AAS 235 Race Is Socially Constructed: Now What?
Professor: Ruha Benjamin

Description/Objectives: The truism that "race is socially constructed" hides more than it reveals. Have Irish Americans always been white? Are people of African descent all black? Is calling Asian Americans a "model minority" a compliment? Does race impact who we date or marry? In this course, students develop a sophisticated conceptual toolkit to make sense of such contentious cases of racial vision and division as the uprising in Ferguson. We learn to connect contemporary events to historical processes, and individual experiences to institutional policies, exercising a sociological imagination with the potential to not only analyze, but transform the status quo.

Schedule: 1:30 pm - 3:20 pm T

AAS 313 Modern Caribbean History
Professors: Reena N. Goldthree, Robert A. Karl

Description/Objectives: This course will explore the major issues that have shaped the Caribbean since 1791, including: colonialism and revolution, slavery and abolition, migration and diaspora, economic inequality, and racial hierarchy. We will examine the Caribbean through a comparative approach—thinking across national and linguistic boundaries—with a focus on Cuba, Jamaica, Puerto Rico, Haiti, and the Dominican Republic. While our readings and discussions will foreground the islands of the Greater Antilles, we will also consider relevant examples from the circum-Caribbean and the Caribbean diaspora as points of comparison. Students will be asked to watch 3-4 films during the semester.

Schedule: 10:00 am - 10:50 am M W

AAS 359 African American Literature: Harlem Renaissance to Present
Professor: Kinohi Nishikawa

Description/Objectives: A survey of twentieth- and twenty-first century African American literature, including the tradition's key aesthetic manifestos. Special attention to how modern African American literature is periodized and why certain innovations in genre and style emerged when they did. Poetry, essays, novels, popular fiction, a stage production or two, and related visual texts.

Schedule: 1:30 pm - 2:50 pm M W

PROGRAM IN AFRICAN STUDIES

AFS 318 Literature, Landscape and Place-Making in the African Environmental Imagination
Professor: Meg E. Arenberg

Description/Objectives: Little writing from Africa conforms to Western understandings of nature writing or mainstream environmentalism. But does that mean that African authors are disinterested in environmental questions? How do African authors represent their relationship to the land and non-human organisms? This seminar will explore acts of environmental imagination by African novelists from around the continent; organized roughly by biome. We will also discuss writerly approaches to environmental activism on the continent. The course will aid students ability to think, speak and write critically about African literature, the environment and relations of power.

Schedule: 1:30 pm - 4:20 pm T

PROGRAM IN AMERICAN STUDIES

AMS 101 America Then and Now
Professors: Rachael Z. DeLue, Brian E. Herrera, Monica Huerta

Description/Objectives: This course introduces students to the field of American Studies through discussion of some of the signature ideas and debates that have shaped America as a nation. It examines material and imaginary manifestations of America from global, national, and local perspectives, and considers the historical and cognitive processes associated with the delineation of America then and now. Objects of study range across multiple media, including texts, images, music, performance, and film. Primary and secondary readings draw from literature, history, political science, theater, law, cultural studies, art history, and the history of science.

Schedule: 1:30 pm - 2:50 pm M

ANTHROPOLOGY

ANT 206A Human Evolution
Professors: Janet M. Monge, Page Selinsky

Description/Objectives: An investigation of the evidence and background of human evolution. Emphasis will be placed on the examination of the fossil and other evidence for human evolution and its
functional and behavioral implications. (See ANT 206B to determine the appropriate course for enrollment.)

Schedule: 10:00 am - 10:50 am M W

ART AND ARCHAEOLOGY

ART 103 Arts of the Americas: The First 5,000 Years
Professors: Andrew J. Hamilton

Description/Objectives: You live in the Americas: do you know about the prolific cultures who lived here before the European conquests? Are you curious about art, but wish you had a more hands-on understanding instead of seeing it behind glass? Do you wonder how a Eurocentric academic discipline might construct knowledge differently if considered from a non-European point of view? This course will provide both an introduction to art history through the ancient Americas, and to ancient American cultures, thoughts, and beliefs through their arts. Precepts will meet in the study room of the Art Museum, where we'll study up close its world-class Americas collection.

Schedule: 10:00 am - 10:50 am M W

ART 209 Between Renaissance and Revolution: Baroque Art in Europe
Professor: Thomas D. Kaufmann

Description/Objectives: This course surveys major changes in European Art from the end of the Renaissance until the Age of Revolution c. 1800. Paintings, sculpture, prints, drawings, and architecture by such artists as Caravaggio, Rubens, Rembrandt, Vermeer, Velazquez, and Bernini will be considered in their political, religious, social and intellectual context. Extensive study of works of art at first hand in the Princeton University Art Museum, and possibly in New York.

Schedule: 10:00 am - 10:50 am M W

ART 214 Contemporary Art: 1950 - 2000
Professor: AnnMarie Perl

Description/Objectives: A survey of postwar art from an international perspective, focusing on the major artistic movements in their historical contexts, including the Second World War, the Cold War, decolonization, the civil rights movement, feminism, globalization, and economic boom and recession. Lectures explore several themes including art's relationship to popular culture, the mass media, consumer society, historical memory, and political and social activism. Throughout, we account for the startling formal metamorphoses of art itself, as it is transformed from traditional painting and sculpture into new forms that challenged the very nature and limits of art.

Schedule: 11:00 am - 11:50 am T Th

ART 215 Arts of China (10th Century to the Early 20th Century)
Professor: Cheng-hua Wang

Description/Objectives: This course will examine significant artistic developments through the study of paintings, calligraphy, ceramics, prints, architecture, and photography, and will relate them to political and sociocultural transformations in China. Students will gain an understanding of how to analyze Chinese art and its art-historical discourse as well as how to situate the arts within Chinese culture and history. The course is organized chronologically and will focus on the three arenas of art that motivated artistic creation during this period: the court, the sociocultural and political elites, and the commercial world.

Schedule: 2:30 pm - 3:20 pm T Th

ART 252 Art as Science/Science as Art
Professor: Rachael Z. DeLue

Description/Objectives: Art and science may appear to have nothing to do with one another, but history suggests otherwise. For centuries, artists and image-makers have incorporated the concepts and claims of scientific inquiry into their practices. Scientists, in turn, have relied on images as both sources of and evidence for scientific knowledge. By examining the interaction of art and science in Europe and America from the early modern period to the present day, this course will investigate the diverse and complex ways in which art and science have intersected as well as the manner in which image-making has been understood as a form of scientific practice.

Schedule: 10:00 am - 10:50 am T Th

ART 313 Global Medieval Architecture
Professor: Alexander K. Harper

Description/Objectives: This course is a survey of architecture from the Middle Ages, a term used here to denote the period between 500 CE and 1500 CE. Global in both geographical scope (e.g. Europe, Africa, and Asia) and buildings surveyed, this course examines various architectural forms, techniques, and priorities across multiple landscapes. Organized by building type, the course is broadly comparative while examining buildings on their own terms. Subjects include palaces, castles, and fortress; roads and infrastructure; water architecture; houses and other domestic spaces; and urban planning and design.
ASTROPHYSICAL SCIENCES

AST 203 The Universe
Professors: Christopher F. Chyba, Jo Dunkley, Michael A. Strauss

Description/Objectives: This course, whose subject matter covers the entire universe, targets the frontiers of modern astrophysics. Topics include the planets of our solar system; the birth, life, and death of stars; black holes; the search for extrasolar planets and extraterrestrial life and intelligence; the zoo of galaxies and their evolution; the big bang and the expanding universe; and dark matter, dark energy, and the large-scale structure of the universe. This course is designed for the non-science major and has no prerequisites past high school algebra and geometry. High school physics would be useful, but is not required.

Schedule: 3:00 pm - 4:20 pm T Th

AST 204 Topics in Modern Astronomy
Professor: Joshua N. Winn

Description/Objectives: This course provides a broad overview of modern astronomy and astrophysics for students in the sciences. Emphasis is on the application of basic physics to understanding of astronomical systems. Topics include the Solar System; planetary systems and exoplanets; the birth, life, and death of stars; white dwarfs, neutron stars, and black holes; the Milky Way and distant galaxies; cosmology, dark matter and dark energy, and the history of the Universe.

Schedule: 3:00 pm - 4:20 pm M W

AST 309 The Science of Nuclear Energy: Fission and Fusion
Professor: Robert J. Goldston

Description/Objectives: Nuclear fission power offers a low-carbon source of electricity. However it also carries with it significant risks: nuclear proliferation (North Korea and Iran), major accidents (Fukushima), and waste disposal (Yucca Mountain). Fusion energy is moving towards realization as an alternative low-carbon source of energy from the nucleus. It carries fewer risks, but the timetable for its commercialization is not yet known. We will delve into the physics of these energy sources, so you can understand the issues for yourself. A benefit of this course is that you will expand your scientific skills by applying them to important real-world problems.

Schedule: 3:00 pm - 4:20 pm T Th

AST 401 Cosmology
Professor: Neta A. Bahcall

Description/Objectives: A general review of extragalactic astronomy and cosmology. Topics include the properties and nature of galaxies, clusters of galaxies, superclusters, the large-scale structure of the universe, evidence for the existence of Dark Matter and Dark Energy, the expanding universe, the early universe, and the formation and evolution of structure.

Schedule: 1:30 pm - 2:50 pm M W

CIVIL AND ENVIRONMENTAL ENGINEERING

CEE 262A Structures and the Urban Environment
Professor: Maria E. Garlock

Description/Objectives: This course focuses on structural engineering as a new art form begun during the Industrial Revolution and flourishing today in long-span bridges, thin shell concrete vaults, and tall buildings. Through critical analysis of major works students are introduced to the methods of evaluating structures as an art form. Students study the works and ideas of individual structural artists through their elementary calculations, their builder's mentality and their aesthetic imagination. Students examine contemporary exemplars that are essential to the understanding of 21st century structuring of cities with illustrations taken from various cities.

Schedule: 10:00 am - 10:50 am M W

CEE 312 Statics of Structures
Professor: Branko Glisic

Description/Objectives: Develops notions of internal forces and displacements, and instructs students how to design and analyze structures. Presents the fundamental principles of structural analysis, determination of internal forces, and deflections under the static load conditions, and introduces the bending theory of plane beams and the basic energy theorems. The theory of the first order will be developed for continuous girders, frames, arches, suspension bridges, and trusses, including both statically determinate and indeterminate structures. Basic principles for construction of influence lines and determination of extreme influences will be presented.

Schedule: 8:30 am - 9:50 am T Th
CEE 364 Materials in Civil Engineering  
Professor: Claire E. White  

**Description/Objectives:** An introductory course on materials used civil and environmental engineering. Lectures on structure and properties of construction materials including concrete, steel, glass and timber; fracture mechanics; strength testing; mechanisms of deterioration; impact of material manufacturing on the environment. Labs on brittle fracture, heat treatment of steel, strength of concrete, mechanical properties of wood.  

**Schedule:** 11:00 am - 12:20 pm W F

CEE 365 Soil Mechanics  
Professor: Raymond E. Sandiford  

**Description/Objectives:** General introduction to physical and engineering properties of soils; soil classification and identification methods; site exploration; sampling; laboratory and in-situ testing techniques; permeability and seepage; soil consolidation and settlement; shear strength; lateral earth pressure; bearing capacity; slope stability; basics of foundation design; tunneling.  

**Schedule:** 8:30 am - 9:50 am M W

CEE 460 Risk Analysis  
Professor: Ning Lin  


**Schedule:** 3:00 pm - 4:20 pm M W

CLASSICS  

CLA 214 The Other Side of Rome  
Professor: Andrew M. Feldherr  

**Description/Objectives:** An introduction to Roman culture designed to complicate the traditional image of Rome as a static, rigidly conservative society, the course will explore how the Romans used such issues as gender and sexuality, conspicuous consumption, and slavery to define the place of their civilization within the natural order. Authors like Petronius, Lucan, and Tacitus will focus our attention on the social complexities of imperial Rome. We end with a look at contemporary representations of Rome to ask what role stereotypes of ancient Rome have come to play in 20th century America.  

**Schedule:** 1:30 pm - 2:20 pm M W

CLA 217 The Greek World in the Hellenistic Age  
Professor: Nino Luraghi  

**Description/Objectives:** The Greek experience from Alexander the Great through Cleopatra. An exploration of the dramatic expansion of the Greek world into Egypt and the Near East brought about by the conquests and achievements of Alexander. Study of the profound political, social, and intellectual changes that stemmed from the interaction of new cultures, and the entrance of Rome into the Greek world. Readings include history, biography, and inscriptions.  

**Schedule:** 10:00 am - 10:50 am T Th

CLA 225 Bondage and Slaving in Global History  
Professor: Dan-El Padilla Peralta  

**Description/Objectives:** Ranging from the Neolithic to the 21st century, this course will survey the history of human bondage. Topics to be explored include the role of slavery in the rise of the first Neolithic states; the institutionalization of slavery in ancient Mesopotamia, the Greco-Roman Mediterranean, and ancient China; the proliferation of slave systems elsewhere in Eurasia and on the African continent; the economic and political transformation of the Old and New Worlds through the commodification of African and Native American bodies; and the feedback loops linking ancient slave systems to modern ones.  

**Schedule:** 1:30 pm - 2:20 pm T Th

CLA 231 The Birth of Biomedicine: Bodies, Physicians, and Patients in Classical Antiquity  
Professor: Brooke A. Holmes  

**Description/Objectives:** Where does medicine begin in the West? In this course, we will go back to the earliest medical texts written in ancient Greece that try to give an account of disease as a natural phenomenon that happens inside the biological body. Our aim is not simply to reconstruct the theories of health and disease that these authors put forth. It is also to see the kinds of questions and problems that arise when healers take responsibility for the care and treatment of bodies.  

**Schedule:** 1:30 pm - 2:20 pm T Th
COMPARATIVE LITERATURE

COM 206 Masterworks of European Literature
Professor: Michael G. Wood

Description/Objectives: This course will examine closely major works of European literature written since the Renaissance, different in language, genre and style (two novels, a play, an epic poem and a volume of verse) yet all inviting us to think about what a masterwork might be, and how the concept may change over time. The works will be read in English, but we shall pay attention to questions of translation, and to some of the historical pressures placed on the myths and realities of European culture.

Schedule: 1:30 pm - 2:20 pm T Th

COM 217 Introduction to Programming Systems
Professor: Szymon M. Rusinkiewicz

Description/Objectives: Introduction to programming systems, including modular programming, advanced program design, programming style, test, debugging and performance tuning; machine languages and assembly language; and use of system call services.

Schedule: 10:00 am – 10:50 am M W

COM 332 Who Owns This Sentence? Copyright Culture from the Romantic Era to the Age of the Internet
Professors: David M. Bellos, Alexandre A. Montagu

Description/Objectives: Literature, art, computer code, social media, news, music and video games—copyright underpins almost everything we read or hear. But it is not an old idea. Why was it invented? For whose benefit? What is a “work” or an “author”? Is copyright still relevant, or is a new framework needed? From Balzac and Dickens to Facebook, from Bizet to Broadway musicals, this new course invites students to think about the philosophical and cultural issues raised by copyright in the past and present—and for the future. Taught jointly by a professor of Comparative Literature and a practicing intellectual property lawyer; for students in all disciplines.

Schedule: 1:30 pm - 2:50 pm T

COMPUTER SCIENCE

COS 320 Compiling Techniques
Professor: David I. August

Description/Objectives: Understand the design and construction of compilers. Concepts include syntax analysis, semantics, code generation, optimization and run-time systems. Translation of imperative languages (such as C), functional languages (such as ML), and object-oriented languages (such as Java) will be studied. Students will implement a complete compiler for a small language.

Schedule: 1:30 pm - 2:50 pm T Th

COS 333 Advanced Programming Techniques
Professor: Brian W. Kernighan

Description/Objectives: This is a course about the practice of programming. Programming is more than just writing code. Programmers must also assess tradeoffs, choose among design alternatives, debug and test, improve performance, and maintain software written by themselves & others. At the same time, they must be concerned with compatibility, robustness, and reliability, while meeting specifications. Students will have the opportunity to develop these skills by working on their own code and in group projects.

Schedule: 11:00 am - 12:20 pm T Th

COS 340 Reasoning about Computation
Professor: Bernard Chazelle

Description/Objectives: An introduction to mathematical topics relevant to computer science. Combinatorics, probability and graph theory will be covered in the context of computer science applications. The course will present a computer science approach to thinking and modeling. Students will be introduced to fundamental concepts in theoretical computer science, such as NP-completeness and cryptography that arise from the world view of efficient computation.

Schedule: 3:00 pm - 4:20 pm M W

COS 423 Theory of Algorithms
Professor: Kevin Wayne

Description/Objectives: Design and analysis of efficient data structures and algorithms. General techniques for building and analyzing algorithms. Introduction to NP-completeness.

Schedule: 11:00 am - 12:20 pm M W

COS 445 Economics and Computing
Professor: Matt Weinberg

Description/Objectives: Computation and other aspects of our lives are becoming increasingly intertwined. We will study topics on the cusp between economics and computation. The focus will
be on the mathematical and computational tools involved in the interaction of economics and computation. Topics: games on networks, auctions, mechanism and market design, computational social choice. The aim of the course is: (1) to understand the game-theoretic issues behind systems involving computation such as online networks, (2) to learn how algorithms and algorithmic thinking can help with designing better decision and allocation mechanisms in an offline world.

Schedule: 1:30 pm - 2:50 pm T Th

**COS 433 Cryptography**  
**Professor:** Mark L. Zhandry

**Description/Objectives:** An introduction to the theory and practice of modern cryptography, with an emphasis on the fundamental ideas. Topics covered include private key and public key encryption schemes, digital signatures, pseudorandom generators and functions, chosen ciphertext security, and some advanced topics.

Schedule: 1:30 pm - 2:50 pm M W

**COS 448 Innovating Across Technology, Business, and Marketplaces**  
**Professors:** Robert S. Fish, Jaswinder P. Singh

**Description/Objectives:** Course teaches engineering students about issues tackled by leading Chief Technology Officers: the technical visionaries and/or managers who innovate at the boundaries of technology and business by understanding both deeply, and who are true partners to the CEO, not just implementers of business goals. Focus will be on thinking like a CTO (of a startup and a large company) from technology and business perspectives, and on software and Internet-based businesses. Industry-leading guest speakers provide perspectives too.

**Other information:**  
Past speakers have included J. Dorsey, co-founder of Twitter and CEO of Square; M. Whitman, CEO of Ebay and now HP; F. Wilson, of Union Square Ventures; P. Graham, of Y!Combinator; S. Altman, of Y!Combinator; J. Hennessy, President of Stanford University; J. Yang, co-founder of Yahoo!; D. Greene, co-founder and CEO of VMWare; J. Clark, co-founder of Netscape and Silicon Graphics; T. Siebel, founder and CEO of Siebel Systems; and C. Dickerson, CEO of Etsy.

Schedule: 11:00 am - 12:20 pm T Th

**EAST ASIAN STUDIES**

**EAS 218 The Origins of Japanese Culture and Civilization: A History of Japan until 1600**  
**Professor:** Thomas D. Conlan

**Description/Objectives:** This course is designed to introduce the culture and history of Japan, and to examine how one understands and interprets the past. In addition to considering how a culture, a society, and a state develop, we will try to reconstruct the tenor of life in "ancient" and "medieval" Japan and chart how patterns of Japanese civilization shifted through time.

Schedule: 1:30 pm - 2:50 pm M W

**EAS 223 Old Novels, New Media: The Three Kingdoms as History, Fiction, and Video Game**  
**Professors:** Pieter C. Keulemans, Yiyi Luo

**Description/Objectives:** How does a two-thousand-year-old story transform into a video game? Why do Chinese women continue to write fan-fiction about a story that is so outdated and masculine? This class investigates a tale of ancient China, The Three Kingdoms, tracing its changes through time, across nations, and different media. The story began as history in the 3rd century, but was soon adapted to a variety of media: poetry, opera, novel, film, TV-series, popular songs, and video-games. By investigating different incarnations of the Three Kingdoms legend, this class explores the ways in which the ancient story was adapted, remaining popular until today.

Schedule: 11:00 am - 12:20 pm T Th

**EAS 232 Introduction to Chinese Literature**  
**Professor:** Anna M. Shields

**Description/Objectives:** An introduction to some of the most important texts, writers, and topics of Classical Literature from antiquity through the Song dynasty. All readings are in English, and no previous background in Chinese or Asian culture is required. Topics include: nature of the Chinese language; the beginnings of poetry; development of narrative and historical writing; classical Chinese poetics; literature of protest, dissent, and political satire; love poetry; religious and philosophical ideas in Chinese literature.

Schedule: 3:00 pm - 4:20 pm T Th

**EAS 236 Chinese Cinemas**  
**Professor:** Erin Y. Huang

**Description/Objectives:** This course is an introduction to contemporary Chinese cinemas in China, Hong Kong, and Taiwan. From postwar musicals and pan-Asian blockbusters, to new wave avant-garde films and experimental documentaries, the diversity of Chinese cinemas reflects cinema's relations to global capitalism, Asia's democratization movements, financial crises, and the arrival of
(post)socialism. Creating urban nomads, songstresses, daydreamers, travelers, and terrorists, Chinese cinemas put on full display the forces of globalization in shaping the aesthetics and politics of film. Selections broadly include popular commercial films to rare art house productions.

Schedule: 3:00 pm - 4:20 pm M W

EAS 280 Nomadic Empires: From the Scythian Confederation to the Mongol Conquest
Professor: Xin Wen

Description/Objectives: In telling histories of East Asia, South Asia, the Middle East, and Europe, various groups of nomadic people often loomed large in the background and served as the foil to the travail of their sedentary neighbors. In this course we put the nomadic peoples of Inner Asia front and center, and ask how the nomadic way of life and mode of state building served as agents of change in pre-modern Eurasia.

Schedule: 11:00 am - 12:20 pm T Th

ECONOMICS

ECO 100 Introduction to Microeconomics
Professor: Kelly Noonan

Description/Objectives: Economics is the study of how people and societies deal with scarcity. This course focuses on the advantages and disadvantages of market systems for allocating scarce resources.

Schedule: 11:00 am - 11:50 am M W

ECO 101 Introduction to Macroeconomics
Professor: Alan S. Blinder

Description/Objectives: Analysis of the operation of the national economy, with emphasis on the causes and consequences of recessions and booms, inflation and unemployment -- and possible policy responses to each. Attention is also paid to the banking and financial systems, the financial crisis, and international influences on the U.S. economy.

Schedule: 10:00 am - 10:50 am T Th

ECO 202 Statistics and Data Analysis for Economics
Professor: Ulrich K. Mueller

Description/Objectives: An introduction to probability and statistical methods for empirical work in economics. Probability, random variables, sampling, descriptive statistics, probability distributions, estimation and hypotheses testing, introduction to the regression model.

Schedule: 1:30 pm - 2:50 pm M W

ECO 301 Macroeconomics
Professor: Arlene Wong

Description/Objectives: This course covers the theory of modern macroeconomics in detail. We will focus on the determination of macroeconomic variables -- such as output, employment, price, and the interest rate -- in the short, medium, and long run, and we will address a number of policy issues. We will discuss several examples of macroeconomic phenomena in the real world. A central theme will be to understand the powers and limitations of macroeconomic policy in stabilizing the business cycle and promoting growth.

Schedule: 1:30 pm - 2:50 pm T Th

ECO 312 Econometrics: A Mathematical Approach
Professor: Mikkel Plagborg-Moller

Description/Objectives: This course is an introduction to econometrics. Econometrics is a sub-discipline of statistics that provides methods for inferring economic structure from data. This course has two goals. The first goal is to give you means to evaluate an econometric analysis critically and logically. Second, you should be able to analyze a data set methodically and comprehensively using the tools of econometrics.

Schedule: 8:30 am - 9:50 am M W

ECO 315 Topics in Macroeconomics
Professor: Nobuhiro Kiyotaki

Description/Objectives: This course uses economic theory to study credit boom, financial crisis and public policy. The topics include historical overview of financial crises, credit and asset price booms, banking crisis, balance of payment crisis, sovereign debt crisis, and monetary, fiscal and macro prudential policies.

Schedule: 8:30 am - 9:50 am T Th

ECO 325 Organization and Design of Markets
Professor: Jakub Kastl

Description/Objectives: This class studies how to solve problems of economic resource allocation via markets. The first half will focus on matching markets. We will study how to assign students to schools, kidneys to patients, workers to jobs and so forth. In the second half we will study auctions. We will discuss how they can be used to discover price in various environments and their use to allocate goods such as advertising, financial assets or radio spectrum. Throughout the course we will discuss the issues underlying the design of successful
marketplaces. The course will emphasize applications and connections between the different problems.

**Schedule:** 11:00 am - 12:20 pm T Th

**ECO 344 Macroeconomic Policy**  
**Professor:** Iqbal Zaidi

**Description/Objectives:** The course focuses on fiscal and monetary policies to promote high-quality growth with price stability, but some attention will also be given to sector-specific policies and other aspects of macroeconomic adjustment and structural reform, including tax and financial sector reforms, external competitiveness, and public and external debt management. We will study various macroeconomic models, including models used by central banks for monetary policy analyses.

**Schedule:** 11:00 am - 12:20 pm M W

**ECO 351 Economics of Development**  
**Professor:** Thomas Fujiwara

**Description/Objectives:** This course is divided in two parts. The first examines why some countries are so much richer than others, and critically evaluates different explanations for this phenomenon on theoretical and empirical grounds. The second part deals with selected microeconomic issues related to life in the developing world, examining theories and data on education, health, credit and other topics.

**Other information:**  
Students should have familiarity with calculus and with multivariate statistical regressions, since this course requires solving economic models with derivatives/first order conditions and reading empirical papers.

**Schedule:** 3:00 pm - 4:20 pm M W

**ECO 370 American Economic History**  
**Professor:** Elizabeth C. Bogan

**Description/Objectives:** Modern economic theory is used to analyze growth and fluctuations in U.S. output from colonial times to the present. The course examines the role of labor markets, property rights in land and labor, financial institutions, transportation, innovation and other factors in economic growth. Before examining twentieth century fluctuations, a week is spent on business cycle theory. Then particular emphasis is placed on The Great Depression and its relationship to the recession of 2007-2009.

**Schedule:** 3:30 pm - 4:20 pm T Th

**ECO 492 Asian Capital Markets**  
**Professor:** Jean-Christophe de Swaan

**Description/Objectives:** Course explores the increasing weight of Asia in global financial markets and its implications. It frames the discussion in the context of the globalization of financial markets, with emphasis on concepts of economic development, institutional reform of markets, and public and private market investments. Discussions and investment case studies will combine analysis of historical trends and recent data with insights from practical experience in Asian markets. Course considers China's gradual shift toward a capital market-based financial system, the potential revival of Japanese capital markets, and the development of Indian capital markets.

**Schedule:** 1:30 pm - 4:20 pm Th

**ECOLOGY AND EVOLUTIONARY BIOLOGY**

**EEB 311A Animal Behavior**  
**Professor:** James L. Gould

**Description/Objectives:** One of the fascinating challenges in biology is to understand the origins and organization of animal behavior. Ethology is the branch of biology concerned with the mechanisms and evolution of behavior, especially innate predispositions and programming, and their interaction with learning. The course begins by examining the discovery of early ethologists of behavioral units or "programs", and relates these to our understanding of the nervous system. We look at how complex behaviors such as navigation, learning, and planning are organized. We study the social behavior of several species and end with an ethological analysis of our own species.

**Schedule:** 1:30 pm - 2:50 pm M W

**EEB 324 Theoretical Ecology**  
**Professor:** Simon A. Levin

**Description/Objectives:** Current and classical theoretical issues in ecology and evolutionary biology. Emphasis will be on theories and concepts and on mathematical approaches. Topics will include population and community ecology, immunology and epidemiology, population genetics and evolutionary theory. One year of calculus required.

**Schedule:** 11:00 am - 12:20 pm M W

**EEB 403 Genes and Neurons Underlying Behavioral Evolution**  
**Professor:** Lindy McBride

**Description/Objectives:** How do genes and neural circuits encode behavior? How have genes and
circuits evolved to generate the incredible diversity of behaviors we see across the animal kingdom? This course will explore these questions with emphasis on recent advances in the primary literature. Each class will focus on a specific behavior with a lecture introducing what is known about its genetic and neural basis followed by a discussion of a paper that builds on that knowledge to examine how the behavior evolves. A major goal of the class will be to learn how to critique contemporary research, generate new hypotheses, and design experiments to test those hypotheses.

**Schedule:** 3:00 pm - 4:20 pm M W

**ENGINEERING**

**EGR 395 Venture Capital and Finance of Innovation**  
**Professor:** Shahram Hejazi

**Description/Objectives:** Venture capital is a driving force behind innovation and entrepreneurship, although the unique working details of venture capital firms and their processes are well-kept secrets. Early stage investors not only fund startups but also enable innovation through mentorship and partnership with the entrepreneurs. Understanding how these investors think and operate is critical to students who are interested in entrepreneurship, as well as to those who would like to pursue venture capital.

**Registration Note:** To be considered for this class, please send an email to pucap@princeton.edu indicating why you want to be in this class by January 31, 2018.

**Schedule:** 1:30 pm - 4:20 pm F

**ELE 201 Information Signals**  
**Professor:** H. Vincent Poor

**Description/Objectives:** Signals that carry information play a central role in technology and engineering---ranging from sound and images to MRI, communication, radar, and robotic control. This course teaches mathematical tools to analyze, manipulate, dissect, and preserve information signals. For example, many continuous signals can be perfectly represented through sampling (Nyquist theorem), which leads to digital signals. A major focus of the course is the Fourier transform. We also study linear time-invariant systems, modulation, quantization, and stability (Laplace transform and z-transform).

**Schedule:** 11:00 am - 12:20 pm T Th

**ELE 203 Electronic Circuit Design, Analysis and Implementation**  
**Professor:** Naveen Verma

**Description/Objectives:** Introduction to electronic circuits and systems. Methods of circuit analysis to create functions from devices, including resistors, capacitors, inductors, diodes, and transistors, in conjunction with op-amps. Quantitative focus on DC and higher-frequency signals using linear systems theory. A major emphasis on intuition, with labs organized as mini projects (1. Touch-screen controller, 2. Radio, 3. Brain-machine interface), where students pursue design (using op-amps and micro controllers), simulations (using SPICE), and analysis (both by hand and using MATLAB).

**Schedule:** 12:30 pm - 1:20 pm M W F

**ELE 456 Quantum Optics**  
**Professor:** Hakan E. Tareci


**Schedule:** 1:30 pm - 4:20 pm M

**ELE 464 Embedded Computing**  
**Professor:** Niraj K. Jha


**Schedule:** 3:00 pm - 4:20 pm T Th

**ELE 481 Principles of Power Electronics**  
**Professor:** Minjie Chen

**Description/Objectives:** Power electronics circuits are critical building blocks in a wide range of applications, ranging from mW-scale portable devices, W-scale telecom servers, kW-scale motor drives, to MW-scale solar farms. This course is a design-oriented course and will present fundamental principles of power electronics. Topics include: 1) circuit elements; 2) circuit topology; 3) system modeling and control; 4) design methods and
practical techniques. Numerous design examples will be presented in the class, such as solar inverters, data center power supplies, radio-frequency power amplifiers, and wireless power transfer systems.

Schedule: 11:00 am - 12:20 pm M W

ELE 482 Digital Signal Processing
Professor: Bede Liu


Schedule: 3:00 pm - 4:20 pm M W

ENERGY STUDIES

ENE 202 Designing Sustainable Systems - Demonstrating the Potential of Sustainable Design Thinking
Professor: Forrest M. Meggers

Description/Objectives: Integrating the process of design and system thinking with an understanding of fundamental environmental and societal principals of sustainability is necessary to enact sustainable societal changes. This course starts with a study of the science related to sustainability and how open-ended sustainable development problems can be addressed through a process of design, and leads to a major group design project focused on devising and demonstrating an opportunity for sustainability on campus. Fabrication, simulation, sensor and graphical tools will be incorporated into the design process learning and deployed in precept.

Schedule: 10:00 am - 10:50 am T Th

ENGLISH

ENG 200 Introduction to English Literature: 14th to 18th Century
Professor: Russell J. Leo, Donald Vance Smith

Description/Objectives: An introduction to the leading figures of earlier English Literature, including Chaucer, Spenser, Shakespeare, Milton, Pope, and Swift; to literary history as a mode of inquiry; and to some of the questions that preoccupy English poetry, prose, and drama across four centuries: art, beauty, romance, desire, the will, the mind, God, sex, and death.

Schedule: 11:00 am - 11:50 am T Th

ENG 208 Reading Literature: The Essay
Professor: Jeff Nunokawa

Description/Objectives: This course will introduce students to the range of the essay form as it has developed from the early modern period to our own. The class will be organized, for the most part, chronologically, beginning with the likes of Bacon and ending with some lustrous contemporary examples of, and luminous reflections on, the form. We will consider how writers as various as Bacon, Hume, Johnson, Hazlitt, Emerson, Woolf, Baldwin, and Elizabeth Hardwick define and revise the shape and scope of those disparate aspirations in prose that have come to be called collectively The Essay.

Schedule: 2:30 pm - 3:20 pm M W

ENG 321 Shakespeare II
Professor: Bradin T. Cormack

Description/Objectives: This class covers the second half of Shakespeare's career, with a focus on the major tragedies and late comedies.

Schedule: 11:00 am - 11:50 am M W

ENG 325 Milton
Professor: Russell J. Leo

Description/Objectives: We will explore John Milton's entire career, largely as poet, but also as dramatist, prose writer and thinker: a lifelong effort to unite the aims of intellectual, political and literary experimentation. In doing so Milton made himself the most influential non-dramatic poet in the English language. We will spend much time with Paradise Lost, regarded by many as the greatest non-dramatic poem in English or any modern language, and which has extensive debt to drama. We will encounter Milton's profound, extensive learning and his startling innovations with words, songs and in ideas of personal, domestic and communal liberty.

Schedule: 1:30 pm - 2:20 pm T Th

ENG 351 American Literature: 1865-1930
Professor: Alfred Bendixen

Description/Objectives: The development of American literature from the end of the Civil War to the start of the Great Depression: the rise of realism, naturalism, and modernism. Emphasis on the artistic achievement of such writers as James, Twain, Chopin, Wharton, Cather, Eliot, Hemingway, and Fitzgerald.

Schedule: 10:00 am - 10:50 am M W

ENG 372 Contemporary Drama
Professor: Tamsen O. Wolff

Description/Objectives: This course will look at a range of British and American drama from the
second half of the twentieth century to the twenty-first, with an emphasis on the developments of the last twenty years. Questions will include the relevance of drama in a culture of mass entertainment, and drama as a response to history, place, and social trauma.

Schedule: 11:00 am - 12:20 pm M W

ENG 385 Children's Literature  
Professor: William A. Gleason

Description/Objectives: A survey of classic texts written for children from the past 200 years in (primarily) England and America. We will examine the development and range of the genre from early alphabet books to recent young adult fiction. We'll try to put ourselves in the position of young readers while also studying the works as adult interpreters, asking such questions as: How do stories written for children reflect and shape the lives of their readers? What can children's literature tell us about the history of reading, or of growing up, or of the imagination itself? In the process we will consider psychological and social questions as well as literary ones.

Schedule: 12:30 pm - 1:20 pm M W

PROGRAM IN ENVIRONMENTAL STUDIES

ENV 302 Practical Models for Environmental Systems  
Professor(s): Michael A. Celia

Description/Objectives: Humans are increasingly affecting environmental systems throughout the world. This is especially true for activities associated with energy production, water use, and food production. To understand the environmental impacts, quantitative modeling tools are needed. This course introduces quantitative modeling approaches for environmental systems, including global models for carbon cycling; local and regional models for water, soil, and vegetation interactions; and models for transport of pollutants in both water and air. Students will develop simple models for all of these systems, and apply the models to a set of practical problems.

Schedule: 1:30 pm - 2:50 pm M W

ENV 354 Climate and Weather: Order in the Chaos  
Professor: Gabriel A. Vecchi

Description/Objectives: This course focuses on the relationship between climate and weather events: each weather event is unique and not predictable more than a few days in advance, large-scale factors constrain the statistics of weather events, those statistics are climate. Various climatic aspects will be explored, such as the geographic constraints, energy and water cycling, and oceanic and atmospheric circulation, solar heating, the El Niño phenomenon, ice ages, and greenhouse gases. These climate features will be used to interpret the statistics of a number of weather events, including heat waves, tropical cyclones (hurricanes and typhoons) and floods. Although the course will focus on a conceptual understanding of weather and climate, rather than a deep derivation of the governing equations of atmospheric dynamics, a familiarity with calculus (differentiation and integration) will be helpful in this class.

Schedule: 1:30 pm - 4:20 pm T

PROGRAM IN CONTEMPORARY EUROPEAN POLITICS

EPS 300 European Politics and Society in the 20th Century  
Professor: David G. Moak, Ezra N. Suleiman

Description/Objectives: The course aims to cover the critical developments of twentieth-century and twenty-first century Europe and the consolidation of democracy in European countries. It will deal with the legacy of the two world wars, Nazism, Stalinism, the Cold War, the legacy of colonialism and decolonization, the collapse of Communism and the re-unification of Europe, the birth and development of the European Community, the development of the welfare state, the problems confronting the European Union (immigration, enlargement, political institutions, military role, and the single currency), and the varieties of democratic institutions in Europe.

Schedule: 11:00 am - 12:20 pm T Th

FRENCH

FRE 222 The Making of Modern France: French Literature, Culture, and Society from 1789 to the Present  
Professor: Christy N. Wampole

Description/Objectives: The course explores French history, politics, and culture since the Revolution. We will examine the revolutions of 1789, 1830, 1848, the Napoleonic Wars, the Franco-Prussian War, the urban transformations of Paris in the 19th century, the social changes brought about by two World Wars, the Franco-Algerian War, and the dissolution of France's colonial project, and current debates on French identity. We will discuss a variety of cultural artifacts, including texts, films,
songs, and paintings and various aesthetic movements (Rococo and Neoclassicism, Romanticism, Naturalism, Realism, Symbolism, Impressionism, the Avant-Garde, etc.).

Other: This course is taught in French

Schedule: 8:30 am - 9:50 am T

FRE 317 Visions of Paris
Professor: Andre Benhaim

Description/Objectives: A study of Paris as urban space, object of representation, and part of French cultural identity. Topics include Paris in the Ancien Regime; Revolutionary and Napoleonic Paris; the transformation of Paris in the 19th century; Paris as a site of European art and literature; modern and multicultural Paris in the 1900s; and challenges in the new millennium.

Other: This course is taught in French

Schedule: 11:00 am - 12:20 pm T

GEOSCIENCES

GEO 370 Sedimentology
Professor: Adam C. Maloof

Description/Objectives: This course presents a treatment of the physical and chemical processes that shape Earth's surface, such as solar radiation, deformation of the solid Earth, and the flow of water (vapor, liquid, and solid) under the influence of gravity. In particular, the generation, transport, and preservation of sediment in response to these processes is studied in order to better read stories of Earth history in the geologic record and to better understand processes involved in modern and ancient environmental change.

Schedule: 1:30 pm - 2:50 pm T

GEO 419 Physics and Chemistry of Earth's Interior
Professor: Thomas S. Duffy

Description/Objectives: This class will introduce students to the modern study of the structure, composition, and evolution of the Earth's interior. We will integrate findings from geophysical observations, laboratory experiments, and computational models to develop a holistic picture of the large-scale behavior of our planet. The course will be divided into four major sections: 1) origin and composition of the Earth; 2) physical and chemical properties of Earth materials; 3) global Earth structure; 4) Earth dynamics. The course will introduce current topics and the latest findings from the scientific literature.

Schedule: 3:00 pm - 4:20 pm T Th

GERMAN

GER 210 Introduction to German Philosophy
Professor: Michael W. Jennings

Description/Objectives: An introduction to the German philosophical tradition from the Enlightenment to the present through the study of its major figures (Kant, Hegel, Marx, Nietzsche, Heidegger, Adorno). This course offers a survey of German intellectual history based upon direct engagement with original texts. Domains to be explored include metaphysics, aesthetics, the theory of knowledge, political philosophy and the philosophy of language. Course taught in English based on texts in English translations. For students interested in philosophy, history, politics, psychology, aesthetics, or literature.

Schedule: 12:30 pm - 1:20 pm M W

HISTORY

HIS 208 East Asia since 1800
Professors: Janet Y. Chen, Federico Marcon

Description/Objectives: This course is an introduction to the history of modern East Asia. We will examine the inter-related histories of China, Japan, and Korea since 1800 and their relationships with the wider world. Major topics include: trade and cultural exchanges, reform and revolutions, war, colonialism, imperialism, and Cold War geopolitics.

Schedule: 1:30 pm - 2:20 pm M W

HIS 210 The World of Late Antiquity
Professor: Jack B. Tannous

Description/Objectives: This course will focus on the history of the later Roman Empire, a period which historians often refer to as "Late Antiquity." We will begin our class in pagan Rome at the start of the third century and end it in Baghdad in the ninth century: in between these two points, the Mediterranean world experienced a series of cultural and political revolutions whose reverberations can still be felt today. We will witness civil wars, barbarian invasions, the triumph of Christianity over paganism, the fall of the Western Empire, the rise of Islam, the Greco-Arabic translation movement and much more.

Schedule: 2:30 pm - 3:20 pm M W
HIS 267 The Modern Middle East
Professor: Max D. Weiss

Description/Objectives: An introduction to the history of the Middle East from the late eighteenth century through the turn of the twenty-first, with an emphasis on the Arab East, Iran, Israel, and Turkey.

Schedule: 11:00 am - 11:50 am M W

HIS 344 The Civilization of the High Middle Ages
Professor: William C. Jordan

Description/Objectives: In lectures, to provide my interpretation (and a conspectus of differing interpretations) of the civilization of Western Europe, 11th-14th century; by the readings, to introduce students to the variety of surviving sources; through the paper, to give students a taste of doing medieval history.

Schedule: 10:00 am - 10:50 am M W

HIS 361 The United States Since 1974
Professor: Julian E. Zelizer

Description/Objectives: The history of contemporary America, with particular attention to political, social and technological changes. Topics will include the rise of a new conservative movement and the reconstitution of liberalism, the end of the divisive Cold War era and the rise of an interconnected global economy, revolutionary technological innovation coupled with growing economic inequality, a massive influx of immigrants coupled with a revival of isolationism and nativism, a revolution in homosexual rights and gender equality coupled with the rise of a new ethos of "family values."

Schedule: 11:00 am - 11:50 am M W

HIS 362 The Soviet Empire
Professor: Stephen Kotkin

Description/Objectives: An examination of the transformation of the Russian Empire into the Soviet Empire. Topics include: the invention and unfolding of single-party revolutionary politics, the expansion of the machinery of state, the onset and development of Stalin's personal despotism, the violent attempt to create a noncapitalist society, the experiences and consequences of the monumental war with Nazi Germany, and the various postwar reforms. Special attention paid to the dynamics of the new socialist society, the connection between the power of the state and everyday life, global communism, and the 1991 collapse.

Schedule: 10:00 am - 10:50 am T Th

HIS 366 Germany since 1806
Professor: Harold James

Description/Objectives: This course sets German history in a comparative context of international politics, demonstrating how nationalism and national unity emerged as responses to the European state system in the first half of the 19th century, how after 1871 German problems in turn affected the world, and finally why after 1945 Germany should be so prominent in super-power politics. It examines the origin of the German Revolution of 1899, and the place of Germany in Europe and the global order.

Schedule: 11:00 am - 12:20 pm M W

HIS 368 England from the Wars of the Roses to the Glorious Revolution
Professor: Eleanor K. Hubbard

Description/Objectives: The two centuries between the Wars of the Roses and the Glorious Revolution saw the end of the feudal order, astonishing revolutions in church and state, a literary renaissance, two ruling queens and one executed king in a deeply patriarchal and hierarchical society, civil wars, the beginnings of the British empire, and the emergence of a recognizably modern society of newspapers, scientific experiments, and political parties. These extraordinary developments were, however, far from being natural or predetermined. This course will explore how such dramatic transformations took place in a society seemingly resistant to change.

Schedule: 1:30 pm - 2:20 pm M W

HIS 375 US Intellectual History: Development of American Thought
Professor: Peter Wirzbicki

Description/Objectives: This course examines the history of the United States through its intellectuals and major ideas. Starting with the Puritans and progressing through to the contemporary intellectual scene, it hopes to introduce students to major debates, themes, and intellectual movements in the history of American ideas. We will complement the thought of these great thinkers with attention to the institutions and social contexts in which those ideas developed. Students will leave this class understanding the inner logistics and social contexts of the major intellectual systems that have marked American life.

Schedule: 10:00 am - 10:50 am M W

HIS 393 Race, Drugs, and Drug Policy in America
Professor: Keith A. Wailoo
Description/Objectives: From "Chinese opium" to Oxycontin, and from cocaine and "crack" to BiDil, drug controversies reflect enduring debates about the role of medicine, the law, the policing of ethnic identity, and racial difference. This course explores the history of controversial substances (prescription medicines, over-the-counter products, black market substances, psychoactive drugs), and how, from cigarettes to alcohol and opium, they become vehicles for heated debates over immigration, identity, cultural and biological difference, criminal character, the line between legality and illegality, and the boundaries of the normal and the pathological.

Schedule: 10:00 am - 10:50 am T Th

ITALIAN

ITA 309 Topics in Contemporary Italian Civilization - Pirandello's Generic Transformation: From Short Story to Theater
Professor: Pietro Frassica

Description/Objectives: The course is intended to provide an introduction to Pirandello, concentrating on his evolution from short-story writer to dramatist. We will focus on Pirandello's relationship with the European theater (playwrights such as Ibsen and stage directors such as Piscator). We will also consider the ways in which the dramatist gives additional psychological depth to the characters that appear in his short stories. In addition, we will examine how Pirandello's plays are also miniature psychodramas that reenact the dramatist's own obsession. Reading assignments will consist, in either English or Italian.

Schedule: 12:30 pm - 1:20 pm Th

PROGRAM IN LINGUISTICS

LIN 201 Introduction to Language and Linguistics
Professor: Laura Kalin, Cory M. Nichols, Lauren J. Ross-Feldman

Description/Objectives: An introduction to the scientific analysis of the structure and uses of language. Core areas covered include phonetics and phonology, morphology, the lexicon, syntax, semantics, and pragmatics, with data from a wide range of languages. Additional topics include language acquisition, language and the brain, and language change.

Schedule: 10:00 am - 10:50 am M W

LIN 301 Phonetics and Phonology
Professor: Florian Lionnet

Description/Objectives: This course is an introduction to the science of speech sounds (phonetics) and sound systems (phonology). Students will 1) learn how sounds from a wide variety of languages are produced, and learn to produce and transcribe them; 2) understand and analyze the acoustic properties of speech sounds using (free) software; 3) understand the unconscious knowledge speakers have of the rules and constraints that govern their native language's sound system; 4) extract phonological generalizations from phonetic data from various languages; 5) learn about the similarities and differences between the sound systems of the world's languages.

Schedule: 11:00 am - 12:20 pm T Th

MECHANICAL AND AEROSPACE ENGINEERING

MAE 206 Introduction to Engineering Dynamics
Professor: N. Jeremy Kasdin

Description/Objectives: Formulation and solution of equations governing the dynamic behavior of engineering systems. Fundamental principles of Newtonian mechanics. Two and three dimensional kinematics and kinetics of particles and rigid bodies. Motion relative to moving reference frames. Impulse-momentum and work-energy relations. Free and forced vibrations of mechanical systems. Introduction to dynamic analysis of mechanical devices and systems.

Schedule: 11:00 am - 12:20 pm T Th

MAE 222 Mechanics of Fluids
Professor: Marcus N. Hultmark

Description/Objectives: Introduction to the physical and analytical description of phenomena associated with the flow of fluids. Topics include the principles of conservation of mass, momentum and energy; lift and drag; open channel flow; dynamic similitude; laminar and turbulent flow.

Schedule: 10:00 am - 10:50 am M W F

MAE 344 Biomechanics and Biomaterials: From Cells to Organisms
Professor: Daniel J. Cohen

Description/Objectives: This course introduces engineering approaches to understanding and controlling cellular systems with special focus on the interface between mechanics, materials, and biomedical technology. In the first half, we establish a biomechanics framework to understand cells and
tissues. In the second half, we learn how to apply this understanding to engineer cell and tissue behavior through biointerface design. Drawing on both historical and cutting edge findings and contemporary challenges, we will explore topics including: mechanobiology, lab-on-a-chip design, biofunctionalization, tissue engineering and biomaterials, and medical device design. The course will cover biology, engineering, and medicine, and is suitable for students with a variety of interests.

**Schedule:** 12:30 pm - 1:20 pm M W F

**MAE 424 Energy Storage Systems**  
**Professor:** Daniel A. Steingart  
**Description/Objectives:** This is a survey course on energy storage systems with a focus on electrochemical energy storage. Fundamentals of thermodynamics will be reviewed and fundamentals of electrochemistry introduced. These fundamentals will then be applied to devices such as batteries, flywheels and compressed air storage. Device optimization with respect to energy density, power density, cycle life and capital cost will be considered.

**Schedule:** 1:30 pm - 4:20 pm Th

**MAE 426 Rocket and Air-Breathing Propulsion Technology**  
**Professor:** Yiguang Ju  
**Description/Objectives:** The study of principles, flight envelopes, and engine designs of rocket and ram/scramjet propulsion systems. Topics include jet propulsion theory, space mission maneuver, combustion control, and system components of chemical and non-chemical rockets (nuclear and electrical propulsion), gas turbine, ramjet, and scramjet engines. Characteristics, optimal flight envelopes, and technical challenges of combined propulsion systems will be analyzed. Teaching notes will be distributed on blackboard at least one day before the class.

**Schedule:** 11:00 am - 12:20 pm T Th

**MAE 427 Energy Conversion and the Environment: Transportation Applications**  
**Professor:** Michael E. Mueller  
**Description/Objectives:** Overview of energy utilization in and environmental impacts of propulsion systems for ground and air transportation. Roughly half of the course will be devoted to reciprocating engines for ground transportation, and the other half of the course will be devoted to gas turbine engines for air transportation. The course will focus on device efficiency/performance and emissions with future outlooks for improvements in these areas including alternative fuels and alternative device concepts. Relevant thermodynamics, chemistry, fluid mechanics, and combustion fundamentals will be reviewed or introduced and will permeate the course material. Lecture notes (past and present) will be made available on Blackboard.

**Schedule:** 10:00 am - 10:50 am M W F

**MATHEMATICS**

**MAT 346 Algebra II**  
**Professor:** Nicholas M. Katz  
**Description/Objectives:** Local Fields and the Galois theory of Local Fields.

**Schedule:** 3:00 pm - 4:20 pm T Th

**MAT 447 Commutative Algebra**  
**Professor:** Hansheng Diao  
**Description/Objectives:** This course will cover the standard material in a first course on commutative algebra. Topics include: ideals in and modules over commutative rings, localization, primary decomposition, integral dependence, Noetherian rings and chain conditions, discrete valuation rings and Dedekind domains, completion; and dimension theory.

**Schedule:** 1:30 pm - 2:50 pm M W

**MOLECULAR BIOLOGY**

**MOL 101 From DNA to Human Complexity**  
**Professor:** Bonnie L. Bassler, Heather A. Thieringer, Eric F. Wieschaus  
**Description/Objectives:** This lecture and laboratory course will acquaint non-biology majors with the theory and practice of modern molecular biology focusing on topics of current interest to society. The course will cover basic molecular biology topics such as information storage and readout by DNA, RNA and proteins. The course will address how recent scientific advances influence issues relevant to humanity including stem cells and CRISPR; the human microbiome and bacterial pathogens; and how the human genome can be used to understand the evolution of modern humans.

**Schedule:** 11:00 am - 12:20 pm T Th

**MOL 214 Introduction to Cellular and Molecular Biology**  
**Professor:** Elizabeth R. Gavis, Daniel A. Notterman  
**Description/Objectives:** Important concepts and elements of molecular biology, biochemistry,
genetics, and cell biology, are examined in an experimental context. This course fulfills the requirement for students majoring in the biological sciences and satisfies the biology requirement for entrance into medical school.

**Schedule:** 11:00 am - 12:20 pm T Th

**MOL 340 Molecular and Cellular Immunology**
**Professor:** Alexander Ploss

**Description/Objectives:** A broad survey of the field of immunology and the mammalian immune system. The cellular and molecular basis of innate and acquired immunity will be discussed in detail. The course will provide frequent exemplars drawn from human biology in health and disease.

**Schedule:** 9:00 am - 9:50 am M W F

**MOL 342 Genetics**
**Professors:** Mohamed S. Abou Donia, Michael S. Levine, Gertrud M. Schupbach

**Description/Objectives:** Basic principles of genetics illustrated with examples from prokaryote and eukaryote organisms. Classical genetic techniques as well as molecular and genomic approaches will be discussed. The evolving concept of the gene, of genetic interactions and gene networks, as well as chromosome mechanics will be the focus of the course. Selected topics will include gene regulation, cancer genetics, the human biome, imprinting, and stem cells.

**Schedule:** 1:30 pm - 2:50 pm M W

**MOL 423 Molecular Basis of Cancer**
**Professor:** Yibin Kang

**Description/Objectives:** We will explore the molecular events leading to the onset and progression of human cancer. We will review the central genetic and biochemical elements that make up the cell cycle, followed by a survey of the signal transduction pathways and checkpoints that regulate it. We will discuss oncogenes, tumor suppressor and mutator genes that act in these pathways and review the role of viral oncogenes and their action on cells. We will investigate the role of cancer stem cells and the interaction between tumor and the host environment. We will explore specific clinical case studies in light of the molecular events underlying different cancers.

**Schedule:** 1:30 pm - 2:50 pm T F

**MOL 425 Infection: Biology, Burden, Policy**
**Professor:** Adel A. Mahmoud, Thomas E. Shenk

**Description/Objectives:** This course will examine fundamental determinants of human microbe interaction at the biological and ecological levels. The focus will be on major global infectious diseases, their burden of illness and policy challenges for adequate prevention and control. Each infectious agent will be discussed in terms of its biology, mechanisms of pathogenesis, and epidemiology, as well as strategies for its control. Specific emphasis will be placed on the public health aspects of each disease.

**Schedule:** 1:30 pm - 4:20 pm Th

**MOL 458 Psychopharmacology**
**Professor:** Jeffry B. Stock

**Description/Objectives:** The molecular biology and biochemistry of pharmaceuticals and natural products that target CNS function will be examined. Specific topics include: the blood-brain barrier, addiction and tolerance, analgesia, treatments for mood disorders, cognitive enhancement, stimulants and ADHD, treatment of dementias such as Alzheimer's and Parkinson's Disease, psychotropic drugs, antipsychotics and the treatment of schizophrenia.

**Schedule:** 7:30 pm - 10:20 pm W

**MUSIC**

**MUS 104 When Music Is Made**
**Professor:** Donnacha M. Dennehy

**Description/Objectives:** An introduction to the fundamentals of music theory through exercises in melody, harmony, composition, ear-training, transcription, instrumentation and analysis. A variety of music will be studied. The main emphasis in the course will be on the practical and creative application of these skills in small composition and songwriting assignments. Students should have rudimentary skills in reading music.

**Schedule:** 1:30 pm - 2:20 pm T Th

**MUS 206 Tonal Syntax**
**Professor:** Steven Mackey

**Description/Objectives:** An introduction to the syntactic structure of the music of the 18th and 19th centuries through exercises in analysis and composition.

**Schedule:** 12:30 pm - 1:20 pm M W

**MUS 217 Orchestral Music: Analysis and Performance**
**Professor:** Ruth A. Ochs

**Description/Objectives:** Richard Strauss and
Benjamin Britten will be the centerpiece composers for a semester-long study of orchestral and orchestral-choral repertory. Through informal, and occasionally more formal, analysis, students will discover essential aspect of each artist's style. The Princeton University Orchestra's spring repertory, Strauss's Till Eulenspiegel's Merry Pranks and Britten's War Requiem, will be examined in depth, and class meetings will address relevant biographical and historical issues. Additional works by each composer, including Strauss's other tone poems, will be assigned.

**Schedule:** 1:30 pm - 2:50 pm M W

**MUS 223 The Ballet**
**Professor:** Simon A. Morrison

**Description/Objectives:** A history of ballet from its origins in the French courts through its development into a large-scale theatrical spectacle in the 19th century and its modernist deformation. Emphasis will be placed on seminal dancers, choreographers, and composers, nationalist tradition, and socio-political context.

**Schedule:** 10:00 am - 10:50 am T Th

**MUS 250 Musical Cultures of the World**
**Professor:** Gavin Steingo

**Description/Objectives:** Course explores aesthetic principles and social context underlying traditional and popular musics of various world regions, drawing on examples from South Africa, Japan, India, and Indonesia, among other places. Issues explored include conception of melody and rhythm in culture; the impact that language, pedagogical methods, patronage systems, gender, and ethnic or class identity have had on musical composition and performance; and the role of migration, globalization, and politics in the development of musical style. Requirements include short papers, listening/viewing assignments, a midterm, and a final.

**Schedule:** 11:00 am - 12:20 pm M W

**NEAR EASTERN STUDIES**

**NES 212 The Idea of Iran: History, Memory, and the Making of a Cultural Identity**
**Professor:** Daniel J. Sheffield

**Description/Objectives:** The course will introduce students to the history of the Iranian world through the lens of memory. Organized by theme, students will be introduced to a wide variety of ancient, medieval, and modern sources as they investigate the history of the various elements that are frequently invoked as essential to Iranian identity. The course will attempt to interrogate the notion of "Iranian civilization" through an investigation of a variety of themes ranging from geography and ethnicity to art and humanism to kingship and revolution. Students will work closely with archival and visual material in collections in and around Princeton.

**Schedule:** 11:00 am - 11:50 am M W

**NEUROSCIENCE**

**NEU 200 Functional Neuroanatomy**
**Professor:** Michael S. Graziano

**Description/Objectives:** A crucial part of neuroscience is understanding how function has its foundation in anatomy. This course traces neuroanatomical pathways through the central nervous system. It emphasizes the primate brain, especially the human brain. The course covers how nuclei, ganglia, and layered structures such as cortex are arranged physically in the brain, the fiber pathways by which they connect to each other, and how this connectivity relates to their function. The material will encompass systems within the brain stem, sensory systems, motor systems, higher cognitive systems, and the interconnectivity and interaction of these systems.

**Schedule:** 11:00 am - 12:20 pm M W

**NEU 202 Introduction to Cognitive Neuroscience**
**Professor:** Yael Niv

**Description/Objectives:** This course surveys current knowledge about the neural underpinnings of cognitive functions such as attention, language, memory, learning, and decision making. Cognitive neuroscience is a young field with many questions yet unanswered. Students will extract overarching principles of cognitive function and neural organization, and address questions about the neural substrates of high-level human behaviors using current neuroscientific methods and clever experiments. Precepts will discuss primary literature pertaining to topics covered in class with an emphasis on critical reading of the literature and
self-directed group projects.

**Schedule:** 3:00 pm - 4:20 pm M W

**NEU 427 Systems Neuroscience**  
**Professor:** Michael J. Berry

**Description/Objectives:** The brain is more than a mere collection of its constituent parts. In this class we aim to understand how neurons interact together in local circuits and distributed brain dynamics to perform behaviorally relevant functions. The class will be organized into modules, which are selected to cover most of the major divisions of the brain. For most modules, we will first discuss a simpler circuit/system for which detailed mechanistic models and concrete ideas about function are known. Then, we will go on to discuss more complex systems, which are related to the simpler system.

**Schedule:** 1:30 pm - 2:50 pm M W

**OPERATIONS RESEARCH AND FINANCIAL ENGINEERING**

**ORF 307 Optimization**  
**Professor:** Robert J. Vanderbei

**Description/Objectives:** Many real-world problems involve maximizing a linear function subject to linear equality and/or inequality constraints. Such problems are called Linear Programming (LP) problems. Examples include min-cost network flows, portfolio optimization, options pricing, assignment problems and two-person zero-sum games to name but a few. The theory of linear programming will be developed with a special emphasis on duality theory. Attention will be devoted to efficient solution algorithms. These algorithms will be illustrated on real-world examples such as those mentioned.

**Schedule:** 1:30 pm - 2:50 pm T Th

**ORF 311 Stochastic Optimization and Machine Learning in Finance**  
**Professor:** John M. Mulvey

**Description/Objectives:** A survey of quantitative approaches for making optimal decisions under uncertainty, including decision trees, Monte Carlo simulation, and stochastic programs. Forecasting and planning systems are integrated in the context of financial applications. Machine learning methods are linked to the stochastic optimization models.

**Schedule:** 1:30 pm - 2:50 pm T Th

**ORF 335 Introduction to Financial Mathematics**  
**Professor:** Ronnie Sircar

**Description/Objectives:** Financial Mathematics is concerned with designing and analyzing products that improve the efficiency of markets and create mechanisms for reducing risk. This course introduces the basics of quantitative finance: the notions of arbitrage and risk-neutral probability measure are developed in the case of discrete models. Black-Scholes theory is introduced in continuous-time models, and credit derivatives and the term structure of interest rates are discussed, as well as lessons from the financial crisis.

**Schedule:** 1:30 pm - 2:50 pm M W

**PHILOSOPHY**

**PHI 201 Introductory Logic**  
**Professor:** Hans P. Halvorson

**Description/Objectives:** Logic is the study of the principles of valid reasoning. This course provides an introduction to symbolic logic, which studies the principles of valid reasoning from an abstract point of view—paying attention to the form of valid arguments rather than their subject matter. We will cover the basic concepts and principles of symbolic logic: validity, logical truth, truth-functional and quantificational inference, formal languages and formal systems, axiomatic and deductive proof procedures.

**Schedule:** 11:00 am - 11:50 am T Th

**PHI 202 Introduction to Moral Philosophy**  
**Professor:** Sarah E. McGrath

**Description/Objectives:** This course will be an examination of some central topics in moral philosophy. We will consider questions such as: Is abortion morally permissible? Is there a moral difference between killing someone and letting someone die? How is it permissible to treat animals? We will also consider more general moral questions,
such as what makes an action right or wrong & to what extent is this a matter of the action's consequences? When is an agent morally responsible for her actions? Is there a single true morality, or is moral truth relative to cultures or individuals?

Schedule: 11:00 am - 11:50 am M W

PHI 215 Introduction to Chinese Philosophy
Professor: Harvey Lederman

Description/Objectives: This course focusing primarily on the Confucian tradition. Roughly half of the course will be spent on classical Chinese Philosophy from Confucius through to Hanfeizi. The second half of the course will begin with a very brief look at Chinese Buddhism, and go on to discuss in detail the development of Song and Ming Dynasty Neo-Confucianism. Students will acquire a basic knowledge of standard philosophical tools (how to reconstruct an argument from a text, how to assess the validity and soundness of an argument). They will also gain a working knowledge of the ideas of some of China's greatest philosophical thinkers.

Schedule: 2:30 pm - 3:20 pm M W

PHI 338 Philosophical analysis from 1900 to 1950
Professor: Robert Hirsch

Description/Objectives: A study of philosophical analysis in the first half of the 20th century. Topics include the early analytic paradigms of Moore and Russell, the logical atomism of middle Russell and early Wittgenstein, the rise and fall of logical positivism, the post-positivist perspective of Quine. The course will trace changes in the nature of analysis as a philosophical method, and chart the development of major metaphysical, epistemological, and ethical views.

Schedule: 1:30 pm - 2:20 pm T TH

PHI 339 Philosophical Analysis Since 1950
Professor: Boris C. Kment

Description/Objectives: A study of analytic philosophy in the second half of the 20th century. Topics include the later Wittgenstein, the ordinary language school of philosophy, Quine's naturalism in semantics and Kripke's reconceptualization of semantic and metaphysical categories.

Schedule: 2:30 pm - 3:20 pm T TH

PHI 383 Freedom and Responsibility
Professor: Gideon A. Rosen

Description/Objectives: We take it for granted that normal adults are responsible for what they do. But what does this mean, and is it really true? The course will address central issues in ethics, moral psychology and the philosophy of law. What is free will, and do we possess it? Do our practices of censure and criminal punishment presuppose that we are free? Does reflection on human freedom motivate a revision in these practices?

Schedule: 1:30 pm - 2:20 pm T Th

PHYSICS

PHY 102 Introductory Physics II
Professor: Katerina Visnjic

Description/Objectives: This course presents an introduction to the fundamental laws of nature, especially optics, electricity/magnetism, nuclear and atomic theory. These are treated quantitatively with an emphasis on problem solving. The laboratory is intended to give students an opportunity to observe physical phenomena and to gain "hands-on" experience with apparatus and instruments.

Schedule: 12:30 pm - 1:20 pm Th

POLITICS

POL 210 Political Theory
Professor: Anna B. Stilz

Description/Objectives: This course explores ideas of individual ethics and political community, the ethics of political rule, freedom and slavery, democracy and representation, and equality and inequality in political thought. Readings will be drawn from both canonical and contemporary authors, including Sophocles, Machiavelli, Locke, Rousseau, and Toqueville. This is an introductory course, which emphasizes both thematic and historical approaches to political theory, and its role in informing contemporary civic engagement.

Auditor Precept: Community auditors enrolled in POL 210 will have the opportunity to participate in two special precept discussions led by students in the course. These will be held after class; dates to be determined.

Schedule: 10:00 am - 10:50 am T Th

POL 230 Introduction to Comparative Politics
Professor: Grigore Pop-Eleches

Description/Objectives: This course introduces students to the study of comparative politics, defined as the study of domestic politics in both developing and advanced industrial countries. Course topics include the relationship between capitalism, democracy, and economic development; the implications of political institutional choices (such as
electoral systems); the politics of ethnic diversity and conflict; and the dynamics of political mobilization (including protest). The course also provides an introduction to the comparative method, using both "classics" and recent research as examples.

**Schedule:** 9:00 am - 9:50 am T Th

**POL 240 International Relations**  
**Professor:** Andrew Moravcsik

**Description/Objectives:** This course is an introduction to the causes and nature of international conflict and cooperation. We critically examine various theories of international politics by drawing on examples drawn from international security, economic and legal affairs across different historical eras from 10,000 BC to the present. Topics include the causes of war, the pursuit of economic prosperity, the sources of international order and its breakdown, and the rise of challenges to national sovereignty, and such contemporary issues as international environmental politics, human rights promotion, global terrorism, and the future of US foreign policy.

**Schedule:** 1:30 pm - 2:20 pm M W

**POL 303 Modern Political Theory**  
**Professor:** Charles R. Beitz

**Description/Objectives:** A study and critique of the philosophical foundations of modern democratic liberalism based on a close reading and analysis of texts by theorists such as Hobbes, Locke, Hume, Rousseau, Mill, Marx and Rawls.

**Schedule:** 11:00 am - 11:50 am M W

**POL 305 Radical Political Thought**  
**Professor:** Jan-Werner Mueller

**Description/Objectives:** This course will examine traditions of political thought--mostly, but not only, on the Left--which challenge mainstream conceptions of liberal democracy and modern capitalist society. The main focus will be on Marxism, anarchism, feminism, religious radicalism, ecological thought, and critiques of alienation in everyday life. Particular attention is paid to the relationship between political and cultural criticism, and to the philosophical anthropologies underlying different theories as well as the mechanisms for social change they envisage. We also ask if liberal democratic thought can effectively respond to radical challenges.

**Schedule:** 9:00 am - 9:50 am T Th

**POL 312 The Ideal of Democracy**  
**Professor:** Alan W. Patten

**Description/Objectives:** This course in political theory will examine the ideal of democracy. Democracy is one of the most widely endorsed concepts of the modern world and a guiding principle of both domestic political discourse and foreign policy pronouncements. At the same time, there is little agreement about what democracy means, why it might be a good thing, or what causes it to succeed or fail. The course will pose three closely related questions: (1) What is democracy? (2) What is the value and justification of democracy? (3) Under what social and institutional conditions can democracy be realized?

**Schedule:** 2:30 pm - 3:20 pm T Th

**POL 316 Civil Liberties**  
**Professor:** Robert P. George

**Description/Objectives:** An inquiry into the value of liberty and of particular civil rights and liberties. The course considers competing theoretical justifications for rights and liberties generally, as well as particular problems concerning freedom of speech and the press, religion, sexuality, abortion, and discrimination. Supreme Court opinions regarding the constitutionality of legislation in each of these areas will be discussed and criticized.

**Schedule:** 11:00 am - 12:20 pm T

**POL 322 Public Opinion**  
**Professor:** Tali Mendelberg

**Description/Objectives:** This course is an introduction to the study of American public opinion. We pay particular attention to the questions of where people get their opinions, to inequalities in public opinion, and to the public's competence to govern.

**Schedule:** 1:30 pm - 2:20 pm T Th

**POL 334 Immigration Politics and Policymaking in the U.S.**  
**Professor:** Ali A. Valenzuela

**Description/Objectives:** Founded and built by immigrants, the U.S. has a complicated relationship with newcomers. How have politics shaped U.S. immigration policy and the policymaking process? How and when do changing demographics affect the public's views about immigrants? What role do cultural concerns play? Do immigrants conform to nativist fears? How do members of Congress vote on immigration policy, and do they follow their constituents' preferences? How is immigration used in elections; with what consequences? We will tackle these and other questions about immigration by examining published research and applying it to on-
going campaigns and policy debates.

**Schedule:** 2:30 pm - 3:20 pm T Th

**POL 352 Comparative Political Economy**
**Professor:** John B. Londregan

**Description/Objectives:** This course forms part of the political economy core, and it introduces political economy models in the context of comparative politics. The course will emphasize the interaction between political institutions and economic goals and it will illustrate the application of the analytical and empirical methods developed in the other core courses in political economy. The course will apply the tools of political economy to understand the reasons for the differences among countries' levels of economic and political development, and to explain the interconnectedness of political and economic outcomes.

**Schedule:** 1:30 pm - 2:20 pm M W

**POL 488 Secession, the Civil War, and the Constitution**
**Professor:** Allen C. Guelzo

**Description/Objectives:** This seminar explores constitutional and legal issues posed by the attempted secession of eleven states of the Federal Union in 1860-1865 and the civil war this attempt triggered. Issues to be examined include the nature of secession movements (both in terms of the constitutional controversy posed in 1860-1861 and modern secession movements), the development of the "war powers" doctrine of the presidency, the suspension by the writ of habeas corpus, the use of military tribunals, and abuses of civil rights on both sides of the Civil War.

**Schedule:** 1:30 pm – 4:20 pm T

**PSYCHOLOGY**

**PSY 210 History of Psychology**
**Professor:** Susan L. Sugarman

**Description/Objectives:** An exploration of original texts in the history of thought about the workings of the human mind starting in Antiquity and leading to the development of the empirical discipline of psychology in the 19th century and some of its 20th century trends. Selections from Aristotle, Stoics, Epicureans, Descartes, Hobbes, Spinoza, Hume, Kant, Rousseau, Mill, Herbart, Wundt, James, Nietzsche, Freud. 20th century: child study movement, Gestalt and comparative psychology, behaviorism, social, cognitive, humanistic psychology. For additional perspective, extracts from Eastern philosophy and Sartre's philosophical psychology.

**Schedule:** 11:00 am - 11:50 am T Th

**PSY 255 Cognitive Psychology**
**Professor:** Jordan A. Taylor

**Description/Objectives:** The course will survey discoveries and progress made over the past 50 years of research, from classic experimental findings and fundamental theoretical principles to the cutting edge of research that lies increasingly at the interface of psychology with neuroscience (neural mechanisms underlying cognitive processes), computer science (artificial intelligence and machine learning), and mathematics (formal models of complex processes). Topics will include perception, attention, memory, decision making, reasoning, problem solving, language, and cognitive control.

**Schedule:** 3:30 pm - 4:20 pm M W

**PSY 317 Health Psychology**
**Professor:** Nicole M. Avena

**Description/Objectives:** The objectives of this course are to understand the psychosocial processes that influence health and health care delivery. Topics to be examined are the psychophysiological and sociocultural bases of health and illness; pain; adaptation to chronic illness; stress; personality and illness; death, dying, and grief; substance use; health promoting behaviors; patient adherence; physician-patient communication; health care; and medical ethics and utilization.

**Schedule:** 11:00 am - 11:50 am M W

**RELIGION**

**REL 235 In the Shadow of Swords: War, Martyrdom and the Afterlife in Islam**
**Professor:** Shaun E. Marmon

**Description/Objectives:** How were just war, holy war, and martyrdom imagined and enacted over the centuries in Islamic societies? How do concepts of the afterlife inform attitudes towards war and martyrdom? We begin in the Late Antique world.
with a survey of noble death, martyrdom, holy war, and just war, in the Roman, Jewish and Christian traditions. We explore these topics in the Islamic tradition through case studies: the Arab conquests, the Crusades, Spain and the Reconquista, the Iran-Iraq war and contemporary jihadist movements. We use primary sources in translation (including fiction and poetry) and, for modern period, films and internet.

Schedule: 10:00 am - 10:50 am T Th

REL 251 Christianity in the Roman Empire: Secret Rituals, Mystery Cults, and Apocalyptic Prophets
Professor: AnneMarie Luijendijk

Description/Objectives: How did Jesus' earliest followers interpret his life and death? What were secret initiation rites and love feast gatherings about? How did women participate in leadership? How did the Roman government react to this movement and why did Jesus' followers suffer martyrdom? How did early Christians think about the end of the world, and what did they do when it did not happen? This course is an introduction to the Jesus movement in the context of the Roman Empire and early Judaism. We examine texts in the New Testament (the Christian Bible) and other relevant sources, such as lost gospels, Dead Sea scrolls, and aspects of material culture.

Schedule: 11:00 am - 11:50 am M W

SLAVIC LANGUAGES AND LITERATURES

SLA 220 The Great Russian Novel and Beyond: Dostoevsky, Tolstoy, Chekhov, and Others
Professor: Ellen B. Chances

Description/Objectives: An examination of significant trends in Russian literature from the 2nd half of the 19th century to the Russian Revolution and a bit beyond. The course focuses on many masterpieces of 19th & 20th-century Russian literature. The works (mostly novels) are considered from a stylistic point of view and in the context of Russian historical and cultural developments. The course also focuses on questions of values and on the eternal "big questions" of life that are raised in the literature. Authors read include Turgenev, Dostoevsky, Tolstoy, Chekhov, Bely, Nabokov, and Kharms.

Schedule: 1:30 pm - 2:20 pm M W

SLA 221 Soviet Culture, Above and Below Ground
Professor: Katherine M.H. Reischl

Description/Objectives: This interdisciplinary survey explores Soviet literature, art, theater, and film after the Bolshevik Revolution of 1917. We will explore the works of avant-garde authors and artists, official writers and painters, authors who wrote "for the desk drawer", and those whose creative works were circulated in the underground. In our analysis of Soviet artistic production, we will focus on major cultural topics in and around the increasing pressure of shifting political landscapes, ideology, propaganda, the publishing market, and the role of the writer in Russian society.

Schedule: 10:00 am - 10:50 am M W

SLA 368 Literature and Medicine
Professor: Elena Fratto

Description/Objectives: What does medicine have to do with literature and vice versa? What stories are told, negotiated, juxtaposed in doctor-patient interactions? Why do doctors tell and need stories? How does literature, with its imagery and its structural features, illuminate medicine as a system of representation? What rhetorical and stylistic devices are embedded in the way we commonly conceive of Illness, healing, the medical institutions and caregiving? This course will address these crucial questions and explore the overlaps between two apparently distant disciplines within literary texts from all over the world.

Schedule: 10:00 am - 10:50 am M W

SLA 415 Leo Tolstoy, War and Peace: Writing as Fighting
Professor: Ilya Vinitsky

Description/Objectives: We start with Tolstoy's artistic stimuli and narrative strategies, explore the author's provocative visions of war, gender, sex, art, social institutions, death, and religion. The emphasis is placed here on the role of a written word in Tolstoy's search for truth and power. The main part is a close reading of his masterwork The War and Peace (1863-68) - a quintessence of both his artistic method and philosophical insights. Each student will be assigned to keep a "hero's diary" and speak on behalf of one or two major heroes of the epic (including the Spirit of History). The roles will be distributed in accordance with the will of fate.

Schedule: 11:00 am - 12:20 pm M W

SLA 417 Vladimir Nabokov
Professor: Olga P. Hasty

Description/Objectives: In 1919, at the age of twenty, Vladimir Nabokov fled "the bloated octopus of state" of his native Russia and embarked on a dazzling bilingual literary career in emigration. This course focuses on Nabokov's masterly writing, which reflects a modernist preoccupation with narrative, temporality, and memory. The Russian and
American novels are at the center of our attention, but readings include also a sampling of his shorter fiction, poetry, essays on literature, and the memoir Speak, Memory.

**Schedule:** 11:00 am - 11:50 am T Th

### SOCIOPY

**SOC 207 Poverty in America**  
**Professor:** Matthew Desmond, Kathryn Edin

**Description/Objectives:** This course investigates poverty in America in historical and contemporary perspective. We will explore central aspects of poverty, including low-wage work and joblessness, housing and neighborhoods, crime and punishment, and survival and protest. Along the way, we will examine the cause and consequences of poverty; study the lived experience of severe deprivation and material hardship; evaluate large-scale anti-poverty programs with an eye toward what worked and what didn’t; and engage with normative debates about the right to housing, living wages, just punishment, and other matters pertaining to American life below the poverty line.

**Schedule:** 10:00 am - 10:50 am M W

**SOC 302 Sociological Theory**  
**Professor:** John A. Hall

**Description/Objectives:** The course covers the foundational texts dealing with power, wealth and belief—that is, the core concerns of the discipline. Major sociological traditions are seen in their historical contexts, as the background to current issues. The course is based on and requires detailed knowledge of the original texts assigned.

**Schedule:** 11:00 am - 11:50 am T Th

### SPANISH

**SPA 239 Rap, Graffiti and Urban Cultures in the Hispanic Worlds**  
**Professor:** German Labrador Mendez

**Description/Objectives:** Graffiti and rap music have become main cultural phenomena in the last decades, revealing the desires, fears and demands of city dwellers in the Luso-Hispanic worlds, where hip-hop's global spirit blends with local cultural traditions. In NYC, Madrid, D.F., Rio and Buenos Aires, urban cultures have expressed the transformations of cities in a globalized world, and struggles on the part of their populations. Taking the Iberian case as an axis, this course analyzes the Hispanic global expansion of hip-hop cultures from the artistic, historical, social and political angles.

**Schedule:** 11:00 am - 12:20 pm T

### PROGRAM IN URBAN STUDIES

**URB 201 Introduction to Urban Studies**  
**Professor:** M. Christine Boyer

**Description/Objectives:** This course will examine different crises confronting cities in the 21st century. Topics will range from informal settlements, to immigration, terrorism, shrinking population, sprawl, rising seas, affordable housing, gentrification, smart cities. The range of cities will include Los Angeles, New Orleans, Paris, Logos, Caracas, Havana, New York, Hong Kong, Dubai among others.

**Schedule:** 1:30 pm - 2:50 pm W

### WOODROW WILSON SCHOOL

**WWS 300 Microeconomics for Public Policy**  
**Professor:** Marc Fleurbaey

**Description/Objectives:** Microeconomics is the study of how the economy works as a result of myriad decisions by individual agents (households, firms), in interaction among themselves and with public authorities. This course, taught at the intermediate level, starts from public policy issues (the design of well-being indicators, tax rules, health care policy, education, competition regulation, environment protection) and introduces the concepts with which economists analyze the success and failures of the market economy, the reasons for public intervention and the effects of policy. Students must have a working knowledge of single-variable calculus.

**Schedule:** 11:00 am - 12:20 pm T Th

**WWS 301 International Trade**  
**Professor:** Gene M. Grossman

**Description/Objectives:** This course examines the causes and consequences of international trade. We investigate why nations trade, what goods they export and import, and who gains and loses from trade. We then focus on economic and political motives for countries to regulate international trade and examine the economic effects of trade policies. Topics will include the connection between globalization and wage inequality, the effects of the "China shock" on the U.S. economy and politics, the implications of multinational corporations and global value chains, the motivation for trade agreements, and the consequences of recent events such as NAFTA and BREXIT. Pre-requisite knowledge of
ECO300, ECO310 or WWS300 recommended.

**Schedule:** 10:00 am - 10:50 am T Th

**WWS 315 Grand Strategy**  
**Professor:** Aaron L. Friedberg, G. John Ikenberry

**Description/Objectives:** Grand strategy is the broad and encompassing policies and undertakings that political leaders pursue-financial, economic, military, diplomatic-to achieve their objectives in peacetime and in war. This course will examine the theory and practice of grand strategy both to illuminate how relations among city-states, empires, kingdoms and nation states have evolved over the centuries and also to identify some common challenges that have confronted all who seek to make and execute grand strategy from Pericles to Barack Obama.

**Schedule:** 10:00 am - 10:50 am M W

**WWS 317 International Relations of East Asia**  
**Professor:** Thomas J. Christensen

**Description/Objectives:** This course will concentrate on the Cold War and post Cold War international relations of East Asia. In the first two weeks we will cover general theoretical approaches to international relations and a brief historical backdrop of Western and Japanese imperialism in the region. In the following weeks, we will discuss the interaction between changes in the broader international system and changes in international relations in the East Asian region. The course will finish with discussion of implications of events and trends since the end of the Cold War.

**Schedule:** 9:00 am - 9:50 am T Th

**WWS 331 Race and Public Policy**  
**Professor:** Douglas S. Massey

**Description/Objectives:** Analyzes the historical construction of race as a concept in American society, how and why this concept was institutionalized publicly and privately in various arenas of U.S. public life at different historical junctures, and the progress that has been made in dismantling racialized institutions since the civil rights era.

**Schedule:** 10:00 am - 10:50 am M W

**WWS 350 The Environment: Science and Policy**  
**Professor:** Gregory B. Jaczko, Jin Sato

**Description/Objectives:** This course examines the ways domestic (US) and international environmental regulatory frameworks adopt, interpret and otherwise accommodate scientific information. The course focuses on several case studies from around the world that provide insights into the science-policy interactions which emerge from managing natural resources and environmental risk along with related socio-political issues. Topics include air pollution; climate change; managing fisheries, and nuclear risk. Students will explore the science underlying these issues as well as current policies and the range of future policy responses.

**Schedule:** 10:00 am - 10:50 am T Th

**WWS 351 Information Technology and Public Policy**  
**Professor:** Edward W. Felten

**Description/Objectives:** New technologies have changed the way we communicate with each other and learn about our world. They have also raised public policy dilemmas in every area they touch: communications, regulation, privacy, national security, intellectual property and many others. This course is predicated on the belief that we can only productively address the social and policy dimensions of the Internet if we understand the technology behind the Internet; the social-science concepts and research that illuminate the likely effects of policy options; and tradeoffs among fundamental values that different policy options imply.

**Schedule:** 10:00 am - 10:50 am M W