**DEPARTMENT OF AFRICAN AMERICAN STUDIES**

AAS 366 African American History to 1863  
**Professor:** Tera W. Hunter

**Description/Objectives:** This course explores African-American history from the Atlantic slave trade up to the Civil War. It is centrally concerned with the rise of and overthrow of human bondage and how they shaped the modern world. Africans were central to the largest and most profitable forced migration in world history. They shaped new identities and influenced the contours of American politics, law, economics, culture, and society. The course considers the diversity of experiences in this formative period of nation-making. Race, class, gender, region, religion, labor, and resistance animate important themes in the course.

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

**PROGRAM IN AMERICAN STUDIES**

AMS 101 America Then and Now  
**Professors:** Vera S. Candiani, Hendrik A. Hartog

**Description/Objectives:** This course introduces students to the field of American Studies. It takes "America" as a problem, rather than a given, considering what changes when we view it as a continent or as a nation: it is examined from global, national, and local standpoints, paying attention both to its material and its imaginary manifestations. The course uses primary and secondary sources in law, film, history, material culture, music, philosophy, and politics. It asks what "American" culture, history and identity mean, how that changes when America is viewed as a continent and how to understand it all in context of capitalism, genocide and other global themes.

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

AMS 399 In the Groove: Technology and Music in American History, From Edison to the iPod  
**Professor:** Emily Thompson

**Description/Objectives:** When Thomas Edison invented the phonograph in 1877, no one, including Edison, knew what to do with the device. Over the next century Americans would engage in an ongoing dialogue with this talking machine, defining and redefining its purpose. This course will track that trajectory, from business tool to scientific instrument to music recorder to musical instrument. By listening to the history of the phonograph, and by examining the desires and experiences of phonograph users, students will perceive more generally the complex relationships that exist between a technology and the people who produce, consume, and transform it.

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

**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.

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

ANT 332 Power and Politics in Southeast Asia  
**Professor:** Andrew A. Johnson

**Description/Objectives:** Southeast Asia is a region often overlooked despite being home to the world's largest Muslim country, several of the most dynamic economies, and a dizzying array of languages, histories, cultures, religions. How did "Southeast Asia" develop as an idea? Scholarly literature introduces the history/geography of the region and its relationship with its neighbors (and colonial forces). What does power mean at this place and point in time? Present-day conflicts examined: Thai military coups d'etat done "for democracy," legacies of violence in Indonesia and Cambodia, urban landscapes and control, and radically shifting ways of seeing sex and gender.

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

**PROGRAM IN APPLIED AND COMPUTATIONAL MATHEMATICS**

APC 350 Introduction to Differential Equations  
**Professor:** Fabio Giuseppe Pusateri

**Description/Objectives:** This course will introduce the basic theory, models and techniques for ordinary and partial differential equations. Emphasis will be placed on the connection with other disciplines of science and engineering. We will try to strike a balance between the theoretical (e.g. existence and uniqueness issues, qualitative properties) and the more practical issues such as analytical and numerical approximations.

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

**SCHOOL OF ARCHITECTURE**

ARC 321 Landscapes of Development  
**Professor:** Ayala Levin
Description/Objectives: This research seminar examines the relationship between architecture, resources, and territory in 20th century modernization projects in the USA, Latin America, the Middle East, South East Asia, and Africa. We will explore the conditions in which architecture has become a tool of development (a concept which we will address critically), and the functions it assumed in the ordering and managing of labor, natural resources and industry.

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

ART AND ARCHAEOLOGY

ART 103 Arts of Americas: The First 5,000 Years
Professor: 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? This course will provide both an introduction to and some study of the ancient Americas through its cultures, thoughts, and beliefs through their art. Lectures 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 T Th

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 in New York.

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

ART 214 Contemporary Art: 1950 - 2000
Professor: Irene V. Small

Description/Objectives: A critical study of the major movements, paradigms, and documents of postwar art. Abstract-expressionist, pop, minimalist, conceptual, process and performance, site-specific, etc. Special attention to crucial figures (e.g., Jackson Pollock, Andy Warhol, Robert Smithson) and problems (e.g., "the neo-avant-garde", popular culture, feminist theory, political controversies, "postmodernism").

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

ART 290 The Art and Archaeology of Ancient Egypt
Professor: Deborah A. Vischak

Description/Objectives: Behind the awe-inspiring monuments, the complex religious cults, and the intimations of wealth and a taste for the good life found in the surviving remnants of ancient Egypt lie real people concerned with spirituality, economics, politics, the arts, and the pleasures and pains of daily life. In this course, we will examine the art and architecture created in the ancient Egyptian landscape over 4 millennia, as well as the work of archaeologists in the field, including up-to-the-minute finds from ongoing excavations.

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

ART 345 Art and Knowledge in the Nineteenth Century
Professors: Bridget A. Alsdorf, Rachael Z. DeLue

Description/Objectives: The 19th century in Europe and America saw the rise and fall of empires and unprecedented innovation in industry, technology, science, and the arts. Through a series of topics, including history, science, medicine, perception, and time, this course considers how intellectual revolutions in diverse disciplines, such as biology and philosophy, and the invention of new fields of knowledge, such as ethnography and psychology, shaped art-making. The work of David, Cole, Church, Eakins, Manet, Courbet, Turner, Inness, Van Gogh, and Cezanne will offer unique perspectives onto the modes of seeing and knowing that defined 19th-century culture.

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

AST 203 The Universe
Professors: Christopher F. Chyba, David N. Spergel, Anatoly Spitkovsky

Description/Objectives: This specially designed course targets the frontier of modern astrophysics. Subjects include the planets of our solar system, the birth, life, and death of stars; the search for extrasolar planets and extraterrestrial life; the zoo of galaxies from dwarfs to giants, from starbursts to quasars; dark matter and the large-scale structure of the universe; Einstein's special and general theory of relativity, black holes, neutron stars, and big bang cosmology. 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.

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

AST 204 Topics in Modern Astronomy
Professor: Eve C. Ostriker

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 403 Stars and Star Formation
Professor: Adam S. Burrows, Bruce T. Draine

Description/Objectives: Stars form by the gravitational collapse of interstellar gas clouds, and as they evolve, return some of their gas to the interstellar medium, altering its physical state and chemical composition. This course discusses the properties and evolution of the gaseous and stellar components of a galaxy: the theory and observations of star formation; stellar structure; the production of energy by nucleosynthesis; stellar evolution; stellar end states; and the interpretation of observations of the diffuse and dense interstellar medium. We will discuss how major telescopes and space missions might tackle these problems.

Schedule: 1:30 am - 2:30 am M W

CHEMICAL AND BIOLOGICAL ENGINEERING

CBE 440 The Physical Basis of Human Disease
Professor: Celeste M. Nelson

Description/Objectives: This course covers major diseases (cancer, diabetes, heart disease, infectious diseases), the physical changes that inflict morbidity and mortality, the design constraints for treatment, and emerging technologies that take into account these physical hurdles. Taking the perspective of the design constraints on the system (that is, the mass transport and biophysical limitations of the human body), we will survey recent results from the fields of drug delivery, gene therapy, tissue engineering, and nanotechnology.

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

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 311 Global Air Pollution
Professor: Mark A. Zondlo

Description/Objectives: Students will study the chemical and physical processes involved in the sources, transformation, transport, and sinks of air pollutants on local to global scales. Societal problems such as photochemical smog, particulate matter, greenhouse gases, and stratospheric ozone depletion will be investigated using fundamental concepts in chemistry, physics, and engineering. For the class project, students will select a trace gas species or family of gases and analyze recent field and remote sensing data based upon material covered in the course. Environments to be studied include very clean, remote portions of the globe to urban air quality.

Schedule: 3:00 pm - 4:20 pm T Th
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 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 and slope stability.

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

CLASSICS

CLA 216 Archaic and Classical Greece
Professor: Marc Domingo Gygax

Description/Objectives: The social, political, and cultural history of ancient Greece from ca.750 B.C. through the time of the Peloponnesian War (404 B.C.). Special attention is paid to the emergence of the distinctively Greek form of political organization, the city state, and to democracy, imperialism, social practices, and cultural developments. Emphasis is placed on study of the ancient sources, methods of source analysis, and historical reasoning.

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

CLA 255 From Pandora to Psychopathy: Evil from Antiquity to the Present
Professor: Christian Wildberg

Description/Objectives: This lecture course examines past and present explanations of the existence of evil. The focus does not lie on natural evils (such as earthquakes or epidemics) but on the problem of moral evil. Lectures and precepts are devoted to the critical evaluation of the numerous theories that purport to explain and understand human wickedness. The course is highly interdisciplinary, drawing upon a broad tradition of reflection about evil, in philosophy, literature, the world religions, and modern psychology, and gives students the opportunity actively to engage with one of the most relevant and acute questions in the humanities.

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

CLA 310 Citizenships Ancient and Modern
Professor: Dan-El Padilla Peralta

Description/Objectives: Recent developments in the United States and throughout the world have exposed fault lines in how communities design and regulate forms of citizenship. But current debates over the assignment, withholding, or deprivation of citizen status have a long and violent history. In this course we will attempt to map a history of citizenship from the ancient Mediterranean world to the 21st century. Questions to be tackled include: who/what is a citizen? (How) are exclusion and marginalization wired into the historical legacies and present-day practices of citizenship?

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

COMPARATIVE LITERATURE

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

Description/Objectives: In this course we will examine the major forms and themes of European literature since the Renaissance, concentrating on drama, prose fiction and lyric poetry. Significant works originally written in English, French, German, Italian, Portuguese, Russian and Spanish will be read (in English) for their intrinsic interest as well as for what they tell us about what a masterwork might be, and how the concept may change over time.

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

COM 236 Traditions, Tales, and Tunes: Slavic and East European Folklore
Professor: Margaret H. Beissinger

Description/Objectives: This course explores oral traditions and oral literary genres (in English translation) of the Slavic and East European world, both past and present, including traditions that draw from the Christian, Muslim, and Jewish East European communities. Topics include traditional rituals (life-cycle and seasonal) and folklore associated with them, sung and spoken oral traditional narrative: poetry (epic and ballad) and prose (folktale and legend), and contemporary forms of traditional and popular culture. Discussion and analysis will focus on the role and meaning of Slavic and East European oral traditions as
forms of expressive culture.

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

COM 376 Crafting Freedom: Women and Liberation in the Americas (1960s to the present)
Professor: Susana Draper

Description/Objectives: This course explores the question of liberation in writings by women philosophers and poets whose work helped to create cultural and political movements in the U.S. and Latin America. Starting in the 60s, we will study a poetics and politics of liberation, paying special attention to the role played by language and imagination when ideas translate onto social movements related to abolition, education, care, and the commons. Readings include Angela Davis, Gloria Anzaldúa, Silvia Federici, Diamela Eltit, Audre Lorde, Silvia Rivera Cusicanqui, Gayatri Spivak, Zapatistas, among others.

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

COM 483 Romanticism and the Real: What is Representation?
Professor: Claudia Joan Brodsky

Description/Objectives: Historicization often proceeds by shorthand, assigning names to periods, movements, styles, even "content," and the points of view these are assumed to represent. No two such ascriptions are more frequently invoked than "romanticism" and "realism," whose conventional opposition defines to a large extent our view of "modern" literary and aesthetic history across traditions. In this seminar we take a critical look at that opposition as it influences not only our view of literary and intellectual history in general but of literary representation itself. Works by Milton, Wordsworth, Keats, Hawthorne, Balzac, Melville, Fitzgerald.

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

COMPUTER SCIENCE

COS 217 Introduction to Programming Systems
Professor: Aarti Gupta

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

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: 3:00 pm - 4:20 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: Ran Raz

Description/Objectives: An introduction to mathematical topics relevant to computer science. Combinatorics and probability will be covered in the context of computer science applications. The course will present a computer science approach to thinking and modeling through topics such as dealing with uncertainty in data and handling large data sets. Students will be introduced to fundamental concepts 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: Robert E. Tarjan

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 4333 Cryptography
Professor: Mark L. Zhandry

Description/Objectives: An introduction to modern cryptography. An emphasis will be placed on the fundamental ideas, while some
practical considerations will also be discussed. 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 435 Information Retrieval, Discovery, and Delivery
Professor: Andrea S. LaPaugh

Description/Objectives: This course examines the methods used to gather, organize and search for information in large digital collections (e.g. web search engines). We study classic techniques of indexing documents and searching text and also new algorithms that exploit properties of the Web (e.g. links) social networks and other digital collections, including multimedia collections. Techniques include those for relevance and ranking of documents, exploiting user history, and information clustering. We also examine systems aspects of search technology: how distributed computing and storage are used to make information delivery efficient.

Schedule: 1:30 pm - 2:50 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, reputation, 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 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.

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

COS 461 Computer Networks
Professor: Nick Feamster

Description/Objectives: This course studies computer networks and the applications and services that run on them. The course covers concepts in networking including: packet switching; Internet routing and business relationships; IPv4 and IPv6 addressing; the domain name system (DNS), router, switch, and middlebox design; network security; content distribution networks; wireless networks; and networked applications such as streaming video. The course will also include several programming assignments, ranging from client-server programming to network measurement, analysis, and inference

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

EAST ASIAN STUDIES

EAS 222 Modern Korean Fiction
Professor: Steven Chung

Description/Objectives: This is a survey of modern Korean fiction from the last decades of the 19th century to the present. Given the myriad transformations and conflicts of this period, the scope of readings will be wide, encompassing primary and critical texts, as well as writing from South and North Korea, Japan, and the United States. Closest attention will be paid to the literary works themselves. Thematic concerns will encompass modernity, colonialism, ideological division, democratization, gender, and diaspora. All texts in English.

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

EAS 231 Chinese Martial Arts Classics: Fiction, Film, Fact
Professor: Pieter C. Keulemans

Description/Objectives: This course provides an overview of Chinese martial arts fiction and film from earliest times to the present day. The focus will be on the close-reading of literary, art-historical, and cinematic texts, but will also include discussion of the significance of these works against their broader historical and social background. Topics to be discussed: the literary/cinematic pleasure of watching violence, the relationship between violence and the law, gender ambiguity and the woman warrior, the imperial and (trans)national order of martial arts
cinema, and the moral and physical economy of vengeance.

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

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

Description/Objectives: An introduction to some of the most important written works of Classical Chinese literature, from antiquity through the Song dynasty. All relevant Chinese and English, and no previous background in Chinese culture is required. Topics include: Chinese language; the historical 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: 2:30 pm - 3:20 pm M W

EAS 334 Modern Chinese Literature and Film
Professor: Pieter C. Keulemans

Description/Objectives: An introduction to the major literary and cinematic texts of modern China. Emphasis will be on the close reading/viewing of these works, but discussion will also include the socio-historical context in which these works were produced and consumed. Issues to be discussed include the relationship between city and countryside, issues of femininity and masculinity, revolution as political and aesthetic act, and the global circulation of Chinese literature and film.

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

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

ECO 101 Introduction to Macroeconomics
Professor: Kelly Noonan

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: 11:00 am - 11:50 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: Iqbal Zaidi

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 310 Microeconomic Theory: A Mathematical Approach
Professor: Leonardo Pejsachowicz

Description/Objectives: This course presents the economic theory of individual and firm behavior using mathematical tools including calculus. The course will emphasize applications of microeconomic theory to consumer choices, output and production of firms, market interaction and equilibrium.

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

ECO 311 Macroeconomics: A Mathematical Approach
Professor: Ezra D. Oberfield

Description/Objectives: This course examines the determinants of long-run economic growth, short-run business cycle fluctuations, and the conduct of monetary and fiscal policy. The first part of the course develops a framework for the analysis of households' consumption and savings behavior and firms' production decisions, and uses that to analyze long-run growth and financial crises. The second part of the course extends that analysis to examine business cycle fluctuations, including inflation, unemployment. Current issues in macroeconomic and financial policy are discussed throughout.
**Schedule: 1:30 pm - 2:50 pm T Th**

**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 M W**

**ECO 332 Economics of Health and Health Care**  
**Professor:** Maria Rosales-Rueda

Health economics is a growing field of applied microeconomics and is an important aspect of public policy in both developed and developing countries. This course explores the health care sector and health policy issues from an economic perspective. We will use microeconomics tools to analyze the functioning of different pieces of the health care system. Topics range from fundamental subjects, such as insurance and demand for health, to more recent developments, such as child health and health behaviors in both the US and developing countries. You should be able to think critically about health-related policy issues by the end of the class.

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

**ECO 343 Economic Inequality and the Role of Government**  
**Professor:** Ilyana Kuziemko

**Description/Objectives:** In the US and many other developed countries, economic inequality has risen to historic levels in recent decades. What are the causes of this trend -- "natural" market forces (e.g., globalization?) or changes in public policy (e.g., erosion of the minimum wage)? Are measures currently proposed to counteract inequality and poverty -- e.g., progressive taxation, transfer programs to low-income families, public insurance programs such as Medicare -- effective? An emphasis is placed on understanding what basic microeconomic theory as well as empirical evidence can (and cannot) tell us about these questions.

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

**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.

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

**ECO 363 Corporate Finance and Financial Institutions**  
**Professors:** Adrien Matray, David Schoenherr

**Description/Objectives:** This course investigates the financing decisions of companies and financial institutions in the wider context of the workings of financial markets. Topics include capital budgeting, capital structure choice, risk management, liquidity, corporate governance, and the interactions between corporate finance and the workings of financial institutions and markets.

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

**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 379 The Chinese Economy**  
**Professor:** Gregory C. Chow

**Description/Objectives:** Institutional, theoretical and quantitative study of the Chinese economy. Topics include historical background, period of planning and political movements, economic reform, economic growth and fluctuations, macro economic policy, consumption, regional disparity, population, human capital, banking and financial system, state enterprise restructuring, foreign trade and investment, the legal system, science and education, environmental problems and policy, and the functioning and characteristics of the Chinese economy in general.

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

**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

PROGRAM IN EUROPEAN CULTURAL STUDIES

ECS 376 The Body in Space: Art, Architecture, and Performance
Professor: Spyros Papapetros

Description/Objectives: An interdisciplinary investigation of the status of the human body in the modern reinvention of space within the overlapping frames of art, architecture, and the performing arts, from the fin-de-siècle to the present. Works by artists, architects, theater designers, and film makers who address the human figure in space will be supplemented by readings on architectural theory, intellectual and cultural history, psychoanalysis, anthropology, and aesthetics. Course will address issues of bodily empathy, the relation between bodily perception and space, as well as the animation and mechanization of bodies and things inside modern enclosures.

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

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

ENGINEERING

EGR 395 Venture Capital and Finance of Innovation
Professor(s): 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.

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

ELECTRICAL ENGINEERING

ELE 201 Information Signals
Professor: Paul W. Cuff

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). Lab design projects in Matlab include a "Shazam" music ID system.

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

ELE 342 Principles of Quantum Engineering
Professor: Alejandro W. Rodriguez
Description/Objectives: This course is designed to provide an understanding of the basic principles that govern the operation of modern solid state and optoelectronic devices. The emphasis is on fundamentals rather than applications. The major portion of the course will be devoted to quantum mechanics and statistical physics with examples from solid state and materials physics and quantum electronics. Background in differential equations very useful.

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

ELE 456 Quantum Optics
Professor: Hakan Engin Tureci


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

ELE 464 Embedded Computing
Professor: Niraj K. Jha


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

ELE 488 Image Processing
Professor: Peter J. Ramadge

Description/Objectives: Introduction to the basic theory and techniques of image processing. Topics include: Analog and digital images, image formation, coordinates, image interpolation, Fourier transforms, sampling, spatial filters, edge detection, maximum likelihood estimation, probability models, Weiner filter, image classification and machine learning approaches to image processing and computer vision.

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
Professors: Sophie G. Gee, 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 207 Reading Literature: Drama
Professor: Robert N. Sandberg

Description/Objectives: This course is designed to teach students how to read plays as literature written for performance. Key assumptions are that every act of reading is an act of interpretation, that a good reader of dramatic literature engages in an activity nearly identical to that of a good director or actor or designer, and that a reader might learn from theater practitioners how to make critical choices based on close reading and a knowledge of theatre history.

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

ENG 221 Words vs. Music: The Song in Modern Times
Professor: Nigel Smith

Description/Objectives: Bob Dylan has been awarded
the 2016 Nobel Literature Prize, finally affirming that song lyrics matter. This course interrogates the collaboration between words and music, but entertains the notion that each is potentially a threat to the other. We will consider popular song in many modes and some art song since 1945, as well as the broader relationship between literature and music in these years, and the role of song in historic events. We will investigate recording technology and will be visited by songwriters, recording engineers, electronic musicians, and the odd rock star.

Schedule: 10:00 – 10:50 am T Th

ENG 228 Introduction to Irish Studies
Professor: Fintan O'Toole, Clair E. Wills

Description/Objectives: This new interdisciplinary 200 level course offers a broad introduction to the study of Irish literature, history and culture. Students will gain a grounding in: Irish storytelling since the early Christian period, including through music and song; the history of the conquest of Ireland and Irish independence movements; the role of the Irish language in culture; the famine and its social and political aftermath; the history of religious difference; the relationship between Britain and Ireland; the work of major literary figures such as Swift, Joyce, Yeats, Beckett and Heaney; contemporary Ireland and the Irish economy.

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

ENG 311 The Medieval Period
Professor: Donald Vance Smith

Description/Objectives: If Game of Thrones has taught us anything, it's that fantasy is not escapist. It gives us a way to examine--and experience--what's already there, but not always as visibly or easily acknowledged. We'll read a wide range of medieval romances that use the genre to work out, and to stage, real-life political conflicts.

Other information: The romance's fascination with spectacle, luxury, love, myth, death, and rule, and consider the ways in which the recurrent subjects of identity, mourning, economics, and religious devotion subvert or reinforce structures of authority and belief. Distribution Requirement: British Foundation

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

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 tragicomedies/romances. Hamlet, Othello, King Lear, Antony and Cleopatra, The Winter's Tale, The Tempest

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

ENG 345 19th-Century Fiction
Professor: Jeff Nunokawa

Description/Objectives: This course will acquaint students with the distinctive features of the nineteenth century novel, from Austen to Hardy. Lectures will seek to illuminate relations between social and aesthetic dimensions of the texts we read. We will consider how these fictional imaginings of things like love, sex, money, class, and race help shape the ways we live now.

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

ENG 360 Modern Fiction
Professor: Maria A. DiBattista

Description/Objectives: The modern movement in English fiction from Conrad, Joyce and Woolf to Nabokov and Rushdie, writers who changed our sense of what a novel is, what it can say and how it can say it.

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

ENG 416 Topics in Literature and Ethics - Modern Evil
Professor: Simon E. Gikandi

Description/Objectives: This is a course on the problem of evil in the modern world as it is represented in works of literature and film. What is the nature of evil and how is it imagined? How can the noble ideas that define the modern world--justice and human rights, for example--be reconciled with the terrible events of the twentieth century: genocide, racial violence, and war? Why do good people do terrible things to others? What can reading books on evil in distant places teach us about ourselves? The course will explore how evil functions as a form of deep ethical violation and challenges how we understand the world and our relationship to others.

Other information: Distribution Requirement: Theory/Criticism and Diaspora

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

PROGRAM IN CONTEMPORARY EUROPEAN POLITICS

EPS 300 European Politics and Society in the 20th Century
Professors: Ezra N. Suleiman, Juliane Tomann
Description/Objectives: The course aims to cover the critical developments of twentieth-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 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

GEOSCIENCES

GEO 362 Earth's Climate History
Professor: Michael L. Bender

Description/Objectives: This course examines the nature and causes of major events in Earth's 4-billion year climate history, ranging from Snowball Earth to the "equable" climates, lasting hundreds of millions of years, when Earth was far warmer than today. We discuss the evidence for each event, and examine its cause by analyzing interactions between the ocean, atmosphere, and biosphere. The course integrates fundamental topics in paleoclimate, including biogeochemistry and stable isotope geochemistry. Three lectures.

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

GEO 372 Rocks
Professor: Blair Schoene

Description/Objectives: This course serves as an introduction to the processes that govern the distribution of different rocks in the Earth. We learn to make observations from the microscopic to continental scale and relate these to theoretical and empirical thermodynamics. The goal is to understand the chemical, structural, and thermal influences on rock formation and how this in turn influences the plate tectonic evolution of our plant.

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

HISTORY

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 212 Europe in the World: Monarchies, Nations, and Empires from 1776 to the Present Day
Professor: David N. Cannadine

Description/Objectives: This course offers a global history from an unusual perspective: that of the nations and empires ruled by monarchs and emperors (and sometimes empresses) across the years since the American and French revolutions, which are often seen as the events which ushered in the modern world of republicanism and democracy. To be sure, many thrones have crashed and crowns have passed away since then; but monarchies are still with us today, from Japan to Britain, Swaziland to Sweden. This course will explore both the anti-monarchical trends that have thrived since 1776 and 1789, but also the surprising extent of royal resilience.

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

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 315 Colonial and Postcolonial Africa
Professor: Jacob S. Dlamini

Description/Objectives: This course is an examination of the major political and economic trends in twentieth-century African history. It offers an interpretation of modern African history and the sources of its present predicament. In particular, we study the foundations of the colonial state, the legacy of the late colonial state (the period before independence), the rise and problems of resistance and nationalism, the immediate challenges of the independent states (such as bureaucracy and democracy), the more recent crises (such as debt and civil wars) on the continent, and the latest attempts to address these challenges from within the continent.

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

HIS 325 China, 1850 to the Present
Professor: Janet Y. Chen
Description/Objectives: This course is an introduction to the history of modern China, from imperial dynasty to Republic, from the Red Guards to red capitalists. Through primary sources in translation, we will explore political and social revolutions, transformations in intellectual life and culture, as well as competing explanations for events such as the rise of the Communist Party and the Cultural Revolution. Major themes include: the impact of imperialism and war, tensions between governance and dissent, the emergence of nationalism, and the significance of China's history for its present and future.

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

HIS 351 France, 1815 to the Present
Professor: Philip G. Nord

Description/Objectives: The history of France in the 19th and 20th centuries appears a rapid and perplexing turnover of regimes and administrations. This course has two interrelated aims: (1) to account for France's peculiar political instability in terms of social struggles which were played out in one form or another in all European states, and thereby, (2) to set France's unique pattern of development in its European context. Topics will include: the Restoration and the legacy of the French Revolution; 1848 and Bonapartism; popular revolt in the fin de siecle and the triumph of the Third Republic, etc.

Schedule: 11:00 am - 11:50 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 363 The Napoleonic Wars
Professor: Yair Mintzker

Description/Objectives: Napoleon's contemporaries uttered his name with a mixture of admiration, awe, and horror. What were the reasons for these extreme reactions? In this course of lectures we will follow Napoleon and his armies step by step as they intrude and change the world around them during the tumultuous years of the Napoleonic wars (1798-1815): From the Battle of the Pyramids in Egypt, through the battle of Trafalgar and the campaigns in Germany, Spain, and Russia, and all the way to Napoleon's unexpected return from exile and the battle of Waterloo.

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

HIS 367 English Constitutional History
Professor: William C. Jordan

Description/Objectives: To explore the development of institutions and theories of government in England from the Norman Conquest to about 1700.

Schedule: 9:00 am - 9:50 am 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 370 Britain from the American Revolution to World War II
Professor: Linda J. Colley

Description/Objectives: Despite defeat in America, by 1820 Britain's empire contained a fifth of the world's population, and--on paper--reached its widest extent in 1945. This course explores how the UK became a prime global power, and looks too at its competitors and at those resisting it. It traces Britain's social, cultural and political workings, its relations with Ireland, and the impact of two world wars. We will consider too both the meanings of world power status and the meanings of decline.

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

HIS 376 The American Civil War and Reconstruction
Professors: Matthew J. Karp

Description/Objectives: Why did the flourishing United States, by some measures the richest and most
democratic nation of its era, fight the bloodiest civil war in the 19th century Western world? How did that war escalate into a revolutionary political struggle that transformed the nation—and then, almost as rapidly, give way to a reactionary backlash? This course will explore the causes, course, and consequences of the U.S. Civil War and Reconstruction, keeping in mind the ways that America's greatest conflict also represented a major event in the history of the global 19th century, and a landmark moment in the making of the modern world.

Schedule: 2:30 pm - 3:20 pm 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 BiDu, 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 225 Music and Lyrics: Italy in the Eyes of its Pop Singers
Professor: Simone Marchesi

Description/Objectives: Working at the crossroads of American influences and the tradition of political songs, Italian cantautori merge popular appeal and literary sophistication. For at least three generations, their songs have provided an engaged soundtrack to Italy's turbulent social, political and cultural transformations in the post-WWII years. As lyrics on the page, as music to be listened to, and as performances recorded in video, Italian canzoni d'autore are part of the Italian history and identity today. You must speak Italian and have an informal interview to take this class.

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

ITA 312 Fascism in Italian Cinema
Professor: Gaetana Marrone-Puglia

Description/Objectives: This course, conducted in English, is a study of Fascism through selected films from World War II to the present. Topics include: the concept of Fascist normality; Racial Laws; the role of women and homosexuals; and the opposition of the intellectual left. Films include: Bertolucci's "The Conformist", Fellini's "Amarcord", Rossellini's "Rome Open City", Rosi's "The Truce", and Wertmuller's "Seven Beauties". The approach is interdisciplinary and combines the analysis of historical themes with an in-depth cinematic reading of the films.

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

ITA 319 The Literature of Gastronomy
Professor: Pietro Frassica

Description/Objectives: This course studies Italian novels and short stories in English translation, works of visual art, and films which thematize food as reality and metaphor, examining how eating functions within ideological and mythological structures of modern society. Topics will include 'Futurist' cuisine as an aesthetic experience and a prophetic vision, writing during the war, and sublime and erotic cuisine.

Schedule: 7:30 pm - 8:50 pm W

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 220 Language at Princeton
Professor: Joshua T. Katz

Description/Objectives: An introduction to linguistic analysis, with an emphasis on hands-on work. Making use of as many different sorts of resources as possible - animate, inanimate; written, spoken; town, gown -- we will try as a group to understand the history and current state of language at Princeton University and in Princeton, NJ just outside the "Orange Bubble." What languages and what modes of communication have and have not been used here? When? Why? How? By whom? We will discover the answers by exploring archives, conducting interviews, and generally engaging in original and creative research.

Schedule: 12:30 pm - 1:20 pm M W
LIN 350 Deciphering Ancient Languages  
Professor: Timothy Barnes

**Description/Objectives:** This course is an introduction to linguistics decipherment. We will survey cases of successful - and unsuccessful - decipherment, beginning with Ancient Egyptian and covering such languages as Old Persian, Akkadian, Ugaritic, Mycenean Greek and Mayan. Throughout the focus will be on the methodologies employed, and on the conditions that need to be present for decipherment to be possible.

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

MECHANICAL AND AEROSPACE ENGINEERING

MAE 222 Mechanics of Fluids  
Professor: Alexander J. Smits

**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 306 Mathematics in Engineering II  
Professor: Mikko P. Haataja

**Description/Objectives:** This course covers a range of fundamental mathematical techniques and methods that can be employed to solve problems in contemporary engineering and the applied sciences. Topics include algebraic equations, vectors and tensors, numerical integration, analytical and numerical solution of ordinary and partial differential equations, perturbation methods, time-series data and the Fourier transform, calculus of variations, and the finite-element method. The course synthesizes descriptive observations, mathematical theories, numerical methods, and engineering consequences.

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

**Other information:** Teaching notes will be distributed on blackboard at least one day before the class.

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

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.

**Other information:** Lecture notes (past and present) will be made available on Blackboard.

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

MATHEMATICS

MAT 204 Advanced Linear Algebra with Applications  
Professor: Hansheng Diao, Christine J. Taylor

**Description/Objectives:** Companion course to MAT203. Linear systems of equations, linear independence and dimension, linear transforms, determinants, (real and complex) eigenvectors and eigenvalues, orthogonality, spectral theorem, singular value decomposition, Jordan forms, other topics as time permits. More abstract than MAT202 but more concrete than MAT217. Recommended for prospective physics majors and others with a strong interest in applied mathematics. Prerequisite: MAT104 or MAT215 or equivalent.

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

MOLECULAR BIOLOGY

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 458 Psychopharmacology
Professors: 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 106 Music Theory through Performance and Composition
Professor: Barbara A. White

Description/Objectives: A continuation of Music 105, with an emphasis on the harmonic and formal principles of Western classical music.

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

MUS 206 Tonal Syntax
Professor: Andrew C. Lovett

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 220 The Opera
Professor: Wendy Heller

Description/Objectives: The course provides a survey of opera from its inception in the 17th-century to the present, considering such issues as opera's relationship to its cultural context, contemporary stagings, opera conventions and singers (including the castrato), opera and literature, exoticism, and opera's representation of gender and sexuality. Classes will allow students to focus on close readings/viewings of specific scenes. Students enrolled in the course will have the opportunity to attend at least one performance at the Metropolitan Opera.

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

MUS 238 Music of the Romantic Era
Professor: Simon A. Morrison

Description/Objectives: A survey of major styles, genres, and modes of performance in European art music from about 1814 to the 1890's.

Schedule: 7:30 pm - 1:20 pm T Th

NEUROSCIENCE

NEU 175 Introduction to Neuroscience
Professor: Michael S. Graziano

Description/Objectives: This course provides a broad introduction to neuroscience that is accessible to students with any background. NEU 175 focuses mainly on functional neuroanatomy -- on the pathways and larger architecture of the brain. How does information from the outside world get into the brain, what neuronal pathways does it follow through sensory systems into higher-order networks, how is it used to construct a model of three-dimensional reality, and how does the brain choose and coordinate behavior?

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

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 where many questions are yet unanswered. Students will learn to extract overarching principles of cognitive function and neural organization, and to effectively address questions about the neural substrates of high-level human behaviors using current neuroscientific methods and clever experimental design. Precepts will discuss primary
literature pertaining to topics covered in class with an emphasis on critical reading of the literature.

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 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 309 Probability and Stochastic Systems
Professor: Ramon van Handel

Description/Objectives: An introduction to probability and its applications. Topics include: basic principles of probability; Lifetimes and reliability; Poisson processes; random walks; Brownian motion; branching processes; Markov chains

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

ORF 311 Optimization Under Uncertainty
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 with a focus on financial applications. Machine learning methods are linked to the stochastic optimization models.

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

ORF 418 Optimal Learning
Professor: Warren B. Powell

Description/Objectives: Optimal learning addresses the challenge of collecting information efficiently when information is expensive. Applications include topics such as finding the best price for a product, identifying the best treatment for a disease, tuning the parameters in a bidding policy, or choosing the best player for a sports team. Students learn how to formulate a learning problem, identify a belief model, and quantify the value of information. The course covers online and offline learning problems, and introduces students to a range of policies for collecting information.

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

ORF 474 Special Topics in Operations Research and Financial Engineering - High Frequency Markets: Models and Data Analysis
Professor: Frederick J. Almgren

Description/Objectives: The goal is to discuss mathematical models surrounding electronic trading. It enables students to converse with the practitioners involved in high frequency markets, whether it be for trading, regulatory or other purposes. At the end of the course, students are expected to understand actual problems agents face on electronic exchanges and the mathematical tools used to deal with them. Emphasis is put on making the students comfortable with real high frequency data and surrounding models. The coding skills required are mild. We will code in R to be able to prototype ideas quickly and to leverage pre-existing statistical packages.

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

PHILOSOPHY

PHI 202 Introduction to Moral Philosophy
Professor: Elizabeth Harman, 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 277 Biomedical Ethics
Professor: Hrishikesh S. Joshi

Description/Objectives: Introduction to clinical and public health ethics. Topics within clinical ethics include: abortion, physician-assisted suicide, and hospital triage. We then explore the ethics of public health, tying the discussion to current political debates. For example, we will ask whether there is a universal right to healthcare. The course ends by examining issues that could potentially arise out of future biomedical and artificial intelligence technologies. During the semester, students can also expect to gain a background in the fundamentals of ethical theory.

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

PHI 301 Aristotle and His Successors
Professor: Benjamin C. Morison

Description/Objectives: We shall study Aristotle's contributions in logic, natural philosophy, metaphysics, and ethics, with emphasis on the ongoing philosophical interest of some of his central insights. We shall compare some of Aristotle's views with those of some of his successors, Hellenistic and beyond.

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

PHI 307 Systematic Ethics
Professor: Gilbert H. Harman

Description/Objectives: A survey of major issues about the nature of morality.

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

PHI 313 Theory of Knowledge
Professor: Thomas P. Kelly

Description/Objectives: This course will examine central issues in contemporary epistemology. Topics covered will include the following: the relationship between knowledge and concepts such as belief, truth, evidence, probability, and rationality; skeptical challenges to our ability to know what the future will be like on the basis of our knowledge of the past; the nature of testimony and our pervasive dependence upon others (including others far removed from us in space and time) for much of what we ordinarily take ourselves to know. Why (if at all) should we value knowing the truth?

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

PHI 323 Advanced Logic
Professor: John P. Burgess

Description/Objectives: An introduction to axiomatic set theory, up to the proof of the consistency of the axiom of choice.

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

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

Description/Objectives: A study of philosophical analysis in the 2nd half of the 20th century. Topics include the later Wittgenstein, the ordinary language school of philosophy, Quine's naturalism in Semantics, Davidson's views on truth, and Kripke's reconceptualization of semantic and metaphysical categories.

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

POLITICS

POL 230 Introduction to Comparative Politics
Professor: Alisha C. Holland

Description/Objectives: Why are some countries rich and others poor? Why do some countries have revolutions, while others never do? This course explores such questions about the domestic politics of other countries, or comparative politics, focusing on five major themes: 1) economic development 2) democratization 3) revolution 4) ethnic conflict and 5) income redistribution. Readings on Africa, Asia, Europe, the Middle East, and Latin America are used to provide an introduction to politics in different regions of the world and to show how cross-national comparisons provide insight into contemporary political outcomes.

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

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:** Stefan Eich

**Description/Objectives:** This course offers an overview of classic texts in modern political theory, focusing on the social contract tradition. Readings include selections from Hobbes, Locke, Rousseau, Mill, and Marx.

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

**POL 307 The Just Society**  
**Professor:** Alan W. Patten

**Description/Objectives:** An introduction to theories of social justice and examination of their implications in areas of contemporary social and political controversy. The first half of the course introduces the problem of social justice and examines two classic positions, as articulated by John Locke (whose name is associated with liberalism, property, and capitalism) and Karl Marx (whose name is associated with the critique of capitalism). The second half of the course focuses on contemporary theories of justice. We will read authors such as John Rawls and Robert Nozick, and examine controversies over poverty, taxation, equal opportunity, and environmental justice.

**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 M W

**POL 318 Law and Society**  
**Professor:** Sarah L. Staszak

**Description/Objectives:** An examination of courts as unique legal and political institutions with distinctive approaches to resolving disputes and formulating law and public policy. Emphasis is on the American legal system.

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

**POL 320 Judicial Politics**  
**Professor:** John Kastellec

**Description/Objectives:** This course provides an introduction to the political science of law and courts. Topics typically include: bargaining and decision making on the U.S. Supreme Court; political struggles over doctrine within the judicial hierarchy; the politics of Supreme Court nominations; juries as political institutions; court packing, jurisdiction stripping and judicial intimidation.

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

**PSYCHOLOGY**

**PSY 306 Memory and Cognition**  
**Professor:** Kenneth A. Norman

**Description/Objectives:** This course is an integrative treatment of memory in humans and animals. We explore working memory (our ability to actively maintain thoughts in the face of distraction), episodic memory (our ability to remember previously experienced events), and semantic memory (our ability to learn and remember the meanings of stimuli). In studying how the brain gives rise to different kinds of memory, we consider evidence from behavioral experiments, neuroscientific experiments (neuroimaging, electrophysiology, and lesion studies), and computational models.

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

**PSY 309 Psychology of Language**  
**Professor:** Adele E. Goldberg

**Description/Objectives:** The cognitive processes underlying the use and understanding of language, and in learning to speak. Topics include speech production and perception, grammar and meaning, knowledge and words, and pragmatic aspects of language.

**Schedule:** 11:00 am - 11:50 am 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.
**PROGRAM IN QUANTITATIVE AND COMPUTATIONAL BIOLOGY**

QCB 408 Foundations of Applied Statistics and Data Science (with Applications in Biology)  
**Professor:** John D. Storey

**Description/Objectives:** This course establishes a foundation in applied statistics and data science for those interested in pursuing data-driven research. The course may involve examples from any area of science, but it places a special emphasis on modern biological problems and data sets. Topics may include data wrangling, exploration and visualization, statistical programming, likelihood based inference, Bayesian inference, bootstrap, EM algorithm, regularization, statistical modeling, principal components analysis, multiple hypothesis testing, and causality. The statistical programming language R will be extensively used to explore methods and analyze data.

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

**RELIGION**

REL 226 The Religions of China  
**Professor:** Stephen F. Teiser

**Description/Objectives:** A thematic introduction to Chinese religion, ranging from ancient to contemporary. The first half focuses on classics of Chinese thought (Book of Changes, Analects of Confucius, Laozi's Dao de jing, etc.); the second half utilizes ethnography and history to consider topics such as cosmology, ancestors, gods and saints, mythology, ethics, divination, gender, and ritual.

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

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

**Description/Objectives:** How were 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:** 11:00 am - 11:50 am M W

REL 251 The New Testament and Christian Origins  
**Professor:** John G. Gager

**Description/Objectives:** To trace the origins of Christianity from its beginnings as a movement within ancient Judaism to its gradual transformation and emergence as an independent religious movement in the Roman Empire and beyond. To read the New Testament with a critical eye, i.e., as a collection of documents illustrating differing emphases and stages in the growth of early Christianity.

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

REL 276 Saints and Sinners: Women and the Church in Colonial Spanish America  
**Professor:** Jessica Delgado

**Description/Objectives:** An introductory exploration of women's experience of and participation in the Catholic Church and colonial Christianity in Spanish America. The primary sources, secondary readings, lectures, and seminars will look at women's roles in the indigenous conquest and colonization; how religious change affected gender roles and power relations within indigenous communities and encounters with the church; the participation of devotional culture; and the ways in which a woman's complex relationship with the colonial church was shaped by race and social status.

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

REL 281 Buddhist Philosophy  
**Professor:** Jonathan C. Gold

**Description/Objectives:** An introduction to the Indian Buddhist philosophical tradition from the time of the Buddha until its decline (c. 400 B.C.E - 1200 C.E.). Topics include Buddhism's view of the world, the person, and the path to nirvana; equanimity, compassion and meditation as core elements in Buddhist ethics; early Buddhist metaphysics; the doctrine of "emptiness" and its various interpretations in the Great Vehicle schools; Buddhist epistemology and philosophy of language; and modern attempts to apply Buddhist philosophy to contemporary philosophical issues.

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

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

SOCIOMETRY

SOC 223 Hustles and Hustlers
Professor: Rachael H. Ferguson

Description/Objectives: This course examines exchange relations in a variety of high-risk and criminal fields, to develop an understanding of how participants navigate their worlds. The weekly readings and lectures will focus on the various ways in which relationships, identities, reputation, and trust, are defined, established, and negotiated, and how this establishes order in the professional and social lives of those involved in high-risk transactions. Readings will be from ethnographic and biographical works on street gangs, drug dealers and traffickers, sex workers, organized crime operations, sports bookies, organ and human traffickers, and others.

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

SOC 302 Sociological Theory
Professor: Patricia Fernandez-Kelly

Description/Objectives: This course invites you to systematically review foundational texts in sociology. Attention is given to the formulation of concepts, hypotheses, and research methods. We explore social structure and action; change and conflict; norms and roles; social class and stratification; deviance; and the link between micro- and macro-sociology. We also consider phenomena such as modernization, urbanization, migration, industrialization, and global capitalism. Why does theory matter to contemporary politics and policy? These are among the questions we ask.

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

SOC 307 Contemporary China
Professor: Yu Xie

Description/Objectives: This course provides an overview of contemporary Chinese society. Chinese society is best understood through a number of different intrinsically-linked and mutually-interdependent aspects. For this reason, we will explore its history, cultural practices, government, economy, and family structure.

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

SOC 355 Government, Poverty, and Inequality in Modern America
Professor: Patricia Fernandez-Kelly

Description/Objectives: The course examines poverty and inequality in relation to processes of globalization that have transformed the means of economic mobility for working people in the U.S. We raise questions about government institutions acting on behalf of different constituencies and according to varying criteria of economic "deservedness;" and evaluate vibrant debates about the role of democratic government in promoting social justice. Among the subjects covered are poverty and religion, social and cultural capital among the poor, and poverty, crime, incarceration, and entrepreneurship.

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

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 200 Statistics for Social Science**  
*Professor:* Adam Shrager

**Description/Objectives:** The course is designed to teach students how to address issues relevant to the study of public policy by analyzing quantitative data. It provides an introduction to inferential statistical methods, regression analysis, and probability. The goal is to provide students with the basic statistical tools they will need to do their own data analysis and to help them to evaluate claims made by others based on statistical evidence.

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

**WWS 301 International Trade**  
*Professor:* Silvia Weyerbrock

**Description/Objectives:** This course analyzes the causes and consequences of international trade and foreign direct investment. We investigate why nations trade, what they trade, and who gains and who loses from trade. We then focus on economic and political motives for countries to restrict or regulate international trade and study the economic effects of such policies. Topics include trade and wage inequality, labor migration, multinationals and outsourcing, multilateral trade negotiations, regional economic integration (and Brexit), trade policy in developing countries, and current trade and trade policy disputes.

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

**WWS 315 Grand Strategy**  
*Professor:* 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 316 China's Foreign Relations**  
*Professor:* Thomas J. Christensen

**Description/Objectives:** This course will review and analyze the foreign policy of the People's Republic of China from 1949 to the present. It will examine Beijing's relations with the Soviet Union, the United States, Northeast Asia, Southeast Asia, and the developing world during the Cold War. It will explore the impact on China's foreign relations of changes in the Chinese economy since the reform era began in 1978, the domestic legitimacy challenges in Beijing since the Tiananmen protests of 1989, and the continuing rise of Chinese power and influence in Asia and beyond 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**  
*Professors:* Michael Oppenheimer, David S. Wilcove

**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, that provide insights into the science-policy interactions which emerge from managing natural resources and environmental risk. Topics include air pollution; climate change; ozone depletion; managing the world's forests, fisheries, and ecosystem services, and global trade in wildlife. Students will explore the science underlying these issues as well as current policies and the range of future policy responses.

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