and Bioinformatics
Catalog Number: 29169

Xiaole Shirley Liu (Public Health)
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Meets with Statistics 115, but graduate students are required to do more coding, complete a research project and submit a written report during reading period in addition to completing all work assigned for Statistics 115.
Prerequisite: Good quantitative skills, strong interest in biology, good programming skills in C/C++, Java, Perl or Python.

Statistics 220. Bayesian Data Analysis
Catalog Number: 6270
Jun S. Liu
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Basic Bayesian models, followed by more complicated hierarchical and mixture models with nonstandard solutions. Includes methods for monitoring adequacy of models and examining sensitivity of models.
Note: Emphasis throughout term on drawing inferences via computer simulation rather than mathematical analysis.
Prerequisite: Statistics 110 and 111.

Statistics 221. Statistical Computing and Learning
Catalog Number: 5959
Edoardo Maria Airoldi
Half course (fall term). W., 12–1:30, M., 1–2:30. EXAM GROUP: 5, 6, 7
Computational methods commonly used in statistics: random number generation, optimization methods, numerical integration, Monte Carlo methods including Metropolis-Hastings and Gibbs samplers, approximate inference techniques including Expectation-Maximization algorithms, Laplace approximation and variational methods, data augmentation strategies, data augmentation strategies.
Note: Computer programming exercises will apply the methods discussed in class.
Prerequisite: Linear algebra, Statistics 111, and knowledge of a computer programming language (R or Matlab) required; Statistics 220 recommended.

Statistics 225. Spatial Statistics
Catalog Number: 6499
Luke Bornn
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Introduction to spatial and spatio-temporal statistics. Classic spatial statistics will be covered in addition to more modern hierarchical techniques and computational methods. The course will blend theory and application, with a focus on the latter.

Statistics 230. Multivariate Statistical Analysis
Catalog Number: 5206
Jiashun Jin (Carnegie-Mellon University)
Half course (fall term). M., W., 1–2:30. EXAM GROUP: 6, 7
Multivariate inference and data analysis. Advanced matrix theory and distributions, including Multivariate Normal, Wishart, and multilevel models. Supervised learning: multivariate regression, classification, and discriminant analysis. Unsupervised learning: dimension reduction, principal components, clustering, and factor analysis.
Prerequisite: Statistics 110 and 111.

Statistics 231. Time Series Analysis and Forecasting
Catalog Number: 7537

Tirthankar Dasgupta
Half course (fall term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
A graduate-level course on time series models and associated methods of data analysis and inference. Review of ARIMA models, time series regression, long-memory models, state space models and Kalman filtering, multivariate time series, statistical methods in the frequency domain.
Note: Expected to be omitted in 2014–15.
Prerequisite: Statistics 111, 131, and 139.

Statistics 232r. Topics in Missing Data
Catalog Number: 9483
Natesh S. Pillai and Donald B. Rubin
Half course (spring term). Th., 2:30–5. EXAM GROUP: 16, 17, 18
The modern era of work on missing data problems began in the 1970s and has seen an explosion of developments since then. Seminar will focus on an updated version of a classic text, supplemented with classic articles.

Statistics 240. Matched Sampling and Study Design
Catalog Number: 4036
Donald B. Rubin and Luke Weisman Miratrix
Half course (fall term). W., 1:30–4. EXAM GROUP: 6, 7, 8
This course provides an accessible introduction to the study of matched sampling and other design techniques in any field (e.g., economics, education, epidemiology, medicine, political science, etc.) conducting empirical research to evaluate the causal effects of interventions.
Prerequisite: Statistics 110, Statistics 111, and Statistics 139.

[Statistics 242. Permutation and Resampling Based Statistical Methods]
Catalog Number: 27674
Luke Weisman Miratrix
Half course (spring term). Hours to be arranged.
Bootstrap and resampling allow for principled data analysis in diverse areas such as social, biological, or physical sciences. We will implement methods in R, conduct simulation studies, tackle applied projects, and do theoretical work.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Some introductory statistics. Some experience with R or other statistical software ideal, but not necessary.

***Statistics 244. Linear and Generalized Linear Models**
Catalog Number: 51453
Alan Agresti (University of Florida)
Half course (fall term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17
The theory and application of generalized linear models, including models for binary and multinomial data, models for count data, overdispersion and quasi likelihood methods, and models and methods for clustered (e.g., repeated measurement) data.
Prerequisite: Strong statistics background required (at the second-year graduate level), Statistics 210 may be taken concurrently, Statistics 211 desirable.

[Statistics 245. Statistics and Litigation]
Catalog Number: 3488
Daniel James Greiner (Law School)
Half course (spring term). Hours to be arranged.

Interaction between quantitative methods and law. Teaming with law students: analyze data, prepare expert reports, and give testimony. Learn how to communicate with and present results to untrained but intelligent users, and to defend conclusions.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.
Prerequisite: Basic knowledge of R programming and a graduate course in data analysis, such as Statistics 220, Economics 2120, or a 2000-level quantitative Government course. No knowledge of legal issues is presumed.

Statistics 260. Design and Analysis of Sample Surveys
Catalog Number: 59588
Alan M. Zaslavsky (Medical School)
Half course (fall term). M., W., 2:30–5. EXAM GROUP: 7, 8, 9
Meets with Statistics 160, but graduate students will have an extended class period and complete additional assignments for a more theoretical, in-depth treatment of topics.
Note: Expected to be omitted in 2014–15.
Prerequisite: Statistics 110, 111, and 139 or with permission of instructor.

Statistics 265r. (formerly Statistics 265). Reading Efron
Catalog Number: 29813
Xiao-Li Meng, Joseph K. Blitzstein and Viktoriia Liublinska
Half course (spring term). Tu., 6–8:30 p.m. EXAM GROUP: 18
Exploration of the statistical contributions of Bradley Efron through study of his writings. Both deeply influential and deeply controversial ideas will be discussed; topics include statistical foundations and principles, estimating the number of unseen species, self-consistency, empirical Bayes, large-scale inference, and the bootstrap.
Prerequisite: Statistics 211.

[*Statistics 285r. Statistical Machine Learning]
Catalog Number: 0512 Enrollment: Limited to 20.
Edoardo Maria Airoldi
Half course (spring term). Hours to be arranged.
Hands-on introduction to network statistics, with applications to social, biological and communication networks. Topics in sampling designs and inference. Modeling network evolution. Processes on networks. Critical literature review, in class-presentations, and final projects.
Note: Expected to be given in 2014–15. Computer programming exercises will apply the methods discussed in class.
Prerequisite: Familiarity with estimation and inference techniques, and knowledge of a computer programming language (R or Matlab) required; Statistics 220 or 221 recommended.

Cross-listed Courses

Biostatistics 244. Analysis of Failure Time Data
***Biostatistics 250. Probability Theory and Applications II**

Graduate Courses of Reading and Research

Statistics 300. Research in Statistics** - ***(New Course)
Catalog Number: 40069
Neil Shephard 7439

Participants discuss recent research in statistics and present their own work in progress. Open to doctoral students in statistics.

***Statistics 301. Special Reading and Research**
Catalog Number: 4474
Edoardo Maria Airoldi 6132, Joseph K. Blitzstein 5588, Stephen James Blyth 6712, Luke Bornn 7078, Tirthankar Dasgupta 5765, David P. Harrington (Public Health) 4318, S.C. Samuel Kou 4054 (on leave 2013-14), Jun S. Liu 3760, Xiao-Li Meng 4023, Luke Weisman Miratrix 6490, Carl N. Morris 2178 (on leave spring term), Michael Isaac Parzen 6728, Natesh S. Pillai 6729, Donald B. Rubin 7966, and Alan M. Zaslavsky (Medical School) 1927

***Statistics 302. Direction of Doctoral Dissertations**
Catalog Number: 3382
Edoardo Maria Airoldi 6132, Joseph K. Blitzstein 5588, Stephen James Blyth 6712, Luke Bornn 7078, Tirthankar Dasgupta 5765, David P. Harrington (Public Health) 4318, S.C. Samuel Kou 4054 (on leave 2013-14), Jun S. Liu 3760, Xiao-Li Meng 4023, Luke Weisman Miratrix 6490, Carl N. Morris 2178 (on leave spring term), Michael Isaac Parzen 6728, Natesh S. Pillai 6729, Donald B. Rubin 7966, and Alan M. Zaslavsky (Medical School) 1927

***Statistics 303hf. The Art and Practice of Teaching Statistics**
Catalog Number: 3545
Xiao-Li Meng 4023, Luke Weisman Miratrix 6490, and Natesh S. Pillai 6729
Half course (throughout the year). Tu., 10–12.
Required of all first-year doctoral students in Statistics.

***Statistics 310hf. Topics in Astrostatistics**
Catalog Number: 2105
Xiao-Li Meng 4023
Half course (throughout the year). Tu., 12–2.

***Statistics 311. Monte Carlo Methods in Scientific Computing**
Catalog Number: 0826
Jun S. Liu 3760
Half course (spring term). Hours to be arranged.
Prerequisite: Statistics 220 or equivalent.

***Statistics 312r (formerly *Statistics 312). Estimation Problems for Stochastic Processes and High Dimensional Data**
Catalog Number: 86589
Natesh S. Pillai 6729
Half course (fall term). F., 4:30–6.
Focusing on inference problems for stochastic processes and statistical modeling in high dimensions. Contemporary papers from different fields will be discussed and presented by students. Participants will be encouraged to develop their own research problems in this active area.

Statistics 314hfr. Timely Topics in Statistics - *(New Course)
Catalog Number: 90992
Luke Bornn 7078
Half course (throughout the year). Hours to be arranged.

[*Statistics 321. Stochastic Modeling and Bayesian Inference]
Catalog Number: 4060
S.C. Samuel Kou 4054 (on leave 2013-14)
Half course (spring term). .
Stochastic processes and their applications in biological, chemical and financial modeling. Bayesian inference about stochastic models based on the Monte Carlo sampling approach.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

***Statistics 324r. Parametric Statistical Inference and Modeling**
Catalog Number: 3366
Carl N. Morris 2178 (on leave spring term)
Half course (fall term). .
Theory of multi-level parametric models, including hidden Markov models, and applications likely to include biostatistics, health services, education, and sports.

***Statistics 325hfr (formerly *Statistics 325). Topics in Environmental Modeling**
Catalog Number: 83356
Luke Bornn 7078
Half course (throughout the year). .
Focus will be on research topics in spatial statistics, Monte Carlo, and the overlap and interplay between the two fields.

Statistics 328. Bayesian Nonparametrics - *(New Course)
Catalog Number: 41427
Luke Bornn 7078 and Luke Weisman Miratrix 6490
Half course (fall term). .
Bayesian nonparametric methods including both random discrete measures and random functions. Gaussian processes (e.g., for nonparametric regression), the Chinese Restaurant process (e.g.,for clustering), Pitman-Yor processes (e.g., for hierarchical clustering), and Dirichlet processes (e.g., for topic modeling).

Statistics 329. Special Topics in Bootstrap and Permutation Methods - *(New Course)
Catalog Number: 85678
Luke Weisman Miratrix 6490
Bootstrap and permutation methods with readings both applied and theoretical. Selection of topics will vary by interest, potentially including any of Bayesian approaches, high dimensional concerns, the wild bootstrap and regression, semi-parametric likelihood with bootstrap techniques, subsampling, and more complex extensions of permutation tests.

Statistics 330. Selected Topics in High Dimensional Analysis - *(New Course)
Catalog Number: 96705
Jiashun Jin (Carnegie Mellon) 7465
Half course (spring term). .
Focuses on the following topics: Variable selection, large-scale multiple testing, classification and clustering, complicate graphs and networks, and random matrix theory.

[*Statistics 340. Random Network Models]
Catalog Number: 1650
Joseph K. Blitzstein 5588 and Edoardo Maria Airoldi 6132
Half course (spring term). Hours to be arranged.

Random graph models for biological, social, and information networks, including fixed degree, exponential, power law, small world, and geometric random graphs. Estimation and sampling methods for network data.
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

***Statistics 341. Advanced Topics in Experimental Design**
Catalog Number: 9827
Tirthankar Dasgupta 5765
Half course (spring term). Th., 3:30–5:30.

[*Statistics 342. Causal Graphs in Low and High Dimensions]
Catalog Number: 42781
Luke Weisman Miratrix 6490
Half course (fall term). Hours to be arranged.
Papers in this area will be read with a skeptical but judicious eye. When could these methods offer something tangible, when might they fail, and how can we know in which circumstance we lie?
Note: Expected to be omitted in 2013–14. Expected to be given in 2014–15.

[*Statistics 366. Research Cultivation and Culmination]
Catalog Number: 65544
Joseph K. Blitzstein 5588 and Xiao-Li Meng 4023
Half course (spring term). Tu., 6–8 p.m.
Introduction to the process of developing research ideas into publications in Statistics, using case studies and actual research projects. Emphasizes scientific communication in research papers and presentations, deciphering referee reports, and finding the right forum.
Note: Expected to be given in 2014–15.
Prerequisite: Statistics 211

***Statistics 392hf. Research Topics in Missing Data, Matching and Causality**
Catalog Number: 44383
Donald B. Rubin 7966
Half course (throughout the year). W., 4–6.
Students will make at least one presentation on current research in applied or theoretical statistics. All registered students are expected to participate by offering commentary/suggestions during presentations. This is a requirement to obtain credit.

***Statistics 399. Problem Solving in Statistics**
Catalog Number: 1035
Members of the Department
Half course (fall term). Hours to be arranged.
Aimed at helping Statistics PhD students transition through the qualifying exams and into research.

Cross-listed Courses

***Government 3009. Research Workshop in Applied Statistics**

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Stem Cell and Regenerative Biology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Stem Cell and Regenerative Biology (FAS, HMS)

Douglas A. Melton, Xander University Professor of Stem Cell and Regenerative Biology *(Co-Chair, and Co-Head Tutor)*
David T. Scadden, Professor of Stem Cell and Regenerative Biology and Gerald and Darlene Jordan Professor of Medicine *(Co-Chair)*
William J. Anderson, Senior Lecturer on Stem Cell and Regenerative Biology
Paola Arlotta, Morris Kahn Associate Professor of Stem Cell and Regenerative Biology
Fernando D. Camargo, Associate Professor of Stem Cell & Regenerative Biology
Kenneth R. Chien, Visiting Professor of Stem Cell and Regenerative Biology
Chad A. Cowan, Associate Professor of Stem Cell & Regenerative Biology
Kevin C. Eggan, Professor of Stem Cell and Regenerative Biology *(Co-Head Tutor)*
Konrad Hochedlinger, Professor of Stem Cell and Regenerative Biology *(Medical School)*
Steven E. Hyman, Professor of Stem Cell and Regenerative Biology, Harvard University Distinguished Service Professor, Professor of Neurobiology
Susanne Jakob, Preceptor in Stem Cell & Regenerative Biology
Richard T. Lee, Professor of Stem Cell and Regenerative Biology *(FAS)*, Professor of Medicine *(Medical School)*
Jeffrey D. Macklis, Professor of Stem Cell and Regenerative Biology and Professor of Surgery and Neurology, Harvard Medical School
Alexander Meissner, Associate Professor of Stem Cell & Regenerative Biology
Kiran Musunuru, Assistant Professor of Stem Cell and Regenerative Biology
John L. Rinn, Alvin and Esta Star Associate Professor of Stem Cell and Regenerative Biology
Derrick J. Rossi, Assistant Professor of Stem Cell and Regenerative Biology
Lee L. Rubin, Professor of Stem Cell and Regenerative Biology
Jack L. Strominger, Higgins Professor of Biochemistry in the Department of Stem Cell and Regenerative Biology
Gregory L. Verdine, Erving Professor of Chemistry in the Departments of Stem Cell and Regenerative Biology and of Chemistry and Chemical Biology *(on leave 2013-14)*
Amy J. Wagers, Forst Family Professor of Stem Cell and Regenerative Biology
Qiao Zhou, Assistant Professor of Stem Cell and Regenerative Biology
Leonard I. Zon, Professor of Stem Cell and Regenerative Biology and Grousbeck Professor of Pediatrics, Harvard Medical School *(Medical School)*

Other Faculty Offering Instruction in Stem Cell and Regenerative Biology

George Q. Daley, Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Joseph B. Lassiter, Professor of Management Practice *(Business School)*
Andrew P. McMahon, Frank B. Baird Jr. Professor of Science in the Department of Stem Cell and Regenerative Biology *(Medical School)*
William Andrews Sahlman, Dimitri V. D'Arbeloff-MBA Class of 1955 Professor of Business Administration *(Business School)*

Primarily for Undergraduates

SCRB 10. Human Developmental and Regenerative Biology
Catalog Number: 96716
Kevin C. Eggan and William J. Anderson
Half course (fall term). M., W., F., at 1, and a weekly section to be arranged. EXAM GROUP: 6
Fundamental concepts in developmental biology will be presented within the framework of the developing and regenerating mammal. Where possible, lectures will focus on humans.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of Living Systems or the Core area requirement for Science B.
Prerequisite: Concurrent enrollment in Life and Physical Sciences A or Life Sciences 1a.

SCRB 25. Biochemistry and Human Metabolism - *(New Course)*
Catalog Number: 57725
Kiran Musunuru
Half course (spring term). Tu., 2:30–4. EXAM GROUP: 16, 17
This course provides an introduction to the principles of biochemistry in the context of human physiology and disease. We will investigate biochemical pathways governing the metabolism of proteins, carbohydrates, fatty acids and lipids, and nucleic acids. Additionally, we will address basic enzymology, bioenergetics, energy storage and release, and hormonal regulation of metabolism. Special emphasis will be given to the impact of biochemical pathways on disease as well as the development of new therapies.
Prerequisite: LPS A or LS 1a or equivalent.

***SCRB 91r. Introduction to Research**
Catalog Number: 75408
William J. Anderson and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Laboratory research in topics related to the Human Developmental and Regenerative Biology Concentration under the direction of, or approved by, members of the Department of Stem Cell and Regenerative Biology, Principal Faculty of the Harvard Stem Cell Institute, or others with permission. A paper must be submitted to the laboratory sponsor and to the HDRB Concentration Office for review by the Course Director and Head Tutors.
Note: Limited to Human Developmental and Regenerative Biology Concentrators; written permission of the laboratory sponsor must be submitted to the HDRB Concentration Office prior to enrolling in the course. This introductory research course is intended to prepare students for SCRB 99 and may ordinarily be repeated no more than once. Ordinarily may not be taken as a fifth course. Laboratory safety session required.

***SCRB 99. Laboratory Research for Honors Thesis**
Catalog Number: 23886
William J. Anderson and members of the Department
Full course. Hours to be arranged.
For honors candidates writing a thesis in Human Developmental and Regenerative Biology.
Note: Ordinarily may not be taken as a fifth course. Laboratory safety session required.
Prerequisite: Students intending to enroll in the fall are required to submit a written proposal to the Course Director. Students may enter the course at midyear only with the permission of the Course Director. The thesis proposal must be approved by the Course Director and Head Tutors prior to enrolling in SCRB 99.

Cross-listed Courses

Engineering Sciences 53. Quantitative Physiology as a Basis for Bioengineering
Life Sciences 60. Ethics, Biotechnology, and the Future of Human Nature

For Undergraduate and Graduates

[*SCRB 110 (formerly *SCRB 90). Classic Experiments in Developmental Biology]
Catalog Number: 15214 Enrollment: Limited to 20.
Douglas A. Melton
Half course (spring term). M., 10–12. EXAM GROUP: 3, 4
This course will introduce students to classic experiments in developmental biology. We will explore the historical background, experimental design, and results of a handful of experiments that have defined the field of developmental biology and changed our understanding of the discipline. Students will read primary literature and, in turn, present the conclusions in written and oral formats.
Note: Expected to be given in 2014–15.
Prerequisite: SCRB 10 or permission of the instructor.

SCRB 125. Nuclear Reprogramming and Developmental Plasticity
Catalog Number: 5481
Konrad Hochedlinger (Medical School)
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
This course will focus on the biology of organismal cloning, cellular reprogramming, and developmental plasticity. The roll that stem cells play in these processes and the genetic and molecular circuitry that underlie developmental potency and reprogramming will be discussed.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; SCRB 10 or MCB 54, or permission of the instructor.

***SCRB 130. Biomedical Entrepreneuring: Turning Ideas into Medicine**
Catalog Number: 44334 Enrollment: Limited to 20.
Derrick J. Rossi
Half course (spring term). F., 9–12. EXAM GROUP: 2, 3, 4
Medicines and other therapeutics have revolutionized the treatment of many diseases. Few of us pause to consider how these products are developed from an initial discovery in the lab to the treatment of patients. This course will consider this journey by incorporating scientific, biotechnology, intellectual property, venture capital, and business perspectives. In addition to lectures, students will work on group projects to chart a strategy toward bringing a novel biomedical idea to the clinic.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; SCRB 10 or MCB 52, or permission of the instructor.

SCRB 140. Developmental and Molecular Basis of Growth and Regeneration
Catalog Number: 73523
Fernando D. Camargo
Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8
This course will focus on the biology of organ growth and regeneration from a developmental perspective. How is the size and symmetry of our organs set? How does a regenerating animal sense that something is missing and eventually stop the regenerative process when tissues reform? We will learn about conserved developmental pathways that are necessary for adult regeneration and discuss how the aberrant activation of these pathways can lead to overgrowth disorders such as cancer.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; SCRB 10 or MCB 54, or permission of the instructor.

SCRB 150 (formerly MCB 150). Human Genetics: Mining Our Genomes for an Understanding of Human Variation and Disease
Catalog Number: 5703
Kiran Musunuru
Half course (fall term). W., 2–5. EXAM GROUP: 7, 8, 9
The sequencing of the human genome has revealed the full extent of genetic variation that exists within us as a species. This genetic diversity underlies much of our physical variation as well as our differences in responsiveness to disease stimuli and their treatments. We will explore these and other ramifications of human genetic diversity by applying classical and contemporary genetic tools to the identification of specific genes and pathways that functionally underlie our variable biology.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b (or equivalent); SCRB 10 or MCB 52. Not expected to be offered in 2014-2015.

SCRB 155. Epigenetic Regulation in Development
Catalog Number: 63211
Alexander Meissner
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Cloning of Dolly the sheep suggests that all of our cells have exactly the same genes as a fertilized egg. If this is true, then how is it that each of our cells reads out those genes differently? This course will explain the developmental events that regulate the expression of genes, as well as how this developmental expression is established and maintained.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; MCB 52; SCRB 10 or permission of the instructor.

[SCRB 156. (Epi)Genomics and Genome Regulation]
Catalog Number: 48086 Enrollment: Limited to 50.
John L. Rinn and Alexander Meissner
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
How does every cell use the same genome template to create a myriad of cellular functions? This course will introduce the basic principles behind genome regulation, ranging from classic studies to next generation approaches and technologies. A particular emphasis will be placed on the roles of epigenetic mechanisms and ncRNA in establishing cell fate. Collectively, students will gain a proficiency in understanding the key principles and questions faced in the post genomic era.
Note: Expected to be given in 2014–15. This course is a condensed combination of SCRB 155 and SCRB 157.
Prerequisite: Life Sciences 1a or equivalent; Life Sciences 1b; SCRB 10; MCB 52 or permission of the instructor.

SCRB 157. The Noncoding Genome
Catalog Number: 57449
John L. Rinn
Half course (spring term). Tu., Th., 1–2:30. EXAM GROUP: 15, 16
This course will introduce classic experiments and examples of functional RNA genes that comprise the ever-emerging RNA world. We will explore diverse classes of RNA genes and their biochemical mechanisms that have defined field, including overviews of relevant technologies leading to these principal findings. Lecture topics will be followed by students reading and presenting related primary literature. Collectively this course will provide an opportunity to explore the wide spectrum of cellular processes involving RNA molecules.
Prerequisite: Life Sciences 1a or equivalent; Life Sciences 1b; SCRB 10; MCB 52 or permission of the instructor.

***SCRB 160. Experimental Embryology: From Stem Cells to Tissues and Back Again**
Catalog Number: 45194 Enrollment: Limited to 16.
Paola Arlotta
Half course (fall term). M., 2–6. EXAM GROUP: 7, 8, 9
This advanced laboratory course will apply experimental approaches and surgical techniques to illustrate critical developmental events during mouse embryogenesis. Particular emphasis will be placed on experiments covering the following topics: fertilization and pre-implantation embryology; reprogramming of adult somatic cells into embryonic stem cells; early organ development; and surgical manipulation of late stage mouse embryos in utero.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; SCRB 10 or MCB 118 or MCB 54.

***SCRB 162. Experimental Regenerative Biology**
Catalog Number: 37108
Qiao Zhou
Half course (spring term). M., 2–6. EXAM GROUP: 7, 8, 9
This laboratory course will allow advanced undergraduate students to explore classical and modern experimental models of regeneration, and through experimentation, understand the important concepts and key challenges of the regenerative biology field. We will focus in particular on the regeneration of complex tissues and entire organ systems using both invertebrate and vertebrate models, including the planarian worm, the salamander, and the mouse.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; SCRB 10 or MCB 54, or permission of the instructor.

***SCRB 165. Directed Differentiation of Stem Cells**
Catalog Number: 9605 Enrollment: Limited to 24.
Chad A. Cowan
Half course (spring term). Tu., 2:30–4, and a weekly lab Th., 1-4. EXAM GROUP: 16, 17
This practical laboratory course will investigate the fundamental biology of human embryonic stem cells and their remarkable capacity to differentiate into all cells of the body. The underlying developmental pathways that guide embryonic stem cell development into these differentiated cell types will be explored. A chemical biology approach will also be used to probe properties of normal and disease model cells derived from embryonic stem cells.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a, or permission of instructor.

***SCRB 167. Stem Cells and Regeneration in the Pathobiology and Treatment of Human Disease**
Catalog Number: 9556 Enrollment: For advanced students only, seniors and qualified juniors.
George Q. Daley (Medical School) and members of the Department
Half course (spring term). Tu., 2–4. EXAM GROUP: 16, 17
Stem cells are the basis for tissue maintenance and repair, thus, are essential elements of normal organ and tissue physiology. Stem cells are also targets for disease processes and through transplantation are important therapeutic agents. This course will allow advanced undergraduates to explore how stem cells and tissue regeneration impact human disease pathogenesis and how stem cells might be exploited to advance new therapies for disease.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; SCRB 10; MCB 52 or MCB 54.

[SCRB 170. Heart Stem Cell Therapeutics: A Case Study for Regenerative Medicine]
Catalog Number: 22001
Kenneth R. Chien

Half course (fall term). Tu., Th., 1–2:30.
Heart stem cell therapeutics is a paradigm for regenerative medicine. Multipotent "master" heart progenitors are revolutionizing our understanding of human cardiogenesis and its relationship to disease. Issues such as delivery, grafting, survival, rejection, scalability, tissue engineering, unwanted side effects, and imaging have all arisen when considering cell transplantation therapies. This course will examine the prospects and problems of heart stem cell therapeutics from multiple perspectives, e.g., scientific, medical, philanthropic, drug discovery/safety, governmental, ethical, and financial.
Note: Expected to be given in 2014–15.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; SCRB 10 or MCB 54, or permission of the instructor.

SCRB 175. Glucose: From Molecule to Society
Catalog Number: 59441
Richard T. Lee
Half course (fall term). M., W., at 11, and a lab component to be arranged.
We will explore the biochemistry, cell biology, and physiology that make glucose our main source of energy. How did humans depend on and crave this molecule? What consequences does it hold for normal metabolism and disease? Students will integrate evolution, endocrinology, biostatistics, bioengineering, and regenerative biology approaches in considering sugar and all its consequences. Finally, we will evaluate legal and business issues necessary to move scientific and technical innovations from the laboratory to the patient.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; SCRB 10 or MCB 54; MCB 52 or permission of the instructor.

[*SCRB 178 (formerly MCB 268). Molecular Immunology: Seminar]
Catalog Number: 2196 Enrollment: Limited to 16.
Jack L. Strominger
Half course (spring term). M., Th., 4–6. EXAM GROUP: 9, 18
One session each week is a lecture on current topics in immunology. At the second session, three papers are read from the current literature on that topic (including topics in hematopoietic stem cells, immune cell differentiation, autoimmunity, HIV, cancer, and transplantation), each presented by a student in 30-45 minutes. Course work: reading of papers, seminar presentations, and class participation.
Note: Expected to be given in 2014–15.
Prerequisite: MCB 169 or permission of instructor required for undergraduates only.

SCRB 180. Regeneration and Repair in the Mammalian Brain
Catalog Number: 60301
Jeffrey D. Macklis
Half course (fall term). Tu., Th., 2:30-4, and a weekly section to be arranged. EXAM GROUP: 16, 17
This course will discuss cellular and molecular mechanisms of regeneration and repair in the mammalian central nervous system (CNS). We will: compare and contrast aspects of neural development with adult neural plasticity; discuss limitations to neuronal regeneration in the mature mammalian CNS following degeneration or injury; examine CNS regeneration approaches directed at overcoming intrinsic limitations; and explore developmental controls and gene manipulation to promote neurogenesis, axonal regeneration, and directed differentiation in the diseased adult brain.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; MCB 80 or permission of the instructor.

[*SCRB 185. Human Disease]
Catalog Number: 4005

Gregory L. Verdine
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This course will address both the molecular basis of human disease, and the biological and chemical foundation of therapeutic intervention. The course will include lectures by prominent experts, and analysis of the primary literature.
Note: Expected to be given in 2014–15. May not be taken concurrently with MCB 185. May not be taken for credit if MCB 185 or Chemistry 285 has already been taken. Credit cannot also be received for MCB 185.
Prerequisite: Chemistry 20/30 or 17/27, Life Sciences 52 or their equivalents.

***SCRB 187. Brains, Identity, and Moral Agency**
Catalog Number: 73713 Enrollment: Limited to 50.
Steven E. Hyman
Half course (spring term). M., W., 1–2:30. EXAM GROUP: 6, 7
Human beings experience a sense of self that provides a stable foundation from which to understand personal experience, consciously formulate goals, and initiate actions. The view that people act in accordance with freely formed intensions underlies important concepts of moral agency and culpability, yet evidence from neuroscience questions this assumption. This course will examine competing views of human agency grounded in concrete scientific examples to encourage reflection on the implications for identity and moral agency.
Note: For students who have taken MCB 80, it is contemplated that there will be a section that incorporates more advanced concepts from neurobiology. This course, when taken for a letter grade, meets the General Education requirement for Ethical Reasoning.
Prerequisite: LPS A or LS 1a (or equivalent - permission of instructor required).

SCRB 190. Understanding Aging: Degeneration, Regeneration, and the Scientific Search for the Fountain of Youth
Catalog Number: 1207
Amy J. Wagers and Lee L. Rubin
Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This lecture and discussion course will explore the fundamental molecular and cellular mechanisms that govern organismal aging and contemporary strategies to delay or reverse this process.
Prerequisite: Life and Physical Sciences A or Life Sciences 1a; Life Sciences 1b; SCRB 10 or MCB 54.

[SCRB 192. Principles of Drug Discovery and Development]
Catalog Number: 46717 Enrollment: Limited to 40.
Gregory L. Verdine and Vicki L. Sato
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
This interdisciplinary course will examine the process of drug discovery and development through disease-driven examples. Topics include: the efficacy/toxicity balance, the differences between drugs and inhibitors, and the translation of cellular biochemistry to useful medicine.
Note: Expected to be given in 2014–15. May not be taken concurrently with Chemistry 192. May not be taken for credit if Chemistry 192 or MCB 192 have already been taken.
Prerequisite: Chemistry 20/30 or 17/27, Life Sciences 52 or their equivalents, MCB 52, and one year of organic chemistry. MCB 54 is recommended.

Cross-listed Courses

Biomedical Engineering 110 (formerly Engineering Sciences 145). Physiological Systems Analysis
***Biomedical Engineering 121 (formerly *Engineering Sciences 122). Cellular Engineering**

Biomedical Engineering 125 (formerly Engineering Sciences 130). Tissue Engineering
Government 1093. Ethics, Biotechnology, and the Future of Human Nature
***Life Sciences 100r. Experimental Research in the Life Sciences**
[MCB 192. Principles of Drug Discovery and Development]
[*SCRB 185. Human Disease]

Primarily for Graduates

***SCRB 200. Independent Research in Stem Cell and Regenerative Biology**
Catalog Number: 88356 Enrollment: Enrollment may be limited.
Lee L. Rubin
Half course (spring term). Tu., 6–8 p.m. EXAM GROUP: 18
This survey course provides contemporary approaches to the study of stem cell and regenerative biology.
Note: May not be taken concurrently with SCRB 300qc.

SCRB 235. Introduction to Innovation and Entrepreneurship - *(New Course)*
Catalog Number: 81913
Joseph B. Lassiter (Business School) and William Andrews Sahlman (Business School)
Half course (spring term). Tu., 2:30–5:30. EXAM GROUP: 16, 17, 18
This course is designed for those who want to understand the role of start-ups and venture capital in the creation of new products and services in the for-profit and not-for-profit sectors. It is intended to help students identify areas in which changes in science and technology, consumer and social attitudes, or political and regulatory processes support the creation of new businesses and organizations in independent ventures or within established organizations. Margo Seltzer and Bill Anderson are supporting the course by supervising projects in their respective areas of expertise.
Note: Open to undergraduates. May not be taken concurrently with Engineering Sciences 238. May not be taken concurrently with SCRB 335qc. Credit may be earned for either SCRB 235 or Engineering Sciences 238, but not both. This course will be held at the i-lab at HBS. The course is limited to 15 HBS cross-registration students, 25 students enrolling through Engineering Sciences and 25 students enrolling through SCRB.

Cross-listed Courses

***Engineering Sciences 222. Advanced Cellular Engineering**
Engineering Sciences 230. Advanced Tissue Engineering
MCB 234. Cellular Metabolism and Human Disease

Graduate Courses of Reading and Research

***SCRB 302. Mechanisms of Epigenetic Reprogramming**
Catalog Number: 6640
Kevin C. Eggan 5373

SCRB 304. Human Molecular Genetics - *(New Course)
Catalog Number: 22737
Kiran Musunuru 3235

***SCRB 364 (formerly MCB 364). Vertebrate Development**
Catalog Number: 37752

Andrew P. McMahon (Medical School) 3312
Half course (spring term). .

***SCRB 382 (formerly *MCB 382). Molecular Immunology**
Catalog Number: 5515
Jack L. Strominger 1193

***SCRB 399. Vertebrate Developmental Biology**
Catalog Number: 45477
Douglas A. Melton 7232

Quarter Courses for Graduate Students Only

***SCRB 300qc. Current Research in Stem Cell and Regenerative Biology**
Catalog Number: 95856
Lee L. Rubin 6061 and members of the Department
Quarter course (spring term). Tu., 6–8 p.m.
This survey course provides contemporary approaches to the study of stem cell and regenerative biology.
Note: May not be taken concurrently with SCRB 200.

SCRB 335qc. Introduction to Innovation and Entrepreneurship - *(New Course)
Catalog Number: 74525
Joseph B. Lassiter (Business School) 3241 and William Andrews Sahlman (Business School) 7482
Quarter course (spring term). Tu., 2:30–5:30.
This course is designed for those who want to understand the role of start-ups and venture capital in the creation of new products and services in the for-profit and not-for-profit sectors. It is intended to help students identify areas in which changes in science and technology, consumer and social attitudes, or political and regulatory processes support the creation of new businesses and organizations in independent ventures or within established organizations. Margo Seltzer and Bill Anderson are supporting the course by supervising projects in their respective areas of expertise.
Note: May not be taken concurrently with SCRB 235 or Engineering Sciences 238. This course will be held at the i-lab at HBS.

Cross-listed Courses

***BCMP 366. Stem Cells in Disease and Development**
***BCMP 384. Embryonic stem cells, Nuclear Transfer, Cancer, Reprogramming**
***Cell Biology 351. Cardiovascular Stem Cells in Development and Disease**
***Chemistry 331. Approaches Toward Understanding and Treating Human Disease**
***DRB 312. Epigenetic Modifications and Cellular Identity**
***DRB 314. Investigation of the molecular mechanisms governing development and reprogramming of neuronal subtypes in the mammalian cerebral cortex.**
***DRB 319. Adult mammalian regeneration**
***Genetics 336. Developmental Biology of Hematopoiesis**
***Genetics 387. Stem Cells and Developmental Biology**
***Immunology 360. Hematopoietic Stem Cells and their Niche**
***Neurobiology 367. Neocortical Development and Regeneration**

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

Systems Biology

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Higher Degrees in Systems Biology

Timothy J. Mitchison, Hasib Sabbagh Professor of Systems Biology *(Medical School) (Co-Chair)*
Andrew W. Murray, Herchel Smith Professor of Molecular Genetics *(Co-Chair)*
Marc W. Kirschner, John Franklin Enders University Professor of Systems Biology *(Medical School)*
Erin K. O'Shea, Paul C. Mangelsdorf Professor of Molecular and Cellular Biology and of Chemistry and Chemical Biology
Pamela A. Silver, Elliott T. and Onie H. Adams Professor of Biochemistry and Systems Biology *(Medical School)*

Other Faculty Offering Instruction in Systems Biology

Edoardo Maria Airoldi, Associate Professor of Statistics
Debra T. Auguste, Assistant Professor of Surgery *(Medical School)*
Michael P. Brenner, Glover Professor of Applied Mathematics and Applied Physics and Professor of Physics, Harvard College Professor, Area Dean for Applied Mathematics
Martha L. Bulyk, Associate Professor of Pathology *(Medical School)*
Lewis C. Cantley, Professor of Systems Biology *(Medical School)*
George M. Church, Robert Winthrop Professor of Genetics *(Medical School)*
Lee Stirling Churchman, Assistant Professor of Genetics *(Medical School)*
Philippe Cluzel, Professor of Molecular and Cellular Biology and Gordon McKay Professor of Applied Physics
Vladimir Denic, Associate Professor of Molecular and Cellular Biology
Angela Depace, Assistant Professor of Systems Biology *(Medical School)*
Michael Manish Desai, Assistant Professor of Organismic and Evolutionary Biology and of Physics
Catherine Dulac, Higgins Professor of Molecular and Cellular Biology
Walter Fontana, Professor of Systems Biology *(Medical School)*
Melissa Franklin, Mallinckrodt Professor of Physics
Jesse M. Gray, Assistant Professor of Genetics *(Medical School)*
Jeremy M. Gunawardena, Associate Professor of Systems Biology *(Medical School)*
John M. Higgins, Assistant Professor of Systems Biology *(Medical School)*
Curtis Huttenhower, Assistant Professor of Computational Biology and Bioinformatics *(Public Health)*
Roy Kishony, Associate Professor of Systems Biology *(Medical School)*
Galit Lahav, Associate Professor of Systems Biology *(Medical School)*
Erel Levine, Assistant Professor of Physics
Richard M. Losick, Maria Moors Cabot Professor of Biology
L. Mahadevan, Lola England de Valpine Professor of Applied Mathematics, of Organismic and Evolutionary Biology, and of Physics
Christopher Marx, Associate Professor of Organismic and Evolutionary Biology, Visiting Professor of Organismic and Evolutionary Biology, Visiting Associate Professor of Organismic and Evolutionary Biology
Sean Megason, Assistant Professor of Systems Biology *(Medical School)*

Vamsi K. Mootha, Associate Professor of Systems Biology *(Medical School)*
Radhika Nagpal, Fred Kavli Professor of Computer Science
Daniel Joseph Needleman, Associate Professor of Applied Physics and of Molecular and Cellular Biology
Martin A. Nowak, Professor of Mathematics and of Biology
Kevin K. Parker, Tarr Family Professor of Bioengineering and Applied Physics *(on leave spring term)*
Johan M. Paulsson, Associate Professor of Systems Biology *(Medical School)*
Sharad Ramanathan, Professor of Molecular and Cellular Biology and Gordon McKay Professor of Applied Physics
Samara Louise Reck-Peterson, Associate Professor of Cell Biology *(Medical School)*
John L. Rinn, Alvin and Esta Star Associate Professor of Stem Cell and Regenerative Biology
Pardis Sabeti, Associate Professor of Organismic and Evolutionary Biology
Alan Saghatelian, Associate Professor of Chemistry and Chemical Biology
Alexander F. Schier, Leo Erikson Life Sciences Professor of Molecular and Cellular Biology *(on leave 2013-14)*
Jagesh V. Shah, Associate Professor of Systems Biology, Associate Professor of Health Sciences and Technology, Associate Professor of Medicine *(Medical School)*
William Shih, Associate Professor of Biological Chemistry and Molecular Pharmacology *(Medical School)*
Peter K. Sorger, Professor of Systems Biology *(Medical School)*
Michael Springer, Assistant Professor of Systems Biology *(Medical School)*
Jack Szostak, Professor of Chemistry and Chemical Biology; Professor of Genetics *(Medical School)*
Ralph Weissleder, Professor of Systems Biology *(Medical School)*
David A. Weitz, Mallinckrodt Professor of Physics and of Applied Physics
Xiaoliang Sunney Xie, Mallinckrodt Professor of Chemistry and Chemical Biology
Peng Yin, Assistant Professor of Systems Biology *(Medical School)*
Xiaowei Zhuang, Professor of Chemistry and Chemical Biology and of Physics

Systems Biology students should consult course listings from the departments of Biological Sciences, Biophysics, Chemistry, the School of Engineering and Applied Sciences (Applied Mathematics, Applied Physics, Computer Sciences, Engineering Sciences), and the School of Medical Sciences.

Cross-Listed Courses for Undergraduates and Graduates

Applied Mathematics 115. Mathematical Modeling
Applied Mathematics 147. Nonlinear Dynamical Systems
Biomedical Engineering 110 (formerly Engineering Sciences 145). Physiological Systems Analysis
Biophysics 170. Quantitative Genomics
[Chemistry 60. Foundations of Physical Chemistry]
Chemistry 161. Statistical Thermodynamics
Chemistry 163. Frontiers in Biophysics
Computer Science 181. Machine Learning
Engineering Sciences 156. Signals and Systems
Mathematics 153. Mathematical Biology-Evolutionary Dynamics
MCB 111. Mathematics in Biology
MCB 195. Foundations of Systems Biology and Biological Engineering
OEB 181. Systematics
OEB 192. Microbial Evolution
Physics 181. Statistical Mechanics and Thermodynamics

Primarily for Graduates

Systems Biology 200. Dynamic and Stochastic Processes in Cells
Catalog Number: 8701
Johan M. Paulsson (Medical School) and Jeremy M. Gunawardena (Medical School)
Half course (fall term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
Rigorous introduction to (i) dynamical systems theory as a tool to understand molecular and cellular biology (ii) stochastic processes in single cells, using tools from statistical physics and information theory.
Note: Students planning to take both quarter courses (SB303 and 304) must enroll in this as a half course on their study card as SysBio200 for now and in the future. Students who take one half of this quarter can NOT ever take the other half for credit.
Prerequisite: College-level calculus.

Systems Biology 201. Principles of Animal Development from a Systems Perspective
Catalog Number: 5148
Sean Megason (Medical School), Angela Depace (Medical School), and Marc W. Kirschner (Medical School)
Half course (spring term). Tu., F., 3:30–5. EXAM GROUP: 8, 9, 17, 18
Intensive and critical analysis of systems approaches to circuits and principles controlling pattern formation and morphogenesis in animals. Students develop their own ideas and present them through mentored "chalk talks" and other interactive activities.

Systems Biology 204. Biomolecular Engineering and Synthetic Biology
Catalog Number: 71179
Peng Yin (Medical School), George M. Church (Medical School), William Shih (Medical School), and Pamela A. Silver (Medical School)
Half course (fall term). M., W., 2–3:30. EXAM GROUP: 7, 8
A course focusing on the rational design, construction, and applications of nucleic acid- and protein-based synthetic molecular and cellular machinery and systems. Students are mentored to produce substantial term projects.
Note: See http://sb204.net for details

Systems Biology 212. Communication of Science
Catalog Number: 47732 Enrollment: Restricted to First Year Systems Biology Students
Angela Depace (Medical School), Allon Moshe Klein, and Galit Lahav (Medical School)
Half course (fall term). F., 2–5.
Students will work collaboratively with faculty and one another on critical science communication skills including crafting graphics, writing fellowships, and giving oral presentations.
Note: This is a required course for first year Systems Biology students.

Cross-Listed Courses Primarily for Graduates

BCMP 200. Molecular Biology
BCMP 201. Biological Macromolecules: Structure, Function and Pathways
Biophysics 205. Computational and Functional Genomics
Biophysics 242r. Special Topics in Biophysics
Cell Biology 201. Molecular Biology of the Cell
***Engineering Sciences 222. Advanced Cellular Engineering**
Genetics 201. Principles of Genetics
Mathematics 243. Evolutionary Dynamics
[MCB 212. Topics in Biophysics]

Graduate Courses of Reading and Research

***Systems Biology 300hf. Introduction to Systems Biology Research**
Catalog Number: 4103
Timothy J. Mitchison (Medical School) 3713
Half course (throughout the year). M., 6-7:30 pm.
Series of lectures to introduce the research areas of current program faculty in systems biology.

***Systems Biology 350. Systems Biology Research**
Catalog Number: 8370
Timothy J. Mitchison (Medical School) 3713 and members of the Committee
Upper level Systems Biology students register for this course when they permanently join a lab. Students should register under the supervising PI.

***Systems Biology 370. Advanced Topics in Systems Biology: Reading Seminar**
Catalog Number: 43182
Timothy J. Mitchison (Medical School) 3713
A series of reading and discussion seminars, each running for a half term (7 weeks). Two seminars, which can be taken in different terms, are required for credit.

***Systems Biology 399. Introduction to Systems Biology: Rotations**
Catalog Number: 5863
Timothy J. Mitchison (Medical School) 3713
Half course (fall term; repeated spring term). Hours to be arranged.
The course will introduce the research areas of faculty performing research in systems biology. Intended for Systems Biology lab rotations.

Cross-Listed Graduate Courses of Reading and Research

***Computer Science 307,308. Biologically-Inspired Multi-Agent Systems, Distributed Systems, and Computational Biology**

Quarter Courses for Graduate Students Only

Systems Biology 300qc. Advanced Topics in Systems Biology - *(New Course)
Catalog Number: 28586
Timothy J. Mitchison (Medical School) 3713
Series of intensive seminars, each running for 6 hours. Three seminars, which can be taken in different terms, are required for credit.

***Systems Biology 301qc. Studying Evolution through Models and Experiments**
Catalog Number: 31854
Roy Kishony (Medical School) 5501
Quarter course (spring term). M. through F., 10–12.
Intensive January course covering theoretical foundations in population genetics, genetic drift versus selection, identifying selection in genomes, advances in laboratory evolution experiments, with applications to key questions in systems biology and evolution.
Note: January 13, 2014 - January 24, 2014. Class will be held in Warren Alpert RM 563, HMS. To register for this course, please contact the Systems Biology Department. Course website: http://isites.harvard.edu/k100765.

[*Systems Biology 302qc. Quantitative Human Physiology]
Catalog Number: 14042
John M. Higgins (Medical School)
Quarter course (fall term). Hours to be arranged.
Introduction to selected mathematical and computational models of human physiology, disease, and treatment monitoring. Topics may include glucose regulation, kidney filtration, blood cell homeostasis and anemia, cell growth and cancer, and pharmacokinetics and pharmacodynamics.
Note: Expected to be given in 2014–15.

***Systems Biology 303qc. Dynamic and Stochastic Processes in Cells Part 1**
Catalog Number: 78044 Enrollment: Undergraduates may not receive credit for this course.
Jeremy M. Gunawardena (Medical School) 5167
Quarter course (fall term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13
We will examine how the some of the key requirements of living systems are implemented at the molecular level and how quantitative experimental methods and mathematical analysis can help us understand them.
Note: Tuesday September 3, 2013-Thursday, October 10, 2013. Students enrolled in SystBio303qc can never enroll in SystBio304qc.
Prerequisite: College-level calculus.

***Systems Biology 304qc. Dynamic & Stochastic Processes in Cells Part 2**
Catalog Number: 93151 Enrollment: Undergraduates cannot receive credit for this course
Johan M. Paulsson (Medical School) 5502
Quarter course (fall term). Tu., Th., 10-11:30, a weekly section to be arranged. EXAM GROUP: 12, 13
Note: October 15, 2013 - December 3, 2013. Students enrolled in SystBio304qc can never enroll in SystBio303qc.
Prerequisite: College-level calculus.

***Systems Biology 305qc. Practical Synthetic Biology**
Catalog Number: 22318
Pamela A. Silver (Medical School) 1595
Quarter course (spring term). M. through F., 4–6.
Synthetic biology is a new discipline that seeks to enable the predictable engineering of biological systems. According to one conception of synthetic biology, proteins and genetic regulatory elements are modular and can be combined in a predictable manner. In practice however, assembled genetic devices do not function as expected. The purpose of the course is to go beyond the textbook, first-pass description of molecular mechanisms and focus on details that are specifically relevant to engineering biological systems.
Note: January 13, 2014 - January 24, 2014. Class will be held in Warren Alpert RM 563, HMS. To register for this course, please contact the Systems Biology Department. Course website: http://isites.harvard.edu/k100763.

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Ukrainian Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Ukrainian Studies

Serhii Plokhii, Mykhailo S. Hrushevs'kyi Professor of Ukrainian History *(Chair)*
Timothy J. Colton, Morris and Anna Feldberg Professor of Government and Russian Studies
Grzegorz Ekiert, Professor of Government *(on leave spring term)*
Michael S. Flier, Oleksandr Potebnja Professor of Ukrainian Philology *(on leave 2013-14)*
George G. Grabowicz, Dmytro Cyzevs'kyj Professor of Ukrainian Literature
Terry D. Martin, George F. Baker III Professor of Russian Studies

The Standing Committee on Ukrainian Studies oversees the systematic study in Ukrainian fields throughout the departments of the Faculty of Arts and Sciences. Students wishing to obtain a doctorate in a particular discipline of Ukrainian Studies, such as language, literature, history, or politics should first fulfill all the requirements of the department of their scholarly discipline (departments of Slavic Languages and Literatures, Linguistics, History, or Government): they may then proceed to the fulfillment of specific qualifications in the Ukrainian aspect of their disciplines under the supervision of the Committee's faculty. Graduate students may also focus on Ukrainian Studies in the Degree of Master of Arts in Regional Studies - Russia, Eastern Europe, and Central Asia. The weekly Seminar in Ukrainian Studies serves as an interdisciplinary introduction to all aspects of Ukrainian disciplines; it is open for enrollment to graduate students, and with permission to undergraduates.

The Ukrainian Research Institute sponsors programs, events and activities of interest to both students and specialists in Ukrainian Studies. Specific questions concerning the program of Ukrainian Studies at Harvard may be addressed to the Programs Administrator of the Ukrainian Research Institute at 34 Kirkland Street, Cambridge, MA 02138.

Primarily for Graduates

***Ukrainian 200. Ukrainian Studies: Seminar**
Catalog Number: 7927
Serhii Plokhii and staff
Full course. M., 4–6. EXAM GROUP: 9
Interdisciplinary seminar in Ukrainian studies with broad regional and comparative perspective. Faculty and invited scholars discuss a variety of topics in the humanities and social sciences. Background readings and follow-up discussions help students put the specific lectures in broader context. Students also conduct an individually tailored reading and research project under the guidance of a faculty advisor and in consultation with other resident specialists.

Courses of Interest

Aesthetic and Interpretive Understanding 60 (formerly Literature 164 and Slavic 190). Literature and Art in an Era of Crisis and Oppression: Modernism in Eastern Europe
***History 82f. The Origins of the Cold War: The Yalta Conference (1945)**
History 1270. Frontiers of Europe: Ukraine since 1500
[History 1280. History of the Soviet Union, 1917-1991]
[History 1290. The History of the Russian Empire]

***History 2260. Central Europe: Seminar**
[History 2272. The Soviet Union: Seminar]
[History 2285. Imperial Russia: Proseminar]
[Linguistics 250. Old Church Slavonic]
[Linguistics 252. Comparative Slavic Linguistics]
[Literature 160. Literary Forgeries and Mystifications]
[Slavic 166. Russian-Ukrainian Literary Relations in the 19th Century: Conference Course]
[Slavic 201. Introduction to East Slavic Languages]
[Slavic 280r. Slavic Culture: Seminar]
Ukrainian A. Elementary Ukrainian (formerly Slavic Ga-Gb. Beginning Ukrainian I-II)
***Ukrainian Cr. Advanced Ukrainian (formerly Slavic Gr. Supervised Readings in Intermediate/Advanced Ukrainian)**

Visual and Environmental Studies

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Department of Visual and Environmental Studies

Alfred F. Guzzetti, Osgood Hooker Professor of Visual Arts *(Chair, fall term)*
Giuliana Bruno, Professor of Visual and Environmental Studies
Lucien G. Castaing-Taylor, Professor of Visual Arts and of Anthropology
Tom Conley, Abbott Lawrence Lowell Professor of Romance Languages and Literatures and of Visual and Environmental Studies
Thomas Eggerer, Visiting Lecturer on Visual and Environmental Studies
Laura A. Frahm, Assistant Professor of Visual and Environmental Studies
Haden R. Guest, Lecturer on Visual and Environmental Studies, Director of the Harvard Film Archive
Sharon C. Harper, Professor of Visual and Environmental Studies *(Director of Undergraduate Studies)*
James Hoberman, Visiting Professor of Visual and Environmental Studies
Chris Killip, Professor of Visual and Environmental Studies
Gina Kim, Visiting Lecturer on Visual and Environmental Studies
Peter Kuper, Visiting Lecturer on Visual and Environmental Studies
Carrie Lambert-Beatty, Professor of History of Art and Architecture and of Visual and Environmental Studies *(Director of Graduate Studies)*
Annette Lemieux, Senior Lecturer on Visual and Environmental Studies
Ruth S. Lingford, Senior Lecturer on Visual and Environmental Studies
Kalup Linzy, Visiting Lecturer on Visual and Environmental Studies
Catherine Lord, Visiting Lecturer on Visual and Environmental Studies *(University of California, Irvine)*
Mike Mandel, Visiting Lecturer on Visual and Environmental Studies
Ross McElwee, Professor of the Practice of Filmmaking
Robb Moss, Professor of Visual and Environmental Studies
Stephen Prina, Professor of Visual and Environmental Studies

Luisa Rabbia, Visiting Lecturer on Visual and Environmental Studies
Halsey Clark Rodman, Visiting Lecturer on Visual and Environmental Studies
Heather Rowe, Visiting Lecturer on Visual and Environmental Studies
Allen Sayegh, Visiting Associate Professor of Visual and Environmental Studies
Amie Siegel, Associate Professor of Visual and Environmental Studies *(on leave fall term)*
John R. Stilgoe, Robert and Lois Orchard Professor in the History of Landscape Development
Roger White, Visiting Lecturer on Visual and Environmental Studies

Other Faculty Offering Instruction in the Department of Visual and Environmental Studies

Svetlana Boym, Curt Hugo Reisinger Professor of Slavic Languages and Literatures and Professor of Comparative Literature
Jie Li, Assistant Professor of East Asian Languages and Civilizations
Eric Rentschler, Arthur Kingsley Porter Professor of Germanic Languages and Literatures
Jeffrey Schnapp, Professor of Romance Languages and Literatures
Mary M. Steedly, Professor of Anthropology *(on leave spring term)*
Justin Weir, Professor of Slavic Languages and Literatures and of Comparative Literature
Alexander Nikolas Zahlten, Assistant Professor of East Asian Languages and Civilizations

The curriculum of the Department of Visual and Environmental Studies engages both practical and theoretical aspects of the built environment, digital media, drawing, film, painting, performance, photography, printmaking, sculpture, sound, video, and writing.

Most introductory-level courses are designated with two-digit course numbers and non-introductory courses with three-digit course numbers. The department also offers 200-level courses for PhD students in the Film and Visual Studies graduate secondary field.

Tutorials or special research projects may be taken only if they have been approved by the Director of Undergraduate Studies. Application forms for all VES tutorials can be picked up in the VES Department Office or downloaded from the VES website at *www.ves.fas.harvard.edu.*

In addition to the studio and lecture courses taught by members of the faculty of Visual and Environmental Studies, the department encourages students to explore course opportunities at the MIT Institute for Advanced Visual Studies as well as the Harvard Graduate School of Design.

Each term the department sponsors a lecture series held at the Carpenter Center for the Visual Arts. These lectures are designed to augment and inform the curriculum of the department and are usually held on Thursday evenings.

For further information on the faculty and courses in the Department of Visual and Environmental Studies, requirements for concentration, as well as the Carpenter Center lecture series, please contact the department office located on the 1st Floor of the Carpenter Center for the Visual Arts, 24 Quincy Street or visit our website at *www.ves.fas.harvard.edu.*

Primarily for Undergraduates

***Visual and Environmental Studies 10a. Drawing 1**
Catalog Number: 6945 Enrollment: Limited to 12.
Luisa Rabbia
Half course (fall term; repeated spring term). Tu., 9-12, 1-3.

This course will build the skills of drawing incrementally and expand students' visual vocabulary. Drawings will be made from life, photographs and invention. We will emphasize enhancing our observational sensibilities, focusing on all aspects of technical development, particularly the importance of line. Assignments will delve into the development of abstract and conceptual principles, and introduce specialized systems of rendering and notation. Visual presentations and conceptual discussions about the work of contemporary artists will be included.
Note: This class is for beginners or anyone furthering their skill level.

***Visual and Environmental Studies 10br. Drawing 2**
Catalog Number: 57371 Enrollment: Limited to 12.
Luisa Rabbia
Half course (fall term; repeated spring term). M., 2–5, 6–8 p.m.
This course will build the skills of drawing incrementally and expand students' visual vocabulary. Drawings will be made from life, photographs and invention. We will emphasize enhancing our observational sensibilities, focusing on all aspects of technical development, particularly the importance of line. Assignments will delve into the development of abstract and conceptual principles, and introduce specialized systems of rendering and notation. Visual presentations and conceptual discussions about the work of contemporary artists will be included.
Note: This course may be taken as continuation of Drawing 1 or as a stand-alone course.
Prerequisite: At least one VES studio half-course or permission of the instructor.

***Visual and Environmental Studies 15ar. Silkscreen: Studio Course**
Catalog Number: 2262 Enrollment: Limited to 12.
Annette Lemieux
Half course (fall term). M., W,. 10-1.
For the student who is interested in the manipulation of found and original imagery. Students will create monotypes on paper and other surfaces utilizing the silkscreen process. Through slide presentations, the class will be introduced to the work of artists such as Rauschenberg and Warhol, as well as others who use the silkscreen process.
Note: No previous studio experience necessary.

[*Visual and Environmental Studies 18. Works on Paper]
Catalog Number: 77946 Enrollment: Limited to 12.
Annette Lemieux
Half course (spring term). Tu., Th., 2-5.
Through image presentations, students will be introduced to the art movements and artists of the 20th and 21st centuries. Using a variety of materials, students will create works on paper for critique that reflect these artists' beliefs and concerns.
Note: Expected to be given in 2014–15.

***Visual and Environmental Studies 19. Graphic Novels: Studio Course**
Catalog Number: 32596 Enrollment: Limited to 12.
Peter Kuper
Half course (spring term). Th., 1–4, and weekly film screenings F., 1-3. EXAM GROUP: 15, 16, 17
From the history to the mechanics, this course will explore the origins of graphic novels and how to apply this medium in literary and artistic ways. Classes will include presentations and lectures on important historical and current work as well as practical assignments. For students interested in acquiring an understanding of cartooning history as well as those interested in developing their own work for publication, this course will provide a strong foundation.
Note: This course has an additional weekly film screening, Fridays, 1-3 pm.

Visual and Environmental Studies 20. Contemporary Painting Practice: Beyond the Surface - *(New Course)
Catalog Number: 37968 Enrollment: Limited to 12.
Annette Lemieux
Half course (spring term). Tu, Th 2-5.
Through image presentations and readings, students will be introduced to the art movements from the 1960s to the present - POP, OP, Capitalist Realism, Neo Expressionism, New Image Painting, Figuration Libre, Junge Wilde, Transavantegarde, Neo Geo, Neo Pop, etc. Students will create paintings for critique that reflect these artists' beliefs and concerns.

[*Visual and Environmental Studies 21s. New Grounds: Painting Studio Course]
Catalog Number: 75974 Enrollment: Limited to 12.
Matthew Saunders
Half course (fall term). Tu., 1–4, Tu., 6–9 p.m.
What role does a studio "foundation" play in a technologically and ideologically diverse moment? This will be a painting foundations course, with an emphasis on building skills and exposure to different materials and methods; yet, we also aim to question what the grounds for a painting practice could be, with consideration of conceptual and personal motivation, technical proficiency, and openness to process and experimentation.
Note: Expected to be given in 2014–15. Open to beginners, while also appropriate for more advanced students.

Visual and Environmental Studies 21w. Looking and Painting - *(New Course)
Catalog Number: 18253 Enrollment: Limited to 12.
Roger White
Half course (fall term). Tu., 1–5, 6–8 p.m.
In this introductory-level painting course, students will explore the foundations of a studio practice through the activity of painting from life. We will explore works of contemporary art which foreground issues of perception, and consider how direct observation can inform a variety of painting practices in the digital age.

[*Visual and Environmental Studies 23. Conceptual Figure]
Catalog Number: 11317 Enrollment: Limited to 12.
Matthew Saunders
Half course (fall term). W., 1–5, W., 6–8 p.m.
Model, Person, Subject, Self, Cipher, Being, Effigy, Corpse, Anatomy, Portrait, Body. This painting course will delve into many ways of approaching the human figure. Working first from life, we will also consider the body in media, the body in history, the body in ideas. Note: Open to beginners, while also appropriate for more advanced students.
Note: Expected to be given in 2014–15.

[*Visual and Environmental Studies 24. Painting, Smoking, Eating]
Catalog Number: 78679 Enrollment: Limited to 12.
Matthew Saunders
Half course (spring term). Tu., 1–4, Tu., 6–8 p.m.
Titled after Phillip Guston, this course has two agendas: technical assignments that improve your ability to move paint around, and laying conceptual groundwork for personal projects. One task of an artist is to have a relationship with a world. We will discuss the social role of artists and the boundaries between interior and exterior discourse, with an emphasis on artists' writing, both critical and self-reflexive,

treating self-expression as well as abnegation: auteurs, flaneurs, ventriloquists.
Note: Expected to be given in 2015–16.

Visual and Environmental Studies 31. Beyond Objects--Sculpture Course - *(New Course)
Catalog Number: 68921 Enrollment: Limited to 12.
Heather Rowe
Half course (fall term). F. 10-2, and additional hours to be determined.
How can film, architecture, and the 2-dimensional image influence the sculptural process? This is a sculpture foundations course, with an emphasis on construction and the utilization of a broad range of materials and methods. Projects will consider concepts of social and personal space, memory and the psychological effects of the built environment and in addition we will look at cinema, minimalism, site specific artworks, and photography as possible points of departure.

Visual and Environmental Studies 31h. Prismatic Sculpture - *(New Course)
Catalog Number: 63786 Enrollment: Limited to 12.
Halsey Clark Rodman
Half course (spring term). Tu 10-1, 2-5.
An introductory course focused on color as a primary attribute of sculptural form. In parallel to working with a variety of sculptural materials and processes, we will consider the definitions and limits of chromatic experience ranging from virtual to ambient to autonomous. Particular emphasis will be placed on the development of sculpture "in-the-round". The course will include readings, slide lectures, and screenings in addition to technical demonstrations and workshops.
Prerequisite: Note: No previous studio experience required, open to all levels.

***Visual and Environmental Studies 35r. Building Thought: Studio Course**
Catalog Number: 44695 Enrollment: Limited to 12.
Annette Lemieux
Half course (fall term). M., W.., 2-5.
Using a variety of materials and methods, students will build and create artworks that reflect their ideas, with an emphasis and understanding of the language of images, materials, forms, actions, and presentation. Through images, videos, and informal discussions, students will be introduced to the concerns of conceptual artists of the 20th Century to the present.

***Visual and Environmental Studies 37. Lay of the Land: Studio Course**
Catalog Number: 3090 Enrollment: Limited to 12.
Stephen Prina
Half course (fall term). Tu., Th., 1–4.
The pursuit of and response to the horizontal in art will be the focus of this studio class. To cite a few examples, abstract expressionist painting, cartography, earthworks, landscape photography, 19th century German Romantic landscape painting, and Rayograms will provide models of the horizontal that will be points of departure for studio projects, the forms of which will be determined by what the investigation provides. Students will shift medium from project to project.
Note: No previous studio experience necessary.

***Visual and Environmental Studies 40a. Introduction to Still Photography: Studio Course**
Catalog Number: 2010 Enrollment: Limited to 20.
Fall: Chris Killip; Spring: Chris Killip and Michael Mandel
Half course (fall term; repeated spring term). M., W., 9–12; or M., W., 1–4.
Introduction to still photography through individual and group exercises, with an emphasis on the medium as a vehicle for expression, documentation, and personal vision. Covers necessary technical,

historical, and aesthetic aspects of the medium.
Note: No previous studio experience necessary.

***Visual and Environmental Studies 41a. Introduction to Still Photography: Studio Course**
Catalog Number: 0705 Enrollment: Limited to 10.
Sharon C. Harper
Half course (fall term; repeated spring term). Fall: Tu., Th., 1–4; Spring: Tu., Th., 9–12.
Introduction to still photography with an emphasis on the medium as a vehicle for expression and personal vision. Covers technical, historical, and aesthetic aspects of the medium. Class is organized around slide lectures, individual meetings, group critiques, and readings.
Note: No previous studio experience necessary.

[*Visual and Environmental Studies 41br. Photographic Inquiry: Studio Course]
Catalog Number: 9484 Enrollment: Limited to 10.
Sharon C. Harper
Half course (spring term). Tu., Th., 1-4.
Class emphasis will be on developing visual ideas for a self-directed photographic project. Class will be structured around regular critiques, individual meetings, readings, class discussions and museum visits. Students will create a group of photographs for a final project that are the result of a sustained, self-directed creative process.
Note: Expected to be given in 2014–15.
Prerequisite: At least one half-course in photography or permission of the instructor.

***Visual and Environmental Studies 50. Introduction to Nonfiction Filmmaking**
Catalog Number: 4907 Enrollment: Limited to 10.
Alfred F. Guzzetti
Full course. Tu., 1–4, Th., 1–5.
Introductory exercises in live-action 16mm filmmaking culminating in the production of a nonfiction film as a group project in the spring term.

***Visual and Environmental Studies 51a. Introduction to Video: Studio Course**
Catalog Number: 7526 Enrollment: Limited to 10.
Ross McElwee
Half course (spring term). Tu., Th., 1–4.
A series of nonfiction projects, both individual and collaborative, designed to introduce and explore the range of expressive possibilities in digital video.

***Visual and Environmental Studies 52r. Documentary Strategies**
Catalog Number: 87233 Enrollment: Limited to 10.
Robb Moss
Half course (fall term). Tu., Th., 1–4.
Individual and collaborative projects in nonfiction video designed to explore the range of possibilities from the conventional to the experimental, and to develop the student's creative control over recording and editing images and sounds.

***Visual and Environmental Studies 53ar. Fundamentals of Animation: Studio Course**
Catalog Number: 1360 Enrollment: Limited to 10.
Ruth Stella Lingford
Half course (fall term). W. 1-5, and weekly film screenings F., 1-3.
An introduction to the possibilities of animation. Using a mixture of traditional and 2D digital tools,

students will complete practical exercises which will familiarize them with basic skills and techniques. Screenings and discussions will help develop the specialized thinking needed to understand the discipline.
Note: Drawing skills are optional, though helpful. This course has an additional weekly film screening, Fridays, 1-3 pm.

[*Visual and Environmental Studies 54s. Animating Science]
Catalog Number: 83728 Enrollment: Limited to 10.
Ruth S. Lingford and Alain Viel
Half course (spring term). Tu., 1-5, and weekly film screenings F., 1-3.
This hands-on class will investigate the cross-overs between science and animation. How can animation communicate abstract ideas? How can science inspire the artist? Students will acquire some fundamental animation skills, and will work on individual and group projects. This class will be suitable for students with an interest either in science or visual art, or both.
Note: Expected to be given in 2014–15. This course has an additional weekly film screening, Fridays, 1-3 pm.

[*Visual and Environmental Studies 55g. Screenwriting: Readable/Visible]
Catalog Number: 56638 Enrollment: Limited to 12.
Instructor to be determined
Half course (spring term). W., 4–6.
What should one write knowing that what will eventually be filmed, cannot be adequately conveyed through words? Beginning with this this question, we will explore the various elements of screenwriting, including the construction of scenes, characters, story, and dialogue. Students will complete a screenplay, or part of a screenplay, which will reflect their own cinematic style.
Note: Expected to be given in 2014–15.

***Visual and Environmental Studies 57r. Maya Hybrids**
Catalog Number: 4275 Enrollment: Limited to 10.
Allen Sayegh
Half course (fall term). M. 1-5, and a weekly screening F. 1-3.
This course will offer an introduction to 3D computer animation, and explore hybrid forms of animation and the new thinking they enable.
Note: This course has a weekly film screening, Fridays, 1-3 pm.

***Visual and Environmental Studies 59. The Science of Fiction**
Catalog Number: 90016 Enrollment: Limited to 10.
Amie Siegel
Half course (spring term). M., W., 1-4.
A course in narrative fiction film production, emphasizing experimental and conceptual forms, literary adaptation and artist-filmmakers. Students push the artistic boundaries of filmmaking, each student writes, directs and edits several exercises as well as creating a short film. We then throw out our scripts and work in improvisatory, associative modes. We look closely at structure, performance and genre--melodrama, sci-fi, western. Students learn techniques of camera, lighting, sound and editing. Student work is discussed extensively in class.

***Visual and Environmental Studies 60x. Trials in Narrative Filmmaking**
Catalog Number: 21952 Enrollment: Limited to 10.
Gina Kim
Half course (fall term). M., W., 1–4.

In this video production course, students will undertake exercises aimed at discovering their own "voices" as narrative fiction filmmakers.

[*Visual and Environmental Studies 62. Film Fatale: Sculpture, Performance and Video Essay]
Catalog Number: 73367 Enrollment: Limited to 10.
Amie Siegel
Half course (fall term). M., 1-3, W., 1-4.
A studio art course on the avant-garde film and performance work of women artists and filmmakers including Babette Mangolte, Yvonne Rainer, Valie Export, Helke Sander, Chantal Akerman, Agnes Varda, Mary Kelly, Adrian Piper, Nancy Graves, Hannah Wilke, Martha Rosler and Marina Abramovic. We will study the interaction between sculpture, performance and cinema, as well as the "essay film" that shudders on the edge of fiction, documentary and performance. Appropriate for students of art history, film studies, visual art and video as well as the curious and committed.
Note: Expected to be given in 2014–15. Priority will be given to students who have completed at least one VES course in photography, film or video, but no previous video experience is required.

[*Visual and Environmental Studies 65. Tactics—Art, Politics and Performance: Studio Course]
Catalog Number: 0143 Enrollment: Limited to 10.
Amie Siegel
Half course (spring term). Tu., 1-4, Th., 1-3.
An introductory video course that asks what makes a work of art political? Through student creation of individual and collective works, as well as reading, discussion, performance, critique and viewing, we examine (and enact) approaches to the social sphere. Over the arc of the semester, students will focus on various tactics of radical art and disturbance, participating in workshops on performance, artist collectives, appropriation and cultural critique, from which may spring forth manifestoes, actions, insertions. Special focus on video as research instrument, inscription of occurrence, performance mirror, subjective essay, and mixing turntable for heterogeneous materials.
Note: Expected to be given in 2014–15. One half-course in film, video or performance useful but not required.

Visual and Environmental Studies 66. Music, Melodrama and Performance Art - *(New Course)
Catalog Number: 27323 Enrollment: Limited to 10.
Kalup Linzy
Half course (fall term). Tu., 1–6.
We will engage with work that utilizes experiments in sound and image that include, but are not limited to early television, soap operas, classic Hollywood cinema, electronic music, music videos and specific moments in the history of performance art. Reflecting the archetypical hero's journey, students will create a short performance on film or video with a central character that calls upon experimental sound, voice, music and environments.

[*Visual and Environmental Studies 68a (formerly *Visual and Environmental Studies 68). Delirious Montage 1: Still]
Catalog Number: 21845 Enrollment: Limited to 10.
Amie Siegel
Half course (fall term). Tu. 1-4, Th. 10-12.
How do images shift when juxtaposed with one another? In this studio course, we use photography, archival images, and appropriated or "found" images and material in the production of our own art works. Participants explore collage, photomontage, pastiche and slide projection, working with still images in multiple forms to consider shifts of meaning. We will take in artists' various approaches to image juxtaposition, including those who engage via narrative, association, chance, serial, rebus and photo-

roman.
Note: Expected to be given in 2014–15. Useful for beginning students in visual art and film/video as well as more advanced practitioners.

[*Visual and Environmental Studies 68b. Delirious Montage 2: Moving]
Catalog Number: 69138 Enrollment: Limited to 10.
Amie Siegel
Half course (spring term). Tu., 1-4, Th., 10-12.
How do rhythm, pacing, and structure function in cinema? This studio course continues concerns of image juxtaposition from the fall semester, yet gives in-depth focus to working--as an artist, a filmmaker, an editor--with moving images. From shot-reverse-shot to the "soft montage" of video installation, we consider various approaches to editing in fiction films, documentaries, and moving image installations. Course participants work on multiple projects, refining their relationship to film and video materials.
Note: Expected to be given in 2014–15. Useful for beginning students in visual art and film/video as well as more advanced practitioners.

Visual and Environmental Studies 69k. A Soap Opera Within Itself - *(New Course)
Catalog Number: 39488 Enrollment: Limited to 10.
Kalup Linzy
Half course (fall term). W., 1–6.
Concerned with various forms of melodramatic narrative and performance, which include American soap operas, Spanish telenovelas, and classic Hollywood cinema, students will produce, write, direct, edit, and/or perform in a collaborative short film or video work. The first half of the semester will be a collective concept. In the second half, students have the option of breaking into groups or working individually.

Visual and Environmental Studies 70. The Art of Film
Catalog Number: 4249
Laura A. Frahm
Half course (fall term). M., W., at 10, a weekly film screening Tu., 7-9:30 p.m., and a weekly section to be arranged.
An introductory course with a new focus on the language of visual media. It will provide the students with the critical tools and analytical skills of a 'visual literacy'-a new competence that enables them to respond both critically and creatively to our complex media environment. We will look at the changing media landscapes in the 20th and 21st centuries with a special focus on the interrelations between film, media, and the visual arts.
Note: No background in film history or theory necessary. Required for all students concentrating in Film Studies. This course has an additional weekly film screening Tuesday, 7 pm-9:30 pm. This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding or the Core area requirement for Literature and Arts B.

[Visual and Environmental Studies 71. Silent Cinema]
Catalog Number: 1971
Laura A. Frahm
Half course (spring term). Tu., Th., 10-11, a weekly film screening M., 4-6, and a weekly section to be arranged.
This course will survey the development of the film medium and the film industry from the beginnings in the 1890s up to the conversion to sound in the late 1920s, covering key textual and institutional transformations and tying these together with the broader cultural and social context in which films were made, exhibited, and understood. We will discuss the main national schools and international trends of

filmmaking.
Note: Expected to be given in 2014–15. No background in film history or theory necessary. Required for all students concentrating in Film Studies. This course has an additional weekly film screening, Monday, 4-6 pm.

Visual and Environmental Studies 72. Sound Cinema
Catalog Number: 6997
Laura A. Frahm
Half course (spring term). Tu., Thu., at 10, a weekly film screening M. 4-6, and a weekly section to be arranged.
This course explores film history through the question of sound and considers the interplay between music, dialogue, and noise as a vital concept through which we can understand film. We will put special emphasis on the question of how filmmakers, composers, and sound designers have envisioned and discussed the way we think about film sound. Weekly topics will include early sound experiments, the transition to sound, post-war cinematic soundscapes, and sound design in contemporary cinema.
Note: No background in film history or theory necessary. Required for all students concentrating in Film Studies. This course has an additional weekly film screening Monday, 4-6 pm.

***Visual and Environmental Studies 80. Loitering: Studio Course**
Catalog Number: 9394 Enrollment: Limited to 12.
Stephen Prina
Half course (spring term). Tu., Th., 1–4.
You will hang out in the vicinity of culture and make things in response to it. This class is not thematic or linked to any particular discipline.
Note: No previous studio experience necessary.

[*Visual and Environmental Studies 83. The Devil, Probably x 10 + 1: A Studio-based Seminar]
Catalog Number: 93053 Enrollment: Limited to 12.
Stephen Prina
Half course (spring term). Tu., 1-4, Thu., 1-4.
Part 1 is a weekly studio session during which participants will create 3 projects in any medium or discipline during the term. Part 2 is a screening of the film "The Devil, Probably," 1977 by Robert Bresson for 10 consecutive weeks, interrupted by the 3 project class presentations. Different readings will accompany each screening. The final screening--+1--is "The Third Generation," 1979 by Rainer Werner Fassbinder.
Note: Expected to be given in 2014–15. The studio projects do not need to pertain to the Bresson/Fassbinder screenings.
Prerequisite: There are no prerequisites for the class. First year participants are encouraged to apply.

[*Visual and Environmental Studies 90c. Art and Historical Memory, 1980-the Present]
Catalog Number: 2994 Enrollment: Limited to 12.
Carrie Lambert-Beatty
Half course (fall term). W., 2–4.
What is it about the present that is making so many artists interested in the past? How do personal and public memory take form in art, now? This art history/criticism seminar will discuss practices that range from re-staging recent riots to reciting historical speeches, modifying museums to inventing historical figures, as we explore art's current contribution to our understanding of the past.
Note: Expected to be given in 2014–15.

[Visual and Environmental Studies 92. Contemporary Art]
Catalog Number: 53514
Carrie Lambert-Beatty
Half course (spring term). Tu., Th., at 11. Weekly section to be arranged. EXAM GROUP: 13
Art of the last fifty years, with an eye to issues facing artists working today. Pop, Minimalism, Conceptual Art, Installation, and New Media: in surveying these and other developments in recent art, lecture-based class will address such topics as modernism/postmodernism; changing models of artistic work and artists' identity; and globalization and the art world.
Note: Expected to be given in 2014–15. Recommended for VES concentrators.

***Visual and Environmental Studies 96r. Directed Research: Studio Course**
Catalog Number: 7299 Enrollment: Limited to 10.
Stephen Prina
Half course (fall term; repeated spring term). W., 6-9 pm, and additional hours to be arranged.
This course is intended for students who have developed the beginnings of a practice they are prepared to pursue. The motive is to assemble a group of disparate artists who come together to exchange thoughts across disciplines: painting next to photography next to writing next to filmmaking, and so on.
Note: Recommended for concentrators in Visual and Environmental Studies in their junior and senior year but also open to others with permission of the instructor.

Tutorials, Projects, and Research

Preparation for thesis is begun in studios and seminars and is carried to completion in a VES 99 tutorial during the senior year. *In rare instances* students needing special preparation not available in regularly offered courses can enroll in an optional junior or even sophomore tutorial, or a special projects course. Tutorial proposals will be considered by the Director of Undergraduate Studies only with written permission of the project adviser and if the material to be covered is substantially different from other departmental offerings. Ordinarily, tutorial proposals must be submitted before Study Cards are due. Check the department calendar for due dates.

Alternatively, students may wish to consider *Visual and Environmental Studies 96r, Directed Research,* which is intended for students who have developed the beginnings of a practice they are prepared to pursue. Please see course description above.

***Visual and Environmental Studies 91r. Special Projects**
Catalog Number: 9183
Sharon C. Harper and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Open to a limited number of students who wish to carry out a special project under supervision. Students wishing to enroll in VES 91r must find a member of the faculty to advise the project and submit an application to the Director of Undergraduate Studies.
Note: Letter-graded only. Special Project tutorials are led by individual faculty members; however study cards should be signed by the Director of Undergraduate Studies.

***Visual and Environmental Studies 97r. Tutorial - Sophomore Year**
Catalog Number: 0450
Sharon C. Harper and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Individual instruction in subjects of special interest that cannot be studied in regular courses. Concentrators wishing to take a tutorial in their sophomore year must find a member of the faculty to

advise the project and submit an application to the Director of Undergraduate Studies.
Note: Optional for sophomore concentrators. Letter-graded only. Tutorials are led by individual faculty members; however study cards should be signed by the Director of Undergraduate Studies.

***Visual and Environmental Studies 98r. Tutorial - Junior Year**
Catalog Number: 1411
Sharon C. Harper and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
Individual instruction in subjects of special interest that cannot be studied in regular courses. Concentrators wishing to take a tutorial in their junior year must find a member of the faculty to advise the project and submit an application to the Director of Undergraduate Studies.
Note: Optional for junior concentrators. Letter-graded only. Tutorials are led by individual faculty members; however study cards should be signed by the Director of Undergraduate Studies.

***Visual and Environmental Studies 99. Tutorial - Senior Year (Thesis/Senior Project)**
Catalog Number: 5141
Sharon C. Harper and members of the Department
Full course. Hours to be arranged.
All students wishing to undertake a VES 99 project must have permission of the project adviser before being considered. The Director of Undergraduate Studies must approve all VES 99 projects and all theses must be approved by the VES Honors Board in advance.
Note: Optional for senior concentrators. Letter-graded only. Students must be enrolled in VES 99 to do a thesis. Students should arrange regular tutorial meetings with their project adviser. Senior theses and projects are led by individual faculty members; however study cards should be signed by the Director of Undergraduate Studies.

For Undergraduates and Graduates

[*Visual and Environmental Studies 104. Culture Jam: Art and Activism since 1989: Seminar]
Catalog Number: 1066 Enrollment: Limited to 12.
Carrie Lambert-Beatty
Half course (fall term). W., 2–4.
We are living through a period of remarkable creativity in political expression: from anti-consumerism TV ads to imposter websites; "billboard liberation" to faux corporations, digital hijacking to lifestyle performance. Sometimes labeled art, sometimes not, these activities have sources in both political and art history. In this history/theory seminar we will ask: Where is the line between art and activism today? And how are we to evaluate the efficacy, ethics, and aesthetics of the new hybrids?
Note: Expected to be given in 2014–15. Primarily intended for junior and senior concentrators in Visual and Environmental Studies, but others admitted with permission of the instructor.

***Visual and Environmental Studies 107. Studies of the Built North American Environment since 1580**
Catalog Number: 7883 Enrollment: Limited to 20.
John R. Stilgoe
Half course (fall term). Tu., Th., 10–11:30.
North America as an evolving visual environment is analyzed as a systems concatenation involving such constituent elements as farms, small towns, shopping malls, highways, suburbs, and as depicted in fiction, poetry, cartography, television, cinema, and advertising and cybernetic simulation.
Note: Offered jointly with the Graduate School of Design as 4105.

[*Visual and Environmental Studies 108. Stranger than Fiction]
Catalog Number: 23387 Enrollment: Limited to 15.
Carrie Lambert-Beatty
Half course (fall term). Tu., 1–3.
Much recent art stages slippages between the fictive and factual. False personas, invented histories and museums of unnatural history are some such creative deceptions — so are *Punk'd*, *Borat*, and *Fear Factor*. With a focus on installation art, photography, video, and performance but an eye to popular culture and political scandal, this seminar will trace artistic precedents for treating our sense of reality as a plastic material, and explore the ethical, political, and aesthetic implications.
Note: Expected to be given in 2014–15.

[*Visual and Environmental Studies 115. Printed Matters: Studio Course]
Catalog Number: 38924 Enrollment: Limited to 12. Permission of instructor required.
Matthew Saunders
Half course (fall term). Tu., 1–5, Tu., 6–8 p.m.
Painting's productive association with the technologies of reproduction. We will think both pre- and post-20th century, considering the analogue (intaglio printing, especially etching and aquatint; also block, book and commercial printing) and digital as worthy collaborators. Workshops in technique will support independent projects in any media.
Note: Expected to be given in 2014–15.
Prerequisite: At least one VES studio half-course.

Visual and Environmental Studies 121w. Painting and Meaning - *(New Course)
Catalog Number: 13863 Enrollment: Limited to 12.
Roger White
Half course (fall term). W., 9–12, 1–3.
In this intermediate-level class, students will propose and complete guided individual projects geared towards the development of subject matter in painting. We will think about the ways that language, material, and process shape the content of art, and share our findings in group critiques. As part of their work for the class, students will research contemporary artists and movements and think about their own work in relation to ongoing themes within art.
Prerequisite: At least one VES studio course or the permission of the instructor.

***Visual and Environmental Studies 123r. Post Brush: Studio Course**
Catalog Number: 7463 Enrollment: Limited to 12.
Annette Lemieux
Half course (spring term). Tu., Th., 10–1.
Using the silkscreen printing process, students will create paintings and objects that incorporate images and text found in popular culture. Through slides, videos and informal discussions, students will be introduced to the Pop artists of the 20th century as well as other contemporary artists.
Prerequisite: At least one VES studio half-course or permission of the instructor.

[*Visual and Environmental Studies 125. Surface Tensions]
Catalog Number: 27157
Matthew Saunders
Half course (spring term). W., 1-5, and 6-8 p.m.
"Surface" considered as formal quality and useful tool. Whether taken to mean literal materials, the chain of ideas cohering a body of work, or painting's Teflon-like durability as cultural tradition, we'll pursue strategies to engage surface: seriality, alternative supports, facture/blur; mechanical tools, casualness and formality. Of particular interest are the challenges posed by seamlessness both in photographic sources

and in conversations surrounding abstraction. Emphasis on painting, but other disciplines are welcome.
Note: Expected to be given in 2015–16.
Prerequisite: At least one VES half-course in studio, or permission of the instructor.

[*Visual and Environmental Studies 125s. Postcards from Volcanoes: Studio Course]
Catalog Number: 54031 Enrollment: Limited to 12. Permission of instructor required.
Matthew Saunders
Half course (spring term). Tu., 1–5 and 6–8.
This is an intermediate painting class grounded in individual projects and group critique. Not limited to conventional forms, we will think broadly about the edge between inchoate material and inscribed meaning. Studio work will be coupled with abundant reading and discussion.
Note: Expected to be given in 2014–15.
Prerequisite: At least one VES studio half-course or permission of instructor.

***Visual and Environmental Studies 126r. The Way to Painting (Possibly): Studio Course**
Catalog Number: 3289 Enrollment: Limited to 12.
Thomas Eggerer
Half course (spring term). M., 1–5, M., 6–8 p.m.
As a "painter" I go through a multitude of preparatory activities in the process of making paintings. Curiosities in a particular subject matter may result in a collection of diverse materials. Such an archive could spark a plethora of activities aimed at focusing interests and producing objects of aesthetic qualities. This class will give equal attention to those often under-appreciated processes containing a thought or a spontaneity often lost in a "finished" piece of art.
Prerequisite: At least one VES studio half-course or permission of the instructor (portfolio presentation).

Visual and Environmental Studies 131h. What It Is Is How It's Made? : Object As Event--Studio Course - *(New Course)
Catalog Number: 28931 Enrollment: Limited to 12.
Halsey Clark Rodman
Half course (spring term). W. 10-1 and 2-5.
What separates performance from process, the author from autonomous objects, the history of an art object from our encounter with it? This course will use the essential idea of structural film, that the "shape" of the film is its defining characteristic, as a template to work through a series of ideas related to process, structure, performance, authorship, autonomy, and presence. The class will consist of open-ended assignments organized around readings, slide lectures, and screenings.
Note: All disciplines are encouraged to enroll, no previous studio experience required.

[*Visual and Environmental Studies 141r. Time, Space, Motion and Still Photography]
Catalog Number: 10898 Enrollment: Limited to 10.
Sharon C. Harper
Half course (spring term). Tu., Th., 1–4.
A response to the place where motion and still photography approach one another will be the focus of this studio class. A phenomenological approach to image making will be emphasized to upend ideas of time, space and motion. Artists who raise these issues including Robin Rhodes, Michael Wesley, Tacita Dean, Bill Viola and Hiroshi Sugimoto will provide grounding for experimental student-directed projects.
Note: Expected to be given in 2014–15.
Prerequisite: At least one half course in photography or the permission of the instructor.

[*Visual and Environmental Studies 143r. The Photographer as Auteur: Studio Course]
Catalog Number: 2835 Enrollment: Limited to 10.

Instructor to be determined.
Half course (spring term). Tu., Th., 1–4.
Explores the way in which some photographic practitioners have questioned accepted photographic conventions and are rejecting the historical orthodoxy in favor of a more subjective statement. Each student is expected to complete a major photographic project that reveals his or her own personal photographic style and preoccupations while still retaining a direct and discernible relationship to the subject.
Note: Expected to be given in 2014–15.
Prerequisite: At least one half-course in photography.

Visual and Environmental Studies 144r. Photography in the Field: Developing an Experimental Sense of Place - *(New Course)
Catalog Number: 44322 Enrollment: Limited to 10.
Sharon C. Harper
Half course (spring term). Tu., Th., 1–4.
This intermediate level photography class will be structured around weekly photographic field trips giving students the opportunity to define and respond to a variety of sites ranging from natural to urban and built environments. Experimentation with photographic methods and approaches will be supported by slide lectures featuring artists' practices from this genre. Bring your sense of adventure.
Prerequisite: Introduction to Still Photography or permission of the instructor.

[*Visual and Environmental Studies 145r. Photographies, Places, Politics: Seminar/Workshop]
Catalog Number: 77917 Enrollment: Limited to 10.
Deborah Bright (Rhode Island School of Design)
Half course (fall term). Tu., Th., 9-12.
Using multidisciplinary approaches, we will explore how photographic practices are critical to marketing, naming and producing social space. Course structured as a seminar comprising an active practice component where students present original research and visual projects that illuminate issues raised in readings and discussions
Note: Expected to be given in 2014–15.
Prerequisite: VES 40a or VES 40b or equivalent preparation (portfolio presentation).

[*Visual and Environmental Studies 146r. The Photographic Portrait: Studio Course]
Catalog Number: 5743 Enrollment: Limited to 10.
Chris Killip
Half course (spring term). M., W., 9–12.
An examination of the practical, sociological, historical, and aesthetic issues surrounding portrait photography in parallel with the active participation of each student in his/her own photographic project.
Note: Expected to be given in 2014–15.
Prerequisite: VES 40a or VES 40b or equivalent preparation (portfolio presentation).

***Visual and Environmental Studies 147r. Conceptual Strategies in Photography: Studio Course**
Catalog Number: 2011 Enrollment: Limited to 10.
Chris Killip
Half course (spring term). M. W. 1-4.
There has been a shift from the traditional notion of art work to the idea of art project. The art project could be understood as a concept structured in a constellation of different but independent elements, which the author is able to master not only the implicit creative aspects but also a certain social dimension. We will deal with the sequential steps of a photography project: creative conception,

documentation, practical realization, and critical evaluation.
Prerequisite: At least one half-course in photography or permission of the instructor.

Visual and Environmental Studies 149. Queer Visuality, Visualizing Queer--Studio Course - *(New Course)
Catalog Number: 43117 Enrollment: Limited to 10.
Catherine B. Lord
Half course (fall term). Th., 1-5.
What good is "queer"? How do queers salvage, or invent, or invert a past that enables the present? We'll investigate the work of artists who pay particular attention to spaces and codes that enable oppositional culture (gender, shopping, social space, gossip, etc.). The class will accord equal attention to those who work in and with images and those who work in and with texts to create an archive of queer cultural production.
Prerequisite: At least one VES studio course or the permission of the instructor.

***Visual and Environmental Studies 150ar. Intermediate Film Production: Studio Course**
Catalog Number: 4692 Enrollment: Limited to 10.
Gina Kim
Half course (fall term). Tu., Th., 1–4.
Class will focus on narrative fiction filmmaking. Students will explore the technical and artistic possibilities of narrative fiction film by writing, directing and editing several short exercises as well as developing a script for a spring term project. The work will be discussed extensively in class.
Note: Interview with instructor required for admission.
Prerequisite: VES 50 or two other courses in video production.

***Visual and Environmental Studies 150br. Intermediate Film Production: Studio Course**
Catalog Number: 3934 Enrollment: Limited to 10.
Gina Kim
Half course (spring term). Tu., Th., 1–4.
Students will prepare, shoot and edit a short fiction film based on a script developed in advance. Students will be required to be involved in shooting, lighting and sound recording other student films. The work will be discussed extensively in class.
Note: Students seeking to enroll should come to the first class meeting with a developed short narrative screenplay.
Prerequisite: VES 150ar or two courses in video production, one of which must be VES 60x or VES 59.

***Visual and Environmental Studies 151br (formerly *Visual and Environmental Studies 51br). Nonfiction Video Projects: Studio Course**
Catalog Number: 3838 Enrollment: Limited to 10.
Ross McElwee
Half course (fall term). M., W., 1–4.
Working from a proposal approved in advance by the instructor, each student plans, shoots, and edits a documentary video of his or her design. Shooting should take place over the summer and editing during the fall term. Readings and screenings augment individual work.
Note: In exceptional cases, a student will be permitted to take the course without having filmed over the summer, but the student must have a specific proposal for a documentary that can be both shot and edited during the term. An interview with the instructor is required for admission.
Prerequisite: At least one VES half-course in live-action film or video.

[*Visual and Environmental Studies 151n. Life of an Urban Neighborhood: Studio Course]
Catalog Number: 17489 Enrollment: Limited to 10.
Alfred F. Guzzetti
Half course (fall term). Tu., Th., 10-1.
Using two channels of video and multiple channels of sound, students in the course will work collaboratively to create an installation documenting the life of a nearby urban neighborhood, including its people, activities, public and private spaces, and institutions.
Note: Expected to be given in 2014–15.
Prerequisite: Prior experience in sound composition or video recommended but not required. This course can serve as an introductory class in video production.

***Visual and Environmental Studies 152r. Intermediate Nonfiction Projects**
Catalog Number: 8012 Enrollment: Limited to 10.
Robb Moss
Half course (spring term). F., 1–5:30.
A workshop for students with experience in video to explore the capabilities of the medium. Students may work singly or together–to make either an extended project or a series of shorts–of their own design or from experimental prompts.
Note: While not required, students seeking to enroll are encouraged to come to the first class meeting with a proposal for a video project to be completed in the course.
Prerequisite: One VES half-course in video production or permission of the instructor.

[*Visual and Environmental Studies 153ar. Intermediate Animation: Making an Animated Film: Studio Course]
Catalog Number: 5211 Enrollment: Limited to 10.
Terah Lynn Maher
Half course (fall term). W., 1-5, and weekly film screenings F., 1-3.
This course offers returning animators a chance to extend and deepen skills and understanding of animation and to make a more substantial piece of work. Additional exercises encourage students to challenge themselves and explore a range of creative possibilities.
Note: Expected to be given in 2014–15. This course has an additional weekly film screening, Fridays, 1-3 pm.
Prerequisite: This class welcomes students with any previous animation/video/or filmmaking experience.

***Visual and Environmental Studies 153br. Intermediate Animation Workshop: Studio Course**
Catalog Number: 3477 Enrollment: Limited to 10.
Ruth S. Lingford
Half course (fall term; repeated spring term). Tu., 1-5, and weekly film screenings F., 1-3. EXAM GROUP: 15, 16, 17, 18
This course offers returning animators a chance to extend and deepen skills and understanding of animation and to make a more substantial piece of work, alongside introductory level students who will learn some basic tools of animation. Additional exercises encourage students to challenge themselves and explore a range of creative possibilities.
Note: This course has an additional weekly film screening, Friday, 1-3 pm.
Prerequisite: This course welcomes both introductory level and intermediate level students.

[*Visual and Environmental Studies 154br. Animation Workshop: Studio Course]
Catalog Number: 1484 Enrollment: Limited to 10.
Daniel A. Sousa
Half course (fall term). W., 1-5, and weekly film screenings F., 1-3.

This course allows each student to make a short animated film, taking it through all the stages from idea to post-production. Open to beginners and experienced animators.
Note: Expected to be given in 2014–15. The first meeting of this class will be Wednesday, September 1 at 1 pm. This course has an additional weekly film screening, Friday, 1-3 pm.

***Visual and Environmental Studies 158ar (formerly *Visual and Environmental Studies 158a). Sensory Ethnography 1a**
Catalog Number: 6680 Enrollment: Limited to 10.
Lucien G. Castaing-Taylor
Half course (fall term). Tu., 1-4, Th., 1–4 and W. 6–9 p.m.
First of a three-term sequence in which students apply media anthropological theory and conduct ethnography using film, video, sound, and/or still photography. Interview with instructor and teaching assistant required for admission.
Note: Interview with instructor and teaching assistant required for admission.

***Visual and Environmental Studies 158br. Living Documentary: Studio Course**
Catalog Number: 9385 Enrollment: Limited to 10.
Robb Moss and Mary M. Steedly
Half course (fall term). M., W., 1-4.
Students produce a substantial work of ethnographically informed nonfiction using video. Principal recording should take place prior to enrolling in the course.
Note: An ideal follow-up course to VES 158aar, but students may enroll independently.

Visual and Environmental Studies 158bxr. Sensory Ethnography 1b - *(New Course)
Catalog Number: 46252 Enrollment: Limited to 10.
Lucien G. Castaing-Taylor
Half course (spring term). M., W., 1–4. EXAM GROUP: 6, 7, 8
Second of a three-term sequence in which students apply media anthropological theory and conduct ethnography using film, video, sound, and/or still photography.
Prerequisite: Interview with instructor and teaching assistant required for admission.

[Visual and Environmental Studies 158cr. Sensory Ethnography 2] - *(New Course)*
Catalog Number: 66304
Lucien G. Castaing-Taylor
Half course (fall term). Tu., Th., 1–4.
Students collaborate in the production of substantial work of ethnographically informed non-fiction media. Principal recording should have occurred before enrolling in the course.
Note: Expected to be given in 2014–15.

Visual and Environmental Studies 159s. Elements of Fiction Filmmaking - *(New Course)
Catalog Number: 57029 Enrollment: Limited to 12.
Gina Kim
Half course (spring term). W 1-3.
A seminar on the essential aspects of the art and craft of fiction filmmaking - screenwriting, directing, cinematography, performance, production design, costume/makeup, sound design, editing, music, and visual effects. The class will be composed of lectures, discussion and occasional in-class workshops with industry specialists.
Note: Interview with instructor required for admission.

***Visual and Environmental Studies 160. Modernization in the Visual United States Environment, 1890-2035**
Catalog Number: 6668 Enrollment: Limited to 20.
John R. Stilgoe
Half course (spring term). Tu., Th., 10–11:30.
Modernization of the US visual environment as directed by a nobility creating new images and perceptions of such themes as wilderness, flight, privacy, clothing, photography, feminism, status symbolism, and futurist manipulation as illustrated in print-media and other advertising enterprise.
Note: Offered jointly with the Graduate School of Design as 4303.
Prerequisite: VES 107 or permission of the instructor.

Visual and Environmental Studies 161n. Cinema and Desire--Studio Course - *(New Course)
Catalog Number: 56948 Enrollment: Limited to 10. Admission through interview with instructors.
Lucien G. Castaing-Taylor and Haden R. Guest
Half course (spring term). Tu., 12–4. EXAM GROUP: 14, 15, 16, 17
Students produce audio-visual works that explore the body, desire, and sexuality, and their significance in human existence.

[*Visual and Environmental Studies 165. Moving Image: Film and Video Installation]
Catalog Number: 8258 Enrollment: Limited to 10.
Amie Siegel
Half course (spring term). M., W., 1–4.
Where are the boundaries between art gallery and film set, theatrical stage or production studio? All have been appropriated and/or re-staged in installations by contemporary artists. Participants in this studio course, through the creation of their own works, will explore various strategies using cinema, video, and photography as material or metaphor in art. Students will work with materials of 16mm film, slides, film projectors and video projection. We will consider various approaches to video installation, sound and cinematic spectacle with regard to space, staging, production and demands on viewer experience as well as gestures of genre and excess.
Note: Expected to be given in 2014–15.
Prerequisite: At least one VES studio half-course, preferably in film, video or photography, or permission of the instructor.

***Visual and Environmental Studies 166. North American Seacoasts and Landscapes, Discovery to Present: Seminar**
Catalog Number: 5873
John R. Stilgoe
Half course (fall term). Tu., 1–3.
Selected topics in the history of the North American coastal zone, including the seashore as wilderness, as industrial site, as area of recreation, and as artistic subject; the shape of coastal landscape for conflicting uses over time; and the perception of the seashore as marginal zone in literature, photography, film, television, and advertising.
Note: Offered jointly with the Graduate School of Design as 4304.
Prerequisite: VES 107 and VES 160, or permission of the instructor.

***Visual and Environmental Studies 167. Adventure and Fantasy Simulation, 1871-2036: Seminar**
Catalog Number: 4902
John R. Stilgoe
Half course (spring term). Tu., 1–3.
Visual constituents of high adventure since the late Victorian era, emphasizing wandering woods, rogues,

tomboys, women adventurers, faerie antecedents, halflings, crypto-cartography, Third-Path turning, martial arts, and post-1937 fantasy writing as integrated into contemporary photography, advertising, video, computer-generated simulation, and designed life forms.
Note: Offered jointly with the Graduate School of Design as 4305.
Prerequisite: VES 107, VES 160, and VES 166, or permission of the instructor.

Visual and Environmental Studies 171. Making Documentary Fictions: Seminar Course - *(New Course)
Catalog Number: 80501 Enrollment: Limited to 12.
James Hoberman
Half course (spring term). Th. 10-12, and a weekly film screening W. 3:30-6:30. EXAM GROUP: 12, 13
Beginning with key works of Italian neo-realism and pioneering instances of staged ethnographic narratives, this seminar will go on to survey recent developments in so-called hybrid films or situation documentaries that construct fictional narratives out of factual material or in which actors play themselves in pre-determined scenarios. Filmmakers considered range from Roberto Rossellini and Robert Bresson to Andy Warhol and Sacha Baron Cohen.
Note: This course has an additional weekly film screening Wednesday, 3:30-6:30 pm.
Prerequisite: A course in film studies or cultural studies.

[Visual and Environmental Studies 172b. Contemporary Film Theory]
Catalog Number: 9562
Instructor to be determined
Half course (fall term). W., 1-3.
A critical and historical survey of the major questions, concepts, and trends in film theory since 1968. Weekly readings and discussion will examine how the study of film and spectatorship have been influenced by semiotics, psychoanalysis, Marxism, postmodernism, feminism, and gay and lesbian criticism, as well as multiculturalism.
Note: Expected to be given in 2014–15.
Prerequisite: VES 70 or permission of the instructor.

Visual and Environmental Studies 173. Visual Music - *(New Course)*
Catalog Number: 25495
Laura A. Frahm
Half course (fall term). Th., 11:30–1 and a weekly film screening W., 1–3. EXAM GROUP: 13, 14
A new course that explores the history of visual music throughout the 20th century and across different media. Our topics will range from early avant-garde films and Disney ani-mations to post-war art scenes and pioneers of electronic music to a survey of jukebox films and music videos. By bridging the gap between experimental and popular approaches to visual music, this course will provide a multi-layered history of the inter-relations between film, video, animation, and music.
Note: This course has an additional weekly film screening Wednesday, 1-3 pm.

Visual and Environmental Studies 175. Truth 24 a Second: History & Theory of Non-Fiction Film - *(New Course)
Catalog Number: 23123 Enrollment: Limited to 15.
James Hoberman
Half course (fall term). Tu., 10-12, and a weekly film screening M. 3-6.
This seminar will discuss the ontology and ideology of cinematic truth and the evolution of the documentary mode, make the digital turn and address the question, what does it mean to "act naturally"? Relevant filmmakers might include Chantal Akerman, Errol Morris, Leni Riefenstahl, Dziga Vertov, Andy Warhol, and Frederick Wiseman.

Note: This course has an additional weekly film screening, Monday, 3-6 pm.
Prerequisite: A course in film studies or approval of instructor.

[Visual and Environmental Studies 176n. Facing Reality: A History of Documentary Cinema in Cambridge]
Catalog Number: 4394
Scott MacDonald (Hamilton College)
Half course (fall term). M., 4–6; Tu., 7–10 p.m.
The history of cinema as representation and interpretation of "reality", focusing on masterworks of nonfiction film and video from a variety of periods and geographic locales that subvert viewers' conventional expectations and their personal security as a means of expanding and deepening consciousness and contributing to a more fully examined life. The considerable accomplishments and substantial impact of filmmakers working in Cambridge over the past half-century will be a primary focus. Frequent filmmaker guests.
Note: Expected to be given in 2014–15.

[Visual and Environmental Studies 177e. Critical Cinema: A History of Experimental and Avant-Garde Film]
Catalog Number: 0898
Scott MacDonald (Hamilton College)
Half course (fall term). M., 7–10 p.m.; Tu., 4–6.
A historical survey of accomplished alternatives to commercial movies, produced by individuals or small groups with limited resources. The considerable range of works to be studied include Dada and Surrealist film, visual music, psychodrama, Queer cinema, structural film, recycled cinema, devotional cinema, cinema of Place, and the digital remake. Regular class screenings and discussions, often of rarely available films, supplemented by visiting filmmakers and curators as part of the Harvard Film Archive fall schedule.
Note: Expected to be given in 2014–15.

[Visual and Environmental Studies 180. Film, Modernity and Visual Culture]
Catalog Number: 2874
Giuliana Bruno
Half course (fall term). Th., 11:30-1, a weekly film screening W., 7-9, and a weekly section to be arranged.
Cinema has changed the way we see and think. Modern visual culture develops with the art of film. Course considers this major 20th century shift in visual perception. We look at "motion" pictures as a product of modernity, born of scientific motion studies, aesthetic and cultural mobility. We relate film to the moving experience of urban space. Key writings and films engage sites of modern movement: home(land) and city, voyage and transport, gender and body.
Note: Expected to be given in 2014–15. Offered jointly with the Graduate School of Design as 4131. This course has an additional weekly film screening, Wednesday, 7 pm-9 pm.

Visual and Environmental Studies 181. Film Theory, Visual Thinking
Catalog Number: 0648
Giuliana Bruno
Half course (spring term). Th., 11:30-1, a weekly film screening W., 7-9 pm, and weekly sections to be arranged.
How do moving images transform the way we think? Introduction to film theory aimed at interpreting the visual world, and developing skills to analyze films and media images. Survey of classical and contemporary film theory goes from turn-of-the-century scientific motion studies to the virtual

movements of today. Considers theories of space, time, and motion, including Eisenstein's theory of montage and architecture. Treats visual technology and sensate space, the cultural history of the cinematic apparatus, the body and physical existence, affect and gender, and screen theory. Different theoretical positions guide us in understanding and reading films.
Note: Offered jointly with the Graduate School of Design as 4132. This course has an additional weekly film screening, Wednesday, 7 pm-9pm.

[*Visual and Environmental Studies 182. Film Architectures: Seminar]
Catalog Number: 6864 Enrollment: Limited to 12.
Giuliana Bruno
Half course (fall term). W., 2-4, and weekly film screenings Tu., 7-9pm.
What is our experience of architecture in cinema? Considering the relation of these two arts of space, we look at how film and architecture are linked in history on the "screen" of the modern age. Highlighting the interaction of modernity, urban culture and cinema, we explore the architecture of film in relation to the architectures of transit and the culture of travel. Emphasis on readings and case study analysis to pursue research projects and conduct presentations.
Note: Expected to be given in 2014–15. Expected to be given in 2014–15. Offered jointly with the Graduate School of Design as 4351. This course has an additional weekly film screening, Tuesday, 7 pm-9pm.
Prerequisite: A course in film studies or the equivalent course in cultural studies.

[Visual and Environmental Studies 183. Cinema and the Auteur]
Catalog Number: 71745
Tom Conley
Half course (spring term). Tu., 11:30-1, and weekly film screenings W., 1-3.
Studies development of auteur theory in French film and criticism. Readings include Cahiers du cinéma, Bazin, Deleuze, Godard, and Foucault. Viewings include Renoir, American and Italian auteurs, and post-new wave cinemas.
Note: Expected to be given in 2014–15. This course has an additional weekly film screening, Wednesday, 1-3pm.

Visual and Environmental Studies 184. Imagining the City: Literature, Film, and the Arts
Catalog Number: 5736
Giuliana Bruno and Svetlana Boym
Half course (fall term). Th., 11:30-1, a weekly film screening W., 7-9 pm, and a weekly section to be arranged.
How do visual representation and narrative figuration contribute to construct urban identity? Explores the urban imagination in different art forms: architecture, cinema, literature, photography, and painting. Topics to be mapped out include: cities and modernity, metrophilia and metrophobia, the museum and cultural archaeology, the ruin and construction site, interior space and public sphere, technology and virtual cities. We will focus on the European city, as we travel through Paris, Berlin, St. Petersburg, Moscow, Naples and Rome.
Note: Cannot be taken for credit if Literature 184 has been taken. Cannot be taken concurrently with Literature 184. Also offered jointly with the Graduate School of Design as 4353. This course has an additional weekly film screening, Wednesday, 7 pm-9 pm. This course, when taken for a letter grade, meets the Core area requirement for Literature and Arts B.

[*Visual and Environmental Studies 185x. Visual Fabrics: Art, Media, Materiality Seminar]
Catalog Number: 1575 Enrollment: Limited to 12.
Giuliana Bruno

Half course (spring term). W., 2-4, and a weekly film screening Tu., 7-9 pm.
How do the visual arts engage the sensorium? What is the place of materiality in our virtual world? How do film and fashion communicate as objects of material culture? As powerful image makers, film and fashion share a role with architecture and contemporary art. We explore their common language in "fashioning" sensory experience and material visual expression. Readings in contemporary visual theory and diverse film screenings explore the haptic as part of our cultural "fabric". Extensive text(ur)al analysis of Wong Kar-wai's In the Mood For Love.
Note: Expected to be given in 2014–15. Offered jointly with the Graduate School of Design as 4354. This course has an additional weekly film screening, Tuesday, 7 pm-9 pm.

[Visual and Environmental Studies 192 (formerly Foreign Cultures 21). Cinema and French Culture from 1896 to the Present]
Catalog Number: 8550
Tom Conley
Half course (spring term). M., 1-3, and a weekly film screening W., 7-9 p.m. EXAM GROUP: 6, 7
Focuses on relations of cinema to French culture from the silent era to the age of video. Explores film in dialogue with cultural and historical events, development of a national style and signature, a history of criticism. Correlates study of cinema to cultural analysis. Takes up Renoir and poetic realism, unrest in 1930s, France and other filmic idioms (Italy, Hollywood, Russia), new wave directors, feminist and minoritarian cinema after 1980.
Note: Expected to be given in 2014–15. This course has an additional weekly film screening, Wednesday, 7 pm-9 pm. This course, when taken for a letter grade, meets the Core area requirement for either Foreign Cultures or Literature and Arts B, but not both.

Visual and Environmental Studies 193. Fortunes of a Genre: The Western - *(New Course)*
Catalog Number: 51896
Tom Conley
Half course (spring term). Tu. 1-3 and a weekly film screening Tu., 7-9pm.
Studies American westerns through appreciation of genre theory and history with emphasis on French reception. Includes films of Boetticher, Dwan, De Toth, Ford, Fuller, Hawks, Hellman, Lang, Mann, Ray, Vidor, Walsh, et al.
Note: This course has an additional weekly film screening, Tu., 7 pm-9 pm.

[*Visual and Environmental Studies 199. The Film Archive: History, Theory, Practice] - *(New Course)*
Catalog Number: 80068 Enrollment: Limited to 12.
Haden Guest
Half course (spring term). W. 10-12 with a weekly film screening M. 1-3.
This course studies the historical, cultural and philosophical ideas underlying the establishment of the modern motion picture archive in the mid-20th century and its development to the present day. Drawing closely from the collections and practices of the Harvard Film Archive, the film archive will be revealed as a dynamic optic through which to (re)explore notions of historiography, material specificity, visual culture and film studies.
Note: Expected to be given in 2014–15. This course has an additional weekly film screening, Monday, 1-3 pm.

Related Courses of Interest for VES Concentrators

Aesthetic and Interpretive Understanding 14. Putting Modernism Together
[Aesthetic and Interpretive Understanding 16. Openings: The Illuminated Manuscript]

[Aesthetic and Interpretive Understanding 26. Race, Gender, and Performance]
Aesthetic and Interpretive Understanding 36. Buddhism and Japanese Culture
[Aesthetic and Interpretive Understanding 40. Monuments of Islamic Architecture]
[Aesthetic and Interpretive Understanding 44. Arts of Asia]
[Aesthetic and Interpretive Understanding 53 (formerly Japanese Literature 161). Anime as Global Popular Culture]
[Aesthetic and Interpretive Understanding 59 (formerly Culture and Belief 54). Nazi Cinema: The Art and Politics of Illusion]
African and African American Studies 109. Using Film for Social Change
[*Anthropology 1986. Art, Anthropology, and Aesthetics]
Culture and Belief 28. Hindu Worlds of Art and Culture
[Culture and Belief 30. Seeing is Believing: A History of Photography]
Dramatic Arts 133. Directing Film: Telling the Story and Working with Actors - *(New Course)
[*Dramatic Arts 135. Design for the Theatre: History and Practice]
***Dramatic Arts 136. Scenography Studio**
Empirical and Mathematical Reasoning 19 (formerly Quantitative Reasoning 46). The Art of Numbers
[*History 88b. Medieval History and Cinema]
[*History of Science 152. Filming Science]
[Literature 129. Reading the 18th Century Through 21st-Century Eyes]
Literature 131. The Arab-American Experience in Fiction, Film, and Popular Culture - *(New Course)
Literature 150. Colonial and Post-Colonial Spaces: France-North Africa
[Music 263r. Intimate Sound Installations]
[Romance Studies 111. The World of Romance Language Cinemas: A Classical Age]
***Science of the Physical Universe 24. Introduction to Technology and Society**
[Slavic 143. Russian Formalism]
Slavic 148. Strange Russian Writers
[Societies of the World 33 (formerly Foreign Cultures 84). Tokyo]
[Societies of the World 38. Pyramid Schemes: The Archaeological History of Ancient Egypt]
United States in the World 12. American Encounters: Art, Contact, and Conflict, 1560-1860
United States in the World 29 (formerly Literature and Arts B-20). Designing the American City: Civic Aspirations and Urban Form

Primarily for Graduates

Visual and Environmental Studies 209r. Curation, Conservation and Programming - *(New Course)
Catalog Number: 30424
Carrie Lambert-Beatty and members of the Department
Half course (fall term; repeated spring term). Hours to be arranged.
For research and independent projects in the archives, collections, and exhibitions of the Carpenter Center for the Visual Arts, the Harvard Film Archive, or the Harvard Museums and other campus arts institutions. Open only by petition to the Department; petitions should be presented during the term preceding enrollment, and must be signed by the instructor or staff member with whom the project is to be done.

Visual and Environmental Studies 241. New Media Theory - *(New Course)
Catalog Number: 86755 Enrollment: Limited to 12.
Laura A. Frahm

Half course (spring term). W. 12-2 with a weekly film screening Tu., 3-5.
A new graduate course that surveys new developments in media theory and provides an overview of advanced approaches to the study of media. We will look at different schools and streams of thought that productively expand and transform the established corpus of media theory, ranging from cultural technologies, media archaeology, and object studies to non-representational theory, actor network theory, and process philosophy. Two research projects will further advance our critical survey of new media theory.
Note: This course has an additional weekly film screening, Tuesdays, 3-5 pm.

Visual and Environmental Studies 250. The Live Film: Graduate Production Course - *(New Course)
Catalog Number: 43899 Enrollment: Limited to 10.
Amie Siegel
Half course (spring term). Tu., 4–8 p.m. and additional technical workshops to be determined.
A course to pursue creative production within a rigorous studio art/film context, this artist's colloquium explores retreating boundaries between the fixity of film and the live-ness of performance. We will consider where early cinema touches performance art meets dance connects with broadcast television relates to live streaming consorts with sculpture associates to theatrical sets. The course focus is the creation of new work. Special attention is given to the development of individual artistic processes.
Prerequisite: Priority given to graduate students in Film & Visual Studies and Critical Media Practice, but open to all graduate students with permission of instructor. Graduate School of Design Students are also encouraged to apply.

***Visual and Environmental Studies 270. Proseminar in Film and Visual Studies: History**
Catalog Number: 1741
Eric Rentschler
Half course (spring term). Tu., 1-3, and a weekly film screening F., 2-4:30.
Considers film history and the relations between film and history as well as pertinent theoretical approaches to historiography. Critical readings of exemplary film historical studies and careful scrutiny of films both in and as history.
Note: Required of all Film and Visual Studies graduate students, as well as graduate students intending to declare a secondary field in Film and Visual Studies. This course has an additional weekly film screening, Fridays, 2-4:30 pm.

***Visual and Environmental Studies 271. Proseminar in Film and Visual Studies: Theory**
Catalog Number: 0159
Giuliana Bruno
Half course (fall term). W., 2-4.
An advanced survey of current debates on the place of the moving image in contemporary visual culture and art practice with respect to concepts of space, time, movement, and affect.
Note: Required of all Film and Visual Studies graduate students as well as graduate students intending to declare a secondary field in Film and Visual Studies.

***Visual and Environmental Studies 283. Screens: Media Archaeology and Visual Arts Seminar**
Catalog Number: 74909 Enrollment: Limited to 12.
Giuliana Bruno
Half course (spring term). W., 2–4.
How do screens function as interface between us and the world? What is the role of the screen in contemporary visual arts and media culture? The art of projection has traveled from film exhibition to art installation. With the interdisciplinary approach of visual studies, we examine the history and archaeology

of screen media, their cultural and aesthetic dimensions, from pre-cinematic exhibition to the post-medium condition. Considering the art of screening in the deep time of media, we explore the changing architecture of screen space, at the crossroads of science and art, museum and moving images.
Note: Offered jointly with the Graduate School of Design as 4356.

[Visual and Environmental Studies 287. Cinema and Nation]
Catalog Number: 33084
Eric Rentschler
Half course (spring term). Tu., 2-4, with a weekly film screening F., 2-5.
This course addresses the role of modern media in the formation of local and global identities. In that endeavor we will consider exemplary films from a number of nations as well as pertinent historical and theoretical texts.
Note: Expected to be given in 2014–15.

Graduate Courses of Reading and Research

***Visual and Environmental Studies 301. Film and Visual Studies Workshop**
Catalog Number: 2867
Members of the Department

***Visual and Environmental Studies 310. Reading and Research**
Catalog Number: 5851
Members of the Department
Note: Conducted through regular conferences and assigned writing. Limited to students reading specifically on topics not covered in regular courses. Open only by petition to the Department; petitions should be presented during the term preceding enrollment, and must be signed by the instructor with whom the reading is to be done. All applicants for admission should first confer with the Director of Graduate Studies.

***Visual and Environmental Studies 320. Directed Study**
Catalog Number: 0441
Members of the Department

***Visual and Environmental Studies 351hf. Critical Media Practice: Non Fiction Filmmaking Workshop**
Catalog Number: 85749 Enrollment: Limited to 10.
Lucien G. Castaing-Taylor
Half course (throughout the year). Fall: Tu., 6–9 p.m.; Spring: W., 6–9 p.m.
A graduate workshop for Film Study Center non-fiction film and video projects.
Note: Admission limited to Critical Media Practice graduate students and Film Study Center fellows.

Related Courses of Interest for Film and Visual Studies Graduate Program

***Anthropology 1836br (formerly *Anthropology 1836bbr). Sensory Ethnography II: Studio Course**
[Anthropology 2688. The Frankfurt School, Film, and Popular Culture]
[*History of Art and Architecture 277s. Circa 1970]
[Music 263r. Intimate Sound Installations]
[*Romance Studies 219. Digital Humanities 2.0: a metaLAB(at)Harvard seminar]
[*Visual and Environmental Studies 185x. Visual Fabrics: Art, Media, Materiality Seminar]
***Visual and Environmental Studies 270. Proseminar in Film and Visual Studies: History**

Harvard University
Faculty of Arts and Sciences
Office of the Registrar

***Visual and Environmental Studies 271. Proseminar in Film and Visual Studies: Theory**
***Visual and Environmental Studies 301. Film and Visual Studies Workshop**
***Visual and Environmental Studies 310. Reading and Research**
***Visual and Environmental Studies 320. Directed Study**
***Visual and Environmental Studies 351hf. Critical Media Practice: Non Fiction Filmmaking Workshop**

Women, Gender, and Sexuality

AN HISTORICAL EDITION OF FAS COURSES OF INSTRUCTION

Faculty of the Committee on Degrees in Studies of Women, Gender, and Sexuality

Afsaneh Najmabadi, Francis Lee Higginson Professor of History and Professor of the Studies of Women, Gender, and Sexuality *(Chair)*
Robin M. Bernstein, Professor of African and African American Studies and of Women, Gender and Sexuality
Michael Bronski, Professor of the Practice in Media and Activism
Peter J. Burgard, Professor of German
Stephen Louis Burt, Professor of English
Glenda R. Carpio, Professor of English and of African and African American Studies
Nancy F. Cott, Jonathan Trumbull Professor of American History
Rachel L. Greenblatt, Associate Professor of Near Eastern Languages and Civilizations
Alice Jardine, Professor of Romance Languages and Literatures and of Studies of Women, Gender, and Sexuality *(Director of Graduate Studies) (on leave fall term)*
Alexandra Achen Killewald, Assistant Professor of Sociology
Caroline Light, Lecturer on Studies of Women, Gender, and Sexuality *(Director of Undergraduate Studies)*
Melissa M. McCormick, Professor of Japanese Art and Culture
Marcyliena Morgan, Professor of African and African American Studies
Katharine Park, Samuel Zemurray, Jr. and Doris Zemurray Stone Radcliffe Professor of the History of Science
Ahmed Ragab, Richard T. Watson Assistant Professor of Science and Religion *(Divinity School)*
Sindhumathi Revuluri, Associate Professor of Music
Sarah S. Richardson, Assistant Professor of the History of Science and of Studies of Women, Gender, and Sexuality
Kimberly Theidon, John L. Loeb Associate Professor of the Social Sciences
Laurel Thatcher Ulrich, 300th Anniversary University Professor
Jocelyn Viterna, Associate Professor of Sociology *(on leave spring term)*

Other Faculty Offering Instruction in Studies of Women, Gender, and Sexuality

Chiwen Bao, Lecturer on Social Studies
Karen P. Flood, Lecturer on Studies of Women, Gender, and Sexuality
Meghan Elisabeth Healy, Lecturer on History and Literature, Lecturer on Studies of Women, Gender, and Sexuality
Laura K. Johnson, Lecturer on Studies of Women, Gender, and Sexuality
Keridwen Luis, College Fellow in Studies of Women, Gender, and Sexuality
Elizabeth Singer More, Lecturer on History and Literature, Lecturer on Studies of Women, Gender, and Sexuality
Rani Neutill, Lecturer on History and Literature, Lecturer on Studies of Women, Gender, and Sexuality
Gayle Rubin, F. O. Matthiessen Visiting Professor of Studies of Women, Gender, and Sexuality
Linda Schlossberg, Lecturer on Studies of Women, Gender, and Sexuality

Affiliated Members

Verena A. Conley, Visiting Professor of Comparative Literature and of Romance Languages and Literatures

Primarily for Undergraduates

***Studies of Women, Gender, and Sexuality 91r. Supervised Reading and Research**
Catalog Number: 6225
Director of Studies and staff
Half course (fall term; repeated spring term). Hours to be arranged.
The study of selected topics in studies of women, gender, and sexuality.

***Studies of Women, Gender, and Sexuality 97. Tutorial-Sophomore Year**
Catalog Number: 7217 Enrollment: Limited to concentrators.
Robin M. Bernstein
Half course (spring term). Tu., Th., 10–11:30.
An introduction to foundational concepts and skills in the study of gender and sexuality. Readings include Gloria Anzaldúa, Donna Haraway, Patricia Hill Collins, Kimberlé Crenshaw, Monique Wittig, Alison Bechdel, Chandra Talpade Mohanty, and Michel Foucault.
Note: Required of, and limited to, Women, Gender, and Sexuality concentrators in their first year in the concentration.

Studies of Women, Gender, and Sexuality 98f. Tutorial - Junior Year: Research and Methods - *(New Course)
Catalog Number: 24505 Enrollment: Open only to juniors on leave in the spring term.
Afsaneh Najmabadi
Half course (fall term). Hours to be arranged.
Note: WGS Juniors are expected to take 98s in the spring term. This course is only open to students planning to be on leave in the spring term of the junior year. Permission from the DUS in WGS and updated plan of study required.

***Studies of Women, Gender, and Sexuality 98s. Tutorial - Junior Year: Research and Methods**
Catalog Number: 8094
Afsaneh Najmabadi
Half course (spring term). M., 3–5.
The seminar is organized to scaffold student success in writing a junior paper. For the first six weeks, we will read a variety of texts and interrogate closely how different topics have been approached in literary

and cultural studies, in social and historical studies, and in life-sciences. There are two goals here: To think carefully about how different methodological approaches allow certain kinds of research questions to be asked and answered, and to be able to identify the methodological approaches that will best serve each student's specific research interests and needs. Each student will also work throughout the semester with an individual tutor on their own projects.
Note: Required of all Honors concentrators in their junior year.

***Studies of Women, Gender, and Sexuality 99a. Tutorial — Senior Year**
Catalog Number: 6763
Linda Schlossberg
Half course (fall term; repeated spring term). Fall: F., 10:30–12.
Note: Both WGS 99a and 99b are required of all honors concentrators in their senior year.

***Studies of Women, Gender, and Sexuality 99b. Tutorial — Senior Year**
Catalog Number: 5847
Linda Schlossberg
Half course (fall term; repeated spring term). Hours to be arranged.
Note: Both WGS 99a and 99b are required of all honors concentrators in their senior year.

For Undergraduates and Graduates

***Studies of Women, Gender, and Sexuality 1127. Beyond the Sound Bite: Women, Gender, and Sexuality in The Daily News**
Catalog Number: 48191 Enrollment: Limited to 35.
Alice Jardine
Half course (spring term). Tu., Th., at 12 and a one hour section to be arranged. EXAM GROUP: 14
We are bombarded by sound bites from all over the globe, moving at disorienting speeds, reorganizing our relationship to time and space with increasingly dystopic results. This course will focus on selected televisual and digital events in "real time" from February-May 2014. We will analyze the embedded bits of gender and sexuality always at work in the representations of those events. Topics include: politics, the environment, military adventures, and popular revolt in dialogue with important texts in WGS Studies.

Studies of Women, Gender, and Sexuality 1167. Gender and Education - *(New Course)*
Catalog Number: 47209
Laura Johnson
Half course (spring term). F., 1–3 and a one hour section to be arranged. EXAM GROUP: 6, 7
This course explores the impact of gender on educational opportunities, experiences and outcomes in the United States. We will look at the role gender plays in interpersonal relationships in educational settings, in classroom practices, in school rituals, in expectations for behavior and disciplinary actions, and in the content and structure of the curriculum. We also will examine the role beliefs about gender play in students' extra-curricular choices and experiences. Finally, we will look at the complicated ways gender intersects with race, class, and sexual orientation to shape students' identities, opportunities, and experiences.
Note: Jointly offered with the HGSE as H-613.

[Studies of Women, Gender, and Sexuality 1200sh. Power to the People: Black Power, Radical Feminism, and Gay Liberation 1955-1975]
Catalog Number: 9095
Michael Bronski
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7

An introduction to the radical American social change movements of the 1960s and 70s. We will examine the specific historical conditions that allowed each of these movements to develop, the interconnections and contradictions among them, and why they ultimately lost political power. Along with historical analysis, we will examine primary source materials, manifestos, autobiographies, and media coverage from the period, as well as relevant films, music, and fiction. The class will be a mixture of lecture and discussion.
Note: Expected to be given in 2014–15.

Studies of Women, Gender, and Sexuality 1210st. Sexological Theories - *(New Course)
Catalog Number: 98349
Gayle Rubin
Half course (spring term). Tu., 3–5 and a one hour section to be arranged. EXAM GROUP: 17, 18
This course surveys theories of sexuality starting with late 19th century medical sexology. As sexuality was constituted as a medical problem, all sexual practice other than procreative heterosexuality was conceived as diseased, as sexual "perversion." Nonetheless, non-pathological frameworks for sexual misconduct were already emerging. Using homosexuality as our "master perversion," we will trace the increasing salience of non-pathological concepts of erotic diversity. Key figures include Krafft-Ebing, Ellis, Hirschfeld, Freud, Kinsey, and texts from the sociology of deviance. We will conclude with a reading of Foucault's History of Sexuality in terms of its relationship to the sexological corpus.

Studies of Women, Gender, and Sexuality 1224. Gender and Fandom - *(New Course)
Catalog Number: 97035 Enrollment: Limited to 25.
Keridwen Luis
Half course (fall term). W., 3–5. EXAM GROUP: 8, 9
This course examines the gendered experiences of those who identify as "fans" through the lens of anthropology, sociology, and gender studies. We will examine a wide variety of fandoms and ask questions such as, how does fandom shape gender expression? How does gender shape fandom? How are class, race, and cultural background implicated in fan expressions? How do fans create community? Who is welcomed and who is excluded from fan communities? We will examine particular fandoms, including online fandoms, sports fandoms, and sci-fi/fantasy fandoms, among others, and read works by sociologists, anthropologists, and the fans themselves.

Studies of Women, Gender, and Sexuality 1227. Race, Gender and Inequality - *(New Course)
Catalog Number: 41567 Enrollment: Limited to 15.
Chiwen Bao
Half course (fall term). Th., 3–5. EXAM GROUP: 17, 18
This course explores how interlocking forms of inequality emerge in society through entwined identity formations such as race, gender, sexuality and class. Through case studies, we examine how these complex systems of privilege and disadvantage influence life pathways and embodied experiences of safety and physical and emotional health. Seminar participants develop skills to investigate and approach social problems by relating research to practices, as explored through a creative final project. Topics include neighborhoods, social media, violence, work, incarceration, education, and health care.

[*Studies of Women, Gender, and Sexuality 1233. Gender, Sexual Violence, and Empire]
Catalog Number: 4121 Enrollment: Limited to 15.
Katherine Stanton
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
Making the case for what Deepika Bahri identifies as the "prominent and constitutive" role of gender-and sexuality-in colonial formations, this course will examine how gendered and sexed ideas and practices were critical to signifying racial difference, naturalizing exploitation, symbolizing the colonial mission,

and managing colonial economies. We will ask, with Ann Laura Stoler, was sexual domination a metaphor for colonial power, or the very "substance" of imperial policy?
Note: Expected to be given in 2014–15.

***Studies of Women, Gender, and Sexuality 1234. A Voice of One's Own: Creative Writing in Women, Gender, and Sexuality**
Catalog Number: 12567 Enrollment: Limited to 12.
Linda Schlossberg
Half course (spring term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14
Students write and analyze short stories, paying close attention to key writing concepts such as characterization, voice, point-of-view, dialogue, and setting, while also investigating thematic issues related to women, gender, and sexuality studies. Frequent writing assignments, including written evaluations of peers' stories.

Studies of Women, Gender, and Sexuality 1237. LGBT Literature - *(New Course)
Catalog Number: 44338 Enrollment: Limited to 25.
Linda Schlossberg
Half course (fall term). Tu., Th., 11:30–1 and a one hour section to be arranged. EXAM GROUP: 13, 14
This course examines a range of works from the British and American LGBT canon. Our starting premise will be that LGBT themes have been central, rather than peripheral, to the Western literary tradition. We'll pay close attention to how sexual identity and desire are understood and represented in different social and historical circumstances, as well as the aesthetic traditions and personal experiences shaping these individual works. Authors include James Baldwin, E.M. Forster, Nella Larsen, Virginia Woolf.
Note: This course, when taken for a letter grade, meets the General Education requirement for Aesthetic and Interpretive Understanding.

Studies of Women, Gender, and Sexuality 1243. Men to Boys: Masculinity in Postwar Hollywood Film - *(New Course)
Catalog Number: 46977 Enrollment: Limited to 25.
Michael Bronski
Half course (spring term). M., 1–3 and a one hour section to be arranged. EXAM GROUP: 6, 7
This survey course examines the changing images of masculinity in Hollywood films from 1950 to the present. We will use the films, critical readings, feminist theory, film theory and primary source materials to chart the enormous changes in how postwar culture conceptualized "manhood" and "masculinity." Beginning with post-World War II films such as "The Men," and then covering Vietnam films and sports films such as "Rocky" and "Raging Bull" we will end with popular comedies celebrating male immaturity of Judd Apatow. We will be analyzing the films in the economic, political, sociological, and psychological context in which they were made and to which they were responding.

Studies of Women, Gender, and Sexuality 1249. Gender in African History - *(New Course)
Catalog Number: 60756 Enrollment: Limited to 15.
Meghan Healy-Clancy
Half course (fall term). Tu., 3–5. EXAM GROUP: 17, 18
This seminar surveys the changing politics of gender across African history, in conversation with global histories of gender and sexuality. We investigate three questions: How can we understand the history of gender in Africa before colonialism? What role did gender play in the making and unmaking of colonialism? How have nationalist and postcolonial politics been defined by gendered categories? Readings include case studies from west, east, and southern Africa, treating themes from the history of sexuality to the history of political culture. Each student will present an original research project related to course themes.

Studies of Women, Gender, and Sexuality 1251. Gender and Sexuality in Asian-American Literature - *(New Course)
Catalog Number: 19431 Enrollment: Limited to 15.
Rani Neutill
Half course (fall term). Th., 1–3. EXAM GROUP: 15, 16
This course investigates Asian-American literature and film, with an emphasis on issues of feminism, sexuality, politics, and popular culture. We will examine the influence of these works from both a U.S. domestic and global perspective. Authors to include Maxine Hong Kinston, David Henry Hwang, Jhumpa Lahiri, Theresa Cha, Rakesh Satyal, Monique Truong.

Studies of Women, Gender, and Sexuality 1258. Friends with Benefits?
Catalog Number: 12001
Afsaneh Najmabadi
Half course (fall term). M., W., at 11 and a one hour section to be arranged. EXAM GROUP: 4
How many people would you count as your friends? Facebook friends? Facebook Close Friends? Google+ friends? Other network friends? Friends with Benefits? Does sex get in the way of friendship? Are your friends mostly of the same sex/gender/sexuality? Is it harder to make friends with persons of different sex/gender/sexuality? How have friendships changed as people have become more embedded in online communities? The course will begin with a consideration of current conversations about friendship, including popular TV serials -- such as "Friends," "Sex and the City," "New Girl," and "The Inbetweeners" -- in which friendships are lived and variously configured through sexual relationships. What could we make about meanings of friendship and sex, and their inter-relationship, in contemporary American culture? We will read various texts that form historical threads that inform our contemporary concepts and practices of friendship and romance. Readings will include Winthrop, Plato, Cicero, Biblical sources, St. Augustine, St. Aquinas, Montaigne, Bray, Marcus, Sedgwick, and Foucault. Finally, we will return to contemporary America, asking what gay marriage, Facebook, and changing conceptions of masculinity/femininity are doing to/for friendship.
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Literature and Arts C.

***Studies of Women, Gender, and Sexuality 1266. Gender and Sports**
Catalog Number: 60105 Enrollment: Limited to 19.
Laura Johnson
Half course (fall term). F., 11–1. EXAM GROUP: 4, 5
This course explores the relationship between gender and sports in the U.S. We will consider the ways in which deeply held beliefs about masculinity and femininity, as well as sexuality and race, affect the practice of sports, as well as how sports shape identity. While we will situate our exploration within its historical context, our focus will be on the contemporary scene, including youth, collegiate, and professional sports.

[*Studies of Women, Gender, and Sexuality 1288. Adolescence] - (New Course)
Catalog Number: 95278 Enrollment: Limited to 15.
Meredith W. Reiches
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
Puberty, the transition to reproductive maturity, occurs in all sexually reproducing species; adolescence, however, is a human concept encompassing not only physiological but also social, behavioral, and perceptual shifts. This course takes an anthropological, biological, and phylogenetic approach to adolescence, asking: What elements of growth and maturation define adolescence, and is it unique to humans? How do the body's priorities change? What can we learn by examining those changes in the

context of ecological and cultural variation? Texts address human and non-human primate growth and development; social rites of passage; and literary dramatizations of coming of age.

***Studies of Women, Gender, and Sexuality 1322. Theory Makes Practice Makes Theory: Feminist Fieldwork and Activity Based Learning**
Catalog Number: 3232 Enrollment: Limited to 12.
Keridwen Luis
Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
This course brings service work and community advocacy together with critical thinking at the complex intersection between feminist theory and practice. We will ask questions such as, what is the role of academic thought in community initiatives and politics? What does it mean to be an ally? We will examine phenomena like "backpacktivism" and "voluntourism" and discuss research in the global market. Participants will do community service and/or fieldwork, and classroom discussions will focus on feminist, queer, and intersectional analyses incorporating student internship experiences with the readings.
Note: Note: Interested students are strongly encouraged to attend an information session in December detailing the requirements for the course (contact Professor Luis for meeting details). Student enrollment in this course is contingent upon placement at an approved internship site. Students will be required to spend 6 hours per week in an agency or organization, in addition to the weekly 2-hour seminar class.

***Studies of Women, Gender, and Sexuality 1421. Medical Management of the Female Body**
Catalog Number: 21083 Enrollment: Limited to 15.
Sarah S. Richardson
Half course (spring term). W., 1–3. EXAM GROUP: 6, 7
This course examines how Western medical knowledge, practices, and institutions define female health and normality and manage diseased and gender-variant female bodies. How, for instance, does medicine conceive of the female body as a medical problem or mystery and how do race, class, and sexuality inflect these conceptions? Topics include: "female maladies," medicalization of childbirth and the pregnant body, medical management of transgender and intersexed bodies, ideals of fitness, cosmetic surgery, disability, and pharmaceutical marketing.

***Studies of Women, Gender, and Sexuality 1424. American Fetish: Consumer Culture Encounters the Other**
Catalog Number: 91598 Enrollment: Limited to 15.
Caroline Light
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7
How are notions of human difference, including ethnicity, race, gender, and sexuality, used to sell products in an increasingly global market? We will start in the nineteenth century with the rise of consumer culture, examining how cultures and people considered "primitive" achieved value as objects for exchange and entertainment, and then investigate how this idea takes shape in our contemporary moment. Topics include: sex tourism; commodification of "queer" and multiracial aesthetics; "compassionate" consumption.
Note: This course, when taken for a letter grade, meets the General Education requirement for Culture and Belief or the Core area requirement for Literature and Arts C.

[*Studies of Women, Gender, and Sexuality 1433. Topics in Advanced Performance Studies: Gender and Sexuality]
Catalog Number: 42391 Enrollment: Limited to 15.
Robin M. Bernstein
Half course (fall term). W., 1–3. EXAM GROUP: 6, 7

In this seminar, we will listen to and participate in current conversations in Performance Studies about gender and sexuality, especially as both these categories intersect with race. Topics include affect, time, and material culture; reading includes works by Eve Kosofsky Sedgwick, E. Patrick Johnson, Judith Halberstam, José Esteban Muñoz, Heather Love, Elizabeth Freeman, Susan Leigh Foster, and Lawrence La Fountain-Stokes. This is an advanced course intended for graduate students and upper-level undergraduates.
Note: Expected to be given in 2014–15.
Prerequisite: Prerequisite for undergraduates: "Gender and Performance" (General Education/Aesthetic and Interpretive Understanding 26), WGS sophomore tutorial, or permission of the instructor.

Studies of Women, Gender, and Sexuality 1440. Mommy Wars: Race, Class, and the Politics of Motherhood - *(New Course)
Catalog Number: 29785 Enrollment: Limited to 15.
Elizabeth Singer More
Half course (fall term). M., 1–3. EXAM GROUP: 6, 7
The term "mommy wars" emerged in 1990 to suggest that relations between "working mothers" and "stay at home mothers" were characterized by mutual animosity and petty status battles between women defined through their roles as mothers. Yet the political, cultural, and economic struggles over motherhood have deep roots and high stakes. This seminar will look critically at the history and literature of the "mommy wars," from The Feminine Mystique to contemporary advice literature, paying special attention to voices often excluded from mainstream media representations. Topics include mothers in the workplace, race and reproduction, caring labor, and class in discourses of "good" and "bad" mothering.

Studies of Women, Gender, and Sexuality 1442. Well Behaved Women - *(New Course)
Catalog Number: 40039 Enrollment: Limited to 15.
Laurel Thatcher Ulrich
Half course (spring term). Tu., 1–3. EXAM GROUP: 15, 16
This course is a hands-on introduction to history making in its many forms. Using the rich resources of the Schlesinger Library, we will explore a wide range of historical sources, from the papers of famous women to recipes and t-shirts. We will discover how women in times past have used history to generate or push back against social change, defend their own cultures, and make a place for themselves in the world. We will consider how scholars, activists, and ordinary people have fought over interpretations. In consultation with Professor Ulrich, students will consider the place of historical study in their own work and will design final projects accordingly. Course meetings will take place in the Schlesinger Library's Radcliffe Room (first floor).

[*Studies of Women, Gender, and Sexuality 1466. Virtue, Vice and Everyday Life]
Catalog Number: 79196 Enrollment: Limited to 15.
Erin R. Helfrich
Half course (spring term). M., 1–3. EXAM GROUP: 6, 7
This seminar will explore the areas of overlap and also of disconnect between our conscious decisions, our unconscious reactions, and our moral values. We will focus specifically on the ways that our moral, social, and psychological environments give rise to ethical challenges relating to gender. Topics may include: workforce discrimination; women's participation in STEM fields and representation in governing bodies; how work is coded masculine or feminine; and women and welfare.
Note: Expected to be given in 2014–15.

Studies of Women, Gender, and Sexuality 1468. Feminist Sex Wars - *(New Course)
Catalog Number: 20678 Enrollment: Limited to 15.
Gayle Rubin

Half course (spring term). W., 3–5. EXAM GROUP: 8, 9
In the late 1970s, the feminist movement was rent by acrimonious disputes over sexual conduct and representation. In particular, the roles of sexual imagery and some erotic behaviors in the creation and maintenance of male supremacy, and their causal relationships to violence against women, were contested with unusual intensity. These conflicts were called "the feminist sex wars." While these debates have largely subsided within feminism, they affect cultural conflicts which erupt on an almost daily basis, especially over the issues of pornography and prostitution. This course is an excavation of the history of the sex wars, and their enduring relevance.

***Studies of Women, Gender, and Sexuality 1500. The Senior Capstone**
Catalog Number: 72605 Enrollment: Limited to 12.
Karen P. Flood
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
This course allows advanced students to synthesize previous semesters of study in WGS in an intensive research-oriented seminar. Students will complete independent projects while also building collective knowledge around a topic in gender and sexuality studies.
Note: Intended for WGS seniors on capstone track, but open by permission of instructor to other advanced students with experience in women, gender, and sexuality studies.

Primarily for Graduates

***Studies of Women, Gender, and Sexuality 2000. Introduction to WGS: Graduate Proseminar**
Catalog Number: 9620 Enrollment: Limited to 15.
Robin M. Bernstein
Half course (spring term). Th., 1–3. EXAM GROUP: 15, 16
An introduction to graduate study in women, gender, and sexuality. Special attention given to questions of disciplinarity and interdisciplinarity, to processes of professionalization, and to the critical study of the neoliberal academy.
Note: Will count as the Graduate Proseminar for the PhD secondary field requirement in WGS.

[*Studies of Women, Gender, and Sexuality 2010. Science, Nature, and Gender (Graduate Seminar in General Education)]
Catalog Number: 51121 Enrollment: Limited to 15.
Sarah S. Richardson
Half course (spring term). W., 2–4. EXAM GROUP: 7, 8
A survey of central texts, theories, and methods in scholarship on gender and science. Science has helped to construct and enforce cultural gender norms. Gender also valences scientific language, inflects science's status as an authoritative social institution, and stratifies scientific communities. This seminar examines historical, philosophical, and social dimensions of science through the lens of gender. Students will pursue independent research and explore methods in interdisciplinary and feminist pedagogy. The seminar will design and develop a General Education course on these themes for undergraduates.
Note: Expected to be given in 2014–15.

Graduate Courses of Reading and Research

***Studies of Women, Gender, and Sexuality 3000. Reading and Research**
Catalog Number: 17353
Robin M. Bernstein 5411, Michael Bronski 6029, Alice Jardine 7457 (on leave fall term), Afsaneh Najmabadi 4052, Sarah S. Richardson 6730 and members of the Committee
Half course (fall term; repeated spring term). Hours to be arranged.

Note: Open only by petition. Applicants for admission should first confer with the Director of Graduate Studies.

Of Related Interest

Courses related to the studies of women, gender, and sexuality offered by other departments are listed below. Many of the courses may be taken for graduate credit. Students should also investigate offerings in other faculties in which they may cross-register, such as the Graduate School of Education, the Law School, the Medical School, and the Women's Studies program at the Divinity School. This list is for informational purposes only and courses are not pre-approved for WGS concentration credit. For courses offered by other departments that are approved for WGS concentration credit please contact the WGS main office.

[Aesthetic and Interpretive Understanding 26. Race, Gender, and Performance]
African and African American Studies 118. The History of African Americans From the Slave Trade to the Great Migration
African and African American Studies 120x. African American Theatre, Drama, and Performance
[African and African American Studies 183x. Queer of Color Theory]
Culture and Belief 22. Concepts of the Hero in Classical Greek Civilization
[Culture and Belief 41 (formerly Historical Study A-67). Gender, Islam, and Nation in the Middle East and North Africa]
[Ethical Reasoning 22 (formerly Moral Reasoning 22). Justice]
French 70b. Introduction to French Literature II. 19th and 20th Centuries: Tales of Identity
[French 157. The Hermaphroditic Imagination]
[*History 81f. Women's Voices in Medieval and Early Modern Europe]
History 1462. History of Sexuality in the Modern West
History 1981. A Cultural History of the U.S. Military: World War I to the Present: Conference Course - *(New Course)
[History 2805. Gender and Sexuality: Comparative Historical Studies of Islamic Middle East, North Africa, South, and East Asia: Seminar]
[History of Science 108. Bodies, Sexualities, and Medicine in the Medieval Middle East]
Japanese Literature 133. Gender and Japanese Art
Portuguese 40. Images of Brazil: Contemporary Brazilian Cinema
[United States in the World 16 (formerly Historical Study A-86). Men and Women in Public and Private: the US in the 20th Century]
Visual and Environmental Studies 181. Film Theory, Visual Thinking
[*Visual and Environmental Studies 182. Film Architectures: Seminar]
Visual and Environmental Studies 184. Imagining the City: Literature, Film, and the Arts
[*Visual and Environmental Studies 185x. Visual Fabrics: Art, Media, Materiality Seminar]

Primarily for Undergraduates

Earth and Planetary Sciences 21 (formerly EPS 7). The Dynamic Earth: Geology and Tectonics Through Time
Catalog Number: 26854
Francis Alexander Macdonald and Richard J. O'Connell
Half course (fall term). M., W., F., at 10, and a weekly three-hour lab to be arranged and two field trips. EXAM GROUP: 3
Students will learn how the Earth works and how critical events in Earth history shaped their

surroundings. We will explore what the Earth is made of, why there are continents and oceans, and how plate tectonics provides a unifying model to explain geological observations. Topics covered include the discovery of deep time, the relationship between geology and topography, the geology of our surroundings, plate tectonics, magnetism, chemical differentiation at subduction zones and mid-ocean ridges, mountain building, basin formation, isostasy, heat flow, convection, and feedbacks with the fluid Earth. Ultimately we will use physical processes to explain the patterns of nature. Our treatment will be quantitative with applications to other phenomena, and based on sound physics. Field trips provide opportunities to learn how to read rocks, to see data in the field, and to interpret observations in terms of their possible history and forces acting in and on the Earth.
Note: This course, when taken for a letter grade, meets the General Education requirement for Science of the Physical Universe or the Core area requirement for Science A. Students who have taken EPS 7 cannot take EPS 21 for credit.