THE JOHNS HOPKINS UNIVERSITY

2014-2015

SPRING TERM
UNDERGRADUATE

SCHEDULE OF COURSES

as of October 27, 2014

ARTS AND SCIENCES

AND

ENGINEERING

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to view by department.

Anthropology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.070.113	01	HS		**Freshman Seminar: Water and Collective Life** *Pandian, Anand* This course explores the place of water in human collective life, religious practice, cultural identity, and political aspiration. Students will learn basic ethnographic methodologies and writing strategies through both seminar discussions and class fieldtrips to water sources and sites in and around Baltimore. Some seminar discussions and fieldtrips will be carried out jointly with the freshman seminar in Political Science 090.199 ("Politics of Water")	3.00	18	M 1:30-3:50PM
AS.070.154	01	HS		**Maps and Mapping** *Poole, Deborah* This course explores maps as cultural documents and ethnographic sites. Students will learn how cultural understandings of space, time, and the visible world shape cartographic conventions. Through mapping exercises we will explore how ethnographer can use maps to theorize the nature of political, cultural, and economic life.	3.00	25	W 1:30-3:50PM
AS.070.273	01	HS	W	**Ethnographies: Our Animals Ourselves** *Khan, Naveeda* In this course we will read classic and contemporary ethnographies on everyday religious life and experience in various contexts. We will also explore the tensions between the political and the theological, and the emergence of ethical claims and demands of us from within everday life. We will carry out short research exercises on these topics. Course is a requirement for anthropology majors.	3.00		TTh 1:30-2:45PM
AS.070.275	01		W	**Reproduction, Kinship, and the State** *Han, Clara* What makes a relative? How are reproductive futures made and unmade? This course takes reproduction as site to examine the interplay of kinship relationships and the state. We will take topics including adoption, gay parenting, the medical and social aspects of childbirth, and reproductive technologies to explore how reproductive futures are unevenly distributed, endured, aspired to, and re-made.	3.00	30	MW 1:30-2:45PM
AS.070.277	01	HS	W	**Contested Indigeneity** *Cervone, Emma* This course will introduce students to the diversity of indigenous peoples and their situations globally, as well as to their agency and innovation in grappling with challenges across a range of social systems, political contexts, and ecological conditions. Cross-list: PLAS	3.00	25	TTh 10:30-11:45AM
AS.070.279	01			**Ecological Anthropology** *Pandian, Anand* This course explores questions of nature, ecology, and environment from an anthropological perspective, drawing on case studies from around the globe. Topics will include human and animal relations, forest and marine livelihoods, industrial development and activist politics, as well as the urban ecology of Baltimore.	3.00	25	F 1:30-3:50PM

Anthropology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.070.331	01	HS	W	**Anthropology of Poetry and Prayer** *Haeri, Niloofar* What kind of activity is prayer? Are we talking to God(s), to our ancestors, to ourselves? What do poetry and prayer share? The course will explore these and similar questions with particular attention to questions of repetition, memory, meaning and presence.	3.00	20	W 1:30-3:50PM
AS.070.418	01	HS		**The Comparative Tradition in Anthropology** *Pandian, Anand* Anthropology is often imagined as the study of a particular place and people. But comparative methods date back to the beginnings of the discipline, efforts that are echoed in recent works of global and ambitious scope. In this seminar, we examine the theory and practice of comparison in anthropology, drawin in historical as well as contemporary studies on themes such as art, economy, science, and belief	3.00	10	W 12:00-2:00PM
AS.070.419	01	HS	W	**Logic of Anthropological Inquiry** *Obarrio, Juan M* Anthropology combines theory and methods from the sciences and the humanities. We take a close look at those logics, as shown in ethnography as a mode of inquiry and as a genre of writing. This will count as a required course for Anthropology majors but open to all undergraduates.	3.00	30	TBA
AS.100.355	01	HS	W	**Islam between History and Anthropology** *Shepard, Todd* Co-taught by an anthropologist and a historian, this course will explore recent scholarly debates about--and critiques of--the representations of Islam and Muslim societies.	3.00	20	M 1:30-4:00PM
AS.310.303	01	HS		**A World Upturned: Cultures of Catastrophe in Japan** *Sayre, Ryan J* Focusing on earthquake science and earthquake lore, radioactive mutation and nuclear decimation, this course will consider the relationship between technological culture and large-scale cataclysm. In addition to treating a broad array of written, graphic, and filmic representations of Japan's past and potential catastrophes, we will also be keeping a close and careful eye on present developments in Japan's 2011 earthquake/tsunami/nuclear disaster.	3.00	25	TTh 12:00-1:15PM
AS.310.304	01	HS	W	**The Architectonics of Tokyo: The Anthropology of City Life in Japan and Abroad** *Sayre, Ryan J*	3.00	15	Th 2:00-4:30PM

Anthropology

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				In this advanced undergraduate seminar on urban life and the anthropology of aesthetics, we will develop tools with which to think and write about city life in Japan and abroad. 'Architectonic' is a philosophical term referring to the ability to pull otherwise autonomous ideas together into a single coherent whole. In this course we will employ methodologies culled from class readings, lectures, web-based resources, and class discussions to collectively construct a digital patchwork of writings and images that will serve as the classes' own quasi-coherent whole, or 'architectonic' of city life in Tokyo.			
AS.361.130	01	HS	W	**Introduction to Latin American Studies** *Gonzalez, Eduardo* Our basic premise will be the need to understand the workings of various political regimes in Latin America by countries and regional zones. Hence the broad expanse of South American histories and geographies will be surveyed from the perspective of current political, social, economic, and global conflicts: regional alliances, the geopolitical impact of The United States, China, and Russia; neoliberalism, populism, and social movements on behalf of popular sovereignty, often pitched against or in uneasy alliance with self-styled modes of democratic rule.	3.00		W 1:30-4:00PM
AS.389.335	01	H		**Recreating Ancient Greek Ceramics** *Balachandran, Sanchita* This hands-on course in experimental archaeology brings together undergraduate and graduate students across disciplines to study the making of Athenian vases. Students work closely with expert ceramic artists, and in consultation with art historians, archaeologists, art conservators, and materials scientists to recreate Greek manufacturing processes.	4.00	14	Th 1:30-5:00PM

Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.061.376	01		W	**Arts and Culture Journalism: Interactive Media, Online Publishing** *Ober, Caroline* Students will participate in the ongoing creation of BmoreArt.com, an online arts and culture publication that serves the Baltimore community. In conjunction with visiting professionals, students will investigate the Baltimore cultural community and create different types of editorial content using interactive media including film, video, sound, and writing. Students will produce creative content utilizing their individual areas of expertise - such as visual art, art history, music, literary arts, film, and theater - while working together as a professional organization. A strong emphasis will be placed on the student's collaborative participation and creative experimentation. Students with differing backgrounds in media will approach this project from unique perspectives, which will be valued and cultivated. Students with previous experience in journalism are welcome. An introductory writing or film course is suggested as a prerequisite.	3.00	15	T 4:30-6:50PM
AS.371.131	01			**Studio Drawing I** *Hankin, Craig* This course focuses on developing fundamental drawing skills for the student with little or no previous studio experience. Basic concepts of form and composition will be taught through exercises based on the book, Drawing On The Right Side Of The Brain, and with the aid of still-life setups and live models. Attendance at 1st class is mandatory.	2.00	15	T 1:30-4:50PM
AS.371.133	01			**Painting Workshop I** *Hankin, Craig* This course offers the fundamentals of oil painting techniques for the serious student with minimal prior studio experience. Observational skills are taught through the extensive use of still-life setups, with particular attention paid to issues of light, color, and composition. Slide lectures and a museum trip give students an art historical context in which to place their own discoveries as beginning painters.	2.00	12	W 1:30-4:50PM
AS.371.133	02			**Painting Workshop I** *Gruber, Barbara*	2.00	12	M 1:30-5:00PM
AS.371.135	01			**Studio Drawing II** *Hankin, Craig* Building on basic drawing skills, this course explores various media, techniques, and compositional elements with special emphasis on still life, portrait, and life drawing. A visit to the Baltimore Museum of Art's Print & Drawing Library supplements lectures and enriches the student's understanding of the history of artists' drawings. Recommended Course Background: AS.371.131 or instructor's permission.	2.00	15	Th 1:30-4:50PM
AS.371.140	01	H		**Cartooning** *Chalkley, Thomas*	3.00	15	M 10:00AM-12:50PM

Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Not open to Freshmen. A history-and-practice overview for students of the liberal arts. The conceptual basis and historical development of cartooning is examined in both artistic and social contexts. Class sessions consist of lecture (slides/handouts), exercises, and ongoing assignments. Topics include visual/narrative analysis, symbol & satire, editorial/political cartoons, character development, animation. Basic drawing skills are preferred but not required.			
AS.371.151	01	H		**Photoshop/Dig Darkroom** *Ehrenfeld, Howard* Photoshop is not only the digital darkroom for processing images created with digital cameras; it is also a creative application for making original artwork. In this course, students use Photoshop software as a tool to produce images from a fine art perspective, working on projects that demand creative thinking while gaining technical expertise. Students will make archival prints, have regular critiques, and attend lectures on the history of the manipulated image and its place in culture. We will look at art movements which inspire digital artists, including 19th century collage, dada, surrealism, and the zeitgeist of Hollywood films. Students must have a digital camera. Prior knowledge of Photoshop is not required. Attendance at first class is mandatory.	3.00	10	M 10:00AM-12:50PM
AS.371.152	01	H		**Introduction to Digital Photography** *Ehrenfeld, Howard* Introduction to Digital Photography Students learn to use their digital cameras through a variety of projects, which will help them develop technical and creative skills. Students explore documentary, landscape and portrait photography. Critiques and slide lectures of historic photographs, which range from postmortem daguerreotypes to postmodern digital imagery, help students develop a personal vision. Students gain camera proficiency with one-on-one instruction in the field. Basics for print adjustment and output will be covered. Attendance at first class is mandatory.	3.00	10	T 10:00AM-12:50PM
AS.371.162	01	H		**Black and White: Digital Darkroom** *Berger, Phyllis A* In this digital course, students explore the black-and-white aesthetic. They develop camera skills on numerous field trips, including an urban mural walk, Ladew Topiary Gardens and an optional weekend trip to Cape Henlopen State Park in Delaware. Students meet frequently for critiques and discussions based on historic and contemporary imagery. They will learn to use Photoshop and Nik software for image adjustment. Techniques such as high dynamic range and infrared are covered. Students work on a final project of their choice and produce a portfolio of ten prints. Digital SLR cameras are provided. Attendance at first class is mandatory.	3.00	10	W 10:00AM-12:50PM
AS.371.162	02	H		**Black and White: Digital Darkroom**	3.00	10	W 2:00-4:50PM

Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.371.164	01			**Introduction to Printmaking** *Premo, Larcia C.* Working with non-toxic/water based inks and both an engraving press and hand tools, students will explore several types of printmaking. Methods will include intaglio, collograph and both simple and multi-plate relief. As they develop their prints, students can then observe and exploit the strengths that each method has to offer. Drawing and Photoshop skills are helpful but not required.	2.00	12	T 1:30-4:20PM
AS.371.165	01	H		**Location Photography** *Ehrenfeld, Howard* Working in the studio and in various locations, students will learn the fundamentals of lighting interiors and strategies for working in almost any environment. Field trips will include the National Aquarium, Evergreen Museum & Library, a Howard County horse farm, a Tiffany-designed church and a Hampden photo studio. Students will also concentrate on the fine art of printing in our new digital lab. They will develop a final portfolio of 10 photographs which express a personal vision about a location of their choice. A basic knowledge of digital photography is helpful, but not required.	3.00	10	T 1:30-4:20PM
AS.371.170	01	H		**Works on Paper** *Gruber, Barbara* As the title suggests, experienced students in this course will focus on the creation of artwork on paper. We'll use a wide variety of paper supports and mediums will include pastel, ink, watercolor, charcoal, acrylic and oil paint. Subject matter will range from figure to landscape, from color theory to differentiation. Working visits to the Baltimore Museum of Art and Johns Hopkins Archaeological Museum are planned.	2.00	12	Th 11:00AM-2:20PM
AS.371.172	01	H		**DIY Art: You Are the Medium** *Goucher, Cathy* Art is not confined to the maker's labors with traditional art materials. Art is transactional and can be made of anything. It brings forth personal narrative – one's internal experience in a concrete form – and seeks resonance with the viewer. Art-making is a shared place of possibility and self-revelation, available to anyone with a desire to make visible their thoughts and feelings. Students will engage with novel creative processes and materials and will be challenged to broaden their perspectives on the essential nature of art. Personal narratives will be deepened through a class visit to the American Visionary Art Museum, as well as a short-term group residency with the artists of Make Studio.	3.00	10	Th 4:00-6:50PM
AS.371.200	01	H		**Visualizing Music** *Smooke, David*	3.00	10	M 2:00-4:50PM

Art

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				In this course, JHU photography students will pair up with Peabody Conservatory of Music student composers to develop an interdisciplinary work that grows out of their conversations and passions. Working under the guidance of Phyllis Berger, CVA Photography Supervisor, and David Smooke, Peabody Conservatory Music Theory Chair, students will design a program of music and photography that brings together the experience of looking and listening. Their work will be exhibited and performed at Evergreen Museum and Library. Attendance at first class is mandatory.			
AS.371.202	01	H		**Photographic Portfolio** *Berger, Phyllis A* In this upper level course, experienced students will work on a semester-long project that reflects their artistic sensibility, interests and passion for photography. They will develop their ideas within a seminar style format that allows for conversation and debate and provides a forum for the evolution of content within their work. Through a combination of critique, lecture and lab, students will complete a portfolio of ten printed images that work together in a series. Recommended Course Background: Previous CVA photography course or instructor's permission.	3.00	10	F 2:00-4:50PM
AS.389.335	01	H		**Recreating Ancient Greek Ceramics** *Balachandran, Sanchita* This hands-on course in experimental archaeology brings together undergraduate and graduate students across disciplines to study the making of Athenian vases. Students work closely with expert ceramic artists, and in consultation with art historians, archaeologists, art conservators, and materials scientists to recreate Greek manufacturing processes.	4.00	14	Th 1:30-5:00PM

Behavioral Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.020.152	01	N		**General Biology II** *Pearlman, Rebecca Shari* This course builds on the concepts presented and discussed in General Biology I. The primary foci of this course will be on the diversity of life and on the anatomy, physiology, and evolution of plants and animals. There will be a special emphasis on human biology. The workshops that were introduced in AS.020.151 General Biology I will include the use of simulation software, a critique of the primary literature, and an exploration of current trends in medicine. Recommended Course Background: AS.020.151. Section 01: Not open to Freshmen. Section 02: Open to Freshmen only.	4.00	200	MWF 12:00-12:50PM; T 12:00-12:50PM
AS.020.152	02	N		**General Biology II** *Roberson, Christov*	4.00	200	TTh 12:00-1:20PM
AS.200.141	01	NS		**Foundations of Brain, Behavior and Cognition** *Gorman, Linda K* Formerly listed as Introduction to Physiopsychology. A survey of neuropsychology relating the organization of behavior to the integrative action of the nervous system. Cross-listed with Behavioral Biology and Neuroscience.	3.00	250	TTh 9:00-10:15AM
AS.200.208	01	NS		**Animal Behavior** *Madison, Farrah* Examines basic principles of animal behavior (orientation, migration, communication, reproduction, parent-offspring relations, ontogeny of behavior and social organization). Evolution and adaptive significance of behavior will be emphasized.	3.00	180	TTh 9:00-10:15AM
AS.200.328	01	S	W	**Theory & Methods in Clinical Psychology** *Edwin, David H* A critical examination of the methods of observation, description, reasoning, inference, measurement and intervention that underlie the clinical practice of psychology and psychiatry.	3.00	25	M 6:00-8:20PM
AS.200.370	01	NS		**Functional Human Neuroanatomy** *Courtney-Faruqee, Susan* This course examines the general organizing principles of the anatomy of the human central nervous system and how this anatomical organization relates to function, from the level of neural circuits, to systems, to behavior. Students will learn to identify neuroanatomical structures and pathways in dissections and MRI images through computerized exercises. Readings and lectures will emphasize general structure-function relationships and an understanding of the functional roles of particular structures in sensory, motor, and cognitive systems.	3.00	50	MWF 11:00-11:50AM
AS.200.386	01	S		**Animal Cognition** *Holland, Peter C*	3.00	30	TTh 9:00-10:15AM

Behavioral Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Examine relations between brain, mind, and behavior in nonhuman animals, focusing on topics such as learning, memory, attention, decision-making, navigation, communication, and awareness. We will take a variety of approaches, including behavioral, computational, evolutionary, neurobiological, and psychological perspectives.			
AS.290.420	01	S	W	**Human Sexual Orientation** *Kraft, Chris S* This course will examine the historical and current theories of sexual orientation and sexual variation development by examining the biological, psychological and social contributing factors that influence the development of sexual orientations and variations along with treatment and modification of problematic sexual behaviors. Limited to Juniors and Seniors with PBS, Neuroscience, Public Health, Behavioral Biology, and Biology majors, or Juniors and Seniors with PBS or Women's Studies minors.	3.00	25	T 3:00-5:30PM
AS.290.490	01	S		**Senior Seminar: Behavioral Biology** *Holland, Peter C* Great ideas in Behavioral Biology. Discussion of classic and cutting edge articles in the original literature. Student presentations and reaction papers. Capstone course for senior Behavioral Biology majors.	1.00	12	W 9:00-9:50AM

Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.020.104	01	N		**Freshmen Seminar: From Genes to DNA and Back** *Moudrianakis, E N* Students must obtain permission from Dr. Moudrianakis to register. A course consisting of introductory lectures followed by student presentations in the form of seminars. The issues analyzed will be: How did we arrive at the concept of the "gene"? Early experiments that gave substance to this concept. How did we arrive at the "one gene, one enzyme" dogma? What is the chemical nature of the gene? Is DNA enough for regulated gene expression? Is it "all in our genes"? What is genetic plasticity and epigenetics? What about genomics and proteomics? Freshmen Only.	1.50	24	T 1:30-2:45PM
AS.020.113	01	N		**Freshmen Seminar: Microbes in the Media** *Cebula, Thomas* This seminar discusses scientific issues that are in the news today. Possible topics might include: genomics; adaptation and evolution of bacterial pathogens; emergence of antibiotic resistance; pandemic flu; microbial communities and impact on public health; food safety; bioterrorism; synthetic biology; bioremediation; microbial fuel cells; or other biotechnology topics that could emerge during the semester. Freshmen Only. Instructor's permission required for upperclassmen.	2.00	20	W 2:00-4:00PM
AS.020.136	01	N		**Phage Hunting II** *Schildbach, Joel F* This is an introductory course open to all freshman regardless of intended major. No science background is required. This is the second semester of a year-long research-based project lab course in which students will participate in a nation-wide program in collaboration with undergraduates at other colleges. In the spring semester, students will annotate the genome of a bacteriophage isolated and characterized by a student in AS.020.135, in preparation for submission to a database and eventual publication. The course includes two lab meetings per week. Provides 2 credit hours of Natural Sciences (N) distribution credits and/or counts 2 hours toward the research requirement for the Molecular and Cellular Biology degree. No textbook is required. Freshmen only. Enrollment by permission of the instructor only.	2.00	24	MW 2:30-5:00PM
AS.020.136	02	N		**Phage Hunting II**	2.00	24	TTh 1:00-3:30PM
AS.020.152	01	N		**General Biology II** *Pearlman, Rebecca Shari*	4.00	200	MWF 12:00-12:50PM; T 12:00-12:50PM

Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course builds on the concepts presented and discussed in General Biology I. The primary foci of this course will be on the diversity of life and on the anatomy, physiology, and evolution of plants and animals. There will be a special emphasis on human biology. The workshops that were introduced in AS.020.151 General Biology I will include the use of simulation software, a critique of the primary literature, and an exploration of current trends in medicine. Recommended Course Background: AS.020.151. Section 01: Not open to Freshmen. Section 02: Open to Freshmen only.			
AS.020.152	02	N		**General Biology II** *Roberson, Christov*	4.00	200	TTh 12:00-1:20PM
AS.020.154	01	N		**General Biology Lab II** *Pearlman, Rebecca Shari* This course reinforces the topics covered in AS.020.152. Laboratory exercises explore subjects ranging from evolution to anatomy and physiology. Students participate in a project using molecular biology techniques to determine whether specific foods are made from genetically engineered plants. Cross-listed with Behavioral Biology Students who have credit for AP Biology but take General Biology Lab II will lose all four credits of their overall credit for AP Biology.	1.00	66	M 1:30-4:20PM
AS.020.154	02	N		**General Biology Lab II**	1.00	72	T 1:30-4:20PM
AS.020.154	03	N		**General Biology Lab II**	1.00	44	W 1:30-4:20PM
AS.020.154	04	N		**General Biology Lab II**	1.00	66	Th 1:30-4:20PM
AS.020.154	05	N		**General Biology Lab II**	1.00	44	F 1:30-4:20PM
AS.020.162	01	N		**Biology Workshop II** *Pearlman, Rebecca Shari* Students will discuss current events and controversies in biology, ranging from genetic engineering to nanotechnology in medicine.	1.00	35	T 12:00-12:50PM
AS.020.306	01	N		**Cell Biology** *Schroer, Trina A* How the molecules of living systems are organized into organelles, cells, tissues, and organisms will be explored, as well as how the activities of all of these are orchestrated and regulated to produce “life”—a phenomenon greater than the sum of its parts. Considerable emphasis is placed on experimental approaches to answering these questions. Topics covered include biological membranes, cytoskeletal elements, cell locomotion, membrane and protein traffic, the nucleus, second messengers, signal transduction, cell growth, the cell cycle, the extracellular matrix, cell contacts and adhesion, intercellular communication, epithelial structure and function, and the cell biology of early development and organ function. Sophomores, juniors, and seniors only. Recommended Course Background: (AS.020.151 or AS.020.305) or equivalent knowledge of biomolecules.	4.00	320	MWF 12:00-1:15PM
AS.020.307	01	N		**Enzymes, Metabolism and Metabolic Disorders**	3.00	25	MWF 11:00-11:50AM

Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Lee, Young-Sam This course will cover basic and advanced concepts in enzymology and metabolic processes while focusing on how these processes contribute to human health and diseases. This course is composed of lectures, discussion sessions, and student presentations.			
AS.020.312	01	N		**Introduction to the Human Brain** *Hedgecock, Edward M* This course explores the outstanding problem of biology: how knowledge is represented in the brain. Relating insights from cognitive psychology and systems neuroscience with formal theories of learning and memory, topics include (1) anatomical and functional relations of cerebral cortex, basal ganglia, limbic system, thalamus, cerebellum, and spinal cord; (2) cortical anatomy and physiology including laminar/columnar organization, intrinsic cortical circuit, hierarchies of cortical areas; (3) activity-dependent synaptic mechanisms; (4) functional brain imaging; (5) logicist and connectist theories of cognition; and (6) relation of mental representations and natural language.	3.00	300	TTh 10:30-11:45AM
AS.020.316	01	N		**Cell Biology Lab** *Horner, Robert D* This course will reinforce the topics presented in AS.020.306 Cell Biology through laboratory exercises which use visible and fluorescence microscopy to study chromosomes, cell organelles, cell surface receptors, contractile proteins, and microfilaments.	2.00	30	M 1:30-4:20PM; W 1:30-2:20PM
AS.020.316	02	N		**Cell Biology Lab**	2.00	30	W 1:30-2:20PM; T 1:30-4:20PM
AS.020.316	03	N		**Cell Biology Lab**	2.00	30	W 2:30-5:20PM; W 1:30-2:20PM
AS.020.316	04	N		**Cell Biology Lab**	2.00	30	W 1:30-2:20PM; Th 1:30-4:20PM
AS.020.316	05	N		**Cell Biology Lab**	2.00	30	M 1:30-4:20PM; W 1:30-2:20PM
AS.020.316	06	N		**Cell Biology Lab**	2.00	30	T 1:30-4:20PM; W 1:30-2:20PM
AS.020.316	07	N		**Cell Biology Lab**	2.00	30	W 2:30-5:20PM; W 1:30-2:20PM
AS.020.316	08	N		**Cell Biology Lab**	2.00	30	Th 1:30-4:20PM; W 1:30-2:20PM
AS.020.332	01	N		**Photosynthesis by Land and Aquatic Organisms** *Moudrianakis, E N* This course analyzes the fundamental process of photosynthesis, the process on which all life on Earth depends for its existence. We begin from the level of the structural organization of the photosynthetic machinery and progress to the essentials of the photophysics of light capture by the primary pigments. Next we follow the conversion of photon flow to electron flow through the electron transport chain, and finally we study the formation of chemical gradients that serve as temporary "energy stores" utilized in the synthesis of the essential chemicals that are consumed to drive carbon dioxide and nitrogen fixation and yield biomass. Finally, we compare the specializations of land and aquatic photosynthetic systems that serve the two different ecosystems. Recommended Course Background: AS.020.305 or AS.020.306 or special permission by the instructor.	2.00	25	Th 9:00-10:30AM
AS.020.337	01	N		**Stem Cells & the Biology of Aging & Disease**	2.00	99	W 3:00-4:45PM

Biology

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				Zirkin, Barry R This will be a team-taught lecture course that focuses on the properties of stem cells, their possible role in cancer (breast and prostate), stem cell aging, and the potential utilization of stem cells for therapy. Topics will include: mechanisms of stem cell renewal, stem cell potency, the impact of the stem cell niche, stem cells and the hematopoietic system, stem cells and the neural system, stem cells in the male and female gonads, induced pluripotent stem cells and cellular reprogramming, stem cell changes with aging, and ethical and policy issues in stem cell research and use. Most lectures will be research-oriented. Students will be expected to read and critically analyze current literature, with an emphasis on the experimental bases from which our current understandings derive.			
AS.020.351	01	N		**Cancer Biology** *Hoyt, Myles Andrew* While the “war on cancer” has produced modest victories with respect to clinical outcomes, our knowledge of the cellular mechanisms of cancer is now vast and represents one of the most significant scientific achievements of the past 40 years. Key aspects of cancer biology will be covered with a combination of textbook and original literature readings. Topics will include cancer cell characteristics, oncogenes, tumor suppressor genes, apoptosis, metastasis and immuno-surveillance of cancer cells. Application of our knowledge to the rational treatment of cancer will also be discussed.	3.00	27	TTh 1:30-2:45PM
AS.020.355	01	N		**Fundamentals of Genome Informatics** *Taylor, James* This course will cover fundamental methods used in the analysis of genomic sequencing data, with a particular focus on recent developments in comparative and functional genomic assays. In particular, we will cover approaches for 1) genomic sequencing and assembly, including resequencing and ”personal” genomes, 2) comparing genomes and modeling genome evolution, 3) identifying functional elements using both ”functional genomics” and computational models. While the course will focus on particular problems in genomics, we will emphasize core algorithmic concepts that generalize to the analysis of other types of biological data.	3.00	30	TTh 12:00-1:15PM
AS.020.363	01	N		**Developmental Biology** *Van Doren, Mark* Development of invertebrates, vertebrates, and plants. The course will emphasize the experimental bases for the fundamental concepts of development.	3.00	300	MWF 10:00-10:50AM
AS.020.365	01	N		**Intro To Human Skeleton** *Ruff, Christopher B*	3.00	30	MW 3:00-4:30PM

Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will provide a basic understanding of human skeletal biology, including bone composition and bone growth, recognition of skeletal elements, functional anatomy of different skeletal systems, comparative anatomy, and forensic anthropology (sexing and aging, body size reconstruction, bone pathology). Lectures will be combined with hands-on experience with bone models and real bone specimens.			
AS.020.370	01	N		**Emerging Strategies and Applications in Biomedical Research** *Hattar, Samer* Up-to-date primary literature manuscripts related to new discoveries and new strategies that are allowing scientists to make amazing progress in biomedical research will be presented. Examples include: labeling neurons with up to 90 different colors to trace their circuitry, evolution studies in glowing bacteria, detecting several viruses on a single chip and using fiber optics and channel rhodopsin to induce sleep. Students should be interested in reading primary literature research papers and discussing them in class. Recommended Course Background: AS.020.305 or AS.020.306 or AS.080.305 or AS.080.306. Juniors and Seniors only.	3.00	50	TTh 10:30-11:45AM
AS.020.373	01			**Developmental Biology Lab** *Norris, Carolyn R* This laboratory explores the development of live animals, and students in each section will sometimes be required to return to lab on succeeding days to observe and record the results of their experiments. Corequisite: AS.020.363	2.00	22	T 1:30-5:20PM
AS.020.373	02			**Developmental Biology Lab**	2.00	22	W 1:30-5:20PM
AS.020.373	03			**Developmental Biology Lab**	2.00	22	Th 1:30-5:20PM
AS.020.373	04			**Developmental Biology Lab**	2.00	22	W 5:30-9:20PM
AS.020.402	01	N		**Seminar: Molecular & Cellular Biology** *Tifft Oshinnaiye, Kathryn Elizabeth* This is a weekly seminar designed for students enrolled in the BA/MS program. The seminar involves student presentations of research and discussion of topics of current interest in the field. BA/MS students only.	3.00	15	Th 5:00-8:00PM
AS.020.420	01	N		**Build-a-Genome** *Bader, Joel S*	4.00	10	MWF 3:00-4:20PM

Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				In this combination lecture/laboratory "Synthetic Biology" course students will learn how to make DNA building blocks used in an international project to build the world's first synthetic eukaryotic genome, Saccharomyces cerevisiae v. 2.0. Please study the wiki www.syntheticyeast.org for more details about the project. Following a biotechnology boot-camp, students will have 24/7 access to computational and wet-lab resources and will be expected to spend 15-20 hours per week on this course. Advanced students will be expected to contribute to the computational and biotech infrastructure. Co-listed with EN.580.420, AS.020.451 and EN.540.420. Successful completion of this course provides 3 credit hours toward the supervised research requirement for Molecular and Cellular Biology majors, or 2 credit hours toward the upper level elective requirement for Biology or Molecular and Cellular Biology majors. Must understand fundamentals of DNA structure, DNA electrophoresis, and analysis, Polymerase Chain Reaction (PCR), and must be either a) Experienced with molecular biology lab work or b) Adept at programming with a biological twist.			
AS.020.442	01	N		**Mentoring In Biology** *Pearlman, Rebecca Shari* This course provides students who have taken General Biology I & II the opportunity to mentor new students in General Biology I & II. Mentors collaborate with faculty on how to lead effective sessions, help student teams complete team assignments, and generally help students understand difficult concepts and principles in biology. Mentors must have a firm command of the topics covered in biology and must meet with both faculty and students through the course of the semester. To become a mentor, students must have successfully completed AS.020.151/AS.020.152, must apply using the form on the Biology Department website, and must be accepted by the instructors. The deadline to apply is April 8th. Recommended Course Background: AS.020.151/AS.020.152	1.00	24	F 1:10-1:20PM
AS.020.442	02	N		**Mentoring In Biology**	1.00	15	F 1:30-1:40PM

Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.020.451	01	N		**Build-a-Genome Mentor** *Bader, Joel S* In this combination lecture/laboratory, "Synthetic Biology" course students will learn how to make DNA building blocks used in an international project to build the world's first synthetic eukaryotic genome, Saccharomyces cerevisiae v. 2.0. Please study the wiki www.syntheticyeast.org for more details about the project. Following a biotechnology boot-camp, students will have 24/7 access to computational and wet-lab resources and will be expected to spend 15-20 hours per week on this course. Advanced students will be expected to contribute to the computational and biotech infrastructure. Must understand fundamentals of DNA structure, DNA electrophoresis, and analysis, Polymerase Chain Reaction (PCR) and must be either a) Experienced with molecular biology lab work or b) Adept at programming with a biological twist.	4.00	5	MWF 3:00-4:20PM

Biophysics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.250.106	01	N		**Introduction to Biomedical Research and Careers I** *Huang, P C* Lecture Series designed for those curious about a career in life sciences, medicine and public health. A novel format combining presentation with didactic interviews gives a broad view of a range of research topics, experimental approaches and logistics, and practical applications as well as career paths. Emphasis is on the excitement of scientific explorations not an abundance of the technical facts and figures. Freshmen and non-science majors. Co-listed with AS50.300 and AS.250.306	1.00	40	T 7:30-8:50PM
AS.250.131	01	N		**Topics - Biophysics Research** *Fleming, Karen G* Introduction of contemporary biophysics research topics through presentations, discussion and hands-on exercise. Freshmen and sophomores only. S/U grading only.	1.00	45	W 1:30-2:50PM
AS.250.205	01	N		**Introduction to Computing** *Fitch, Carolyn A* This course is useful for many disciplines not only the life sciences. It will introduce students to basic computing concepts and tools useful in many applications. Students learn to work in the Unix environment, to write shells scripts, and to make use of powerful Unix commands (e.g. grep, awk, and sed). They will learn to program using the Python programming language, graphing software, and a package for numberical and statistical computing, such as Mathematica or MATLAB. At the end of the semester, students will complete a project coupling all components of the semester together. Brief lectures followed by extensive hands-on computer laboratories with examples from many disciplines. No prerequisites. Course offered Fall and Spring semesters.	3.00	38	TTh 9:00-10:15AM
AS.250.205	02	N		**Introduction to Computing** *Damjanovic, Ana*	3.00	38	MWF 12:00-12:50PM
AS.250.205	03	N		**Introduction to Computing**	3.00	38	MWF 10:00-10:50AM
AS.250.253	01	N		**Protein Engineering and Biochemistry Lab** *Fitch, Carolyn A* Entry-level project laboratory in which students perform experiments on a specofic topic, the results of which are not known a priori. This laboratory course illustrates the relationship between genes, proteins, disease and evolution. Hypothesis driven mutations of proteins are designed based on physical principles. Protein engineering and biotechnology techniques are used to modify proteins to give them new structural or physical properties. Students will be introduced to standard biochemistry laboratory practice and protein science; they will perform experiments in site-directed mutagenesis, protein purification and structural and physical characterization of biological macromolecules. No prerequisites. Preference given to freshmen and sophomores.	3.00	24	T 1:30-5:30PM
AS.250.253	02	N		**Protein Engineering and Biochemistry Lab**	3.00	24	Th 1:30-5:30PM
AS.250.253	03	N		**Protein Engineering and Biochemistry Lab**	3.00	24	F 1:30-5:30PM

Biophysics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.250.265	01	N		**Introduction to Bioinformatics** *Fleming, Patrick* Algorithms and databases for biological information. A mostly computer lab course covering basic programming; algorithms for comparison of sequence, protein structure and gene expression; protein structure prediction and an introduction to major databases. Students will complete a genomics database project and will give presentations on the ethics of using genomic information. No programming experience necessary. Preference to Biophysics majors. Instructor permission required. Instructor permission required. .	3.00	36	TTh 10:30-11:45AM
AS.250.300	01	N		**Introduction to Biomedical Research and Careers II** *Huang, P C* Seminar Series designed for those interested in or curious about a career in life sciences and medicine. A novel format combining lectures with talk show interviews gives students a broad view of different research problems, experimental approaches, and practical applications as well as career paths. The emphasis is on the excitement of scientific explorations rather than an abundance of the technical facts and figures. 250.300 is for sophomore, junior and senior science majors. Co-listed with AS.250.106 and AS.250.306.	1.00	20	T 7:30-8:50PM
AS.250.302	01	N		**Models and Algorithms in Biophysics** *Johnson, Margaret E* Introduction to physical and mathematical models used to represent biophysical systems and phenomena. Students will learn algorithms for implementing models computationally and perform basic implementations. We will discuss the types of approximations made to develop useful models of complex biological systems, and the comparison of model predictions with experiment.	4.00	25	TTh 1:30-2:45PM; M 3:30-4:30PM
AS.250.306	01	N		**Introduction to Biomedical Research and Careers III** *Huang, P C* Seminar Series designed for those interested in or curious about a career in life sciences and medicine. A novel format combining lectures with talk show interviews gives students a broad view of different research problems, experimental approaches, and practical applications as well as career paths. The emphasis is on the excitement of scientific explorations rather than an abundance of the technical facts and figures. 250.306 is for those who have already taken 250.106 or 250.300. Co-listed with AS.250.106 and AS.250.300.	1.00	10	T 7:30-8:50PM
AS.250.310	01			**Exploring Protein Biophysics using Nuclear Magnetic Resonance (NMR) Spectroscopy** *Majumdar, Ananya*	3.00	6	TTh 10:30-11:45AM

Biophysics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				NMR is a spectroscopic technique which provides unique, atomic level insights into the inner workings of biomolecules in aqueous solution. A wide variety of biophysical properties can be studied by NMR. For example, we can use the technique to determine three dimensional structure of biological macromolecules such as proteins and nucleic acids, probe their dynamical properties in solution, study their interaction with other molecules and understand how physico-chemical properties (such electrostatics and redox chemistry) affects and modulates structure-function relationships. NMR exploits the exquisite sensitivity of magnetic properties of atomic nuclei to their local electronic (and therefore, chemical) environment. As a result, biophysical properties can be studied at atomic resolution. That is to say, we can deconstruct global properties of a molecule in terms of detailed, atomic level information. In addition, interactions between nuclei can be exploited to enhance the information content of NMR spectra via multi-dimensional (2D and 3D) spectroscopy. Since these properties can be studied in solution, NMR methods serve as an effective complement to X-Ray crystallography, which also provides detailed, atomic level information in the solid state. In this course, we will learn about the basics of NMR spectroscopy, acquire 1D and 2D NMR spectra and use various NMR experiments to characterize and probe biophysical properties of proteins at an atomic level. Juniors and Seniors Only.			
AS.250.316	01			**Biochemistry II** *Woodson, Sarah* Molecular basis of gene regulation, signal transduction and control of cell metabolism, with an emphasis on physical concepts and mechanisms. Format will include lectures and class discussion of readings from the literature.	3.00	30	TTh 9:00-10:15AM
AS.250.320	01			**Macromolecular Binding** *Fleming, Karen G* All biological processes require the interactions of macromolecules with each other or with ligands that activate or inhibit their activities in a controlled manner. This course will discuss theoretical principles, logic, approaches and practical considerations used to study these binding processes from a quantitative perspective. Topics will include thermodynamics, single and multiple binding equilibria, linkage relationships, cooperativity, allostery, and macromolecular assembly. Some biophysical methods used in the study of binding reactions will be discussed. Computer simulation and analysis of binding curves will be used to analyze binding data, and binding schemes and examples from the scientific literature will be reviewed and discussed. Recommended Course Background: AS.250.372 Biophysical Chemistry	3.00	15	TTh 10:30-11:45AM

Biophysics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.250.381	01	N		**Spectroscopy and Its Application in Biophysical Reactions** *Lecomte, Juliette* Continues Biophysical Chemistry (AS.250.372). Fundamentals of quantum mechanics underlying various spectroscopies (absorbance, circular dichroism, fluorescence, NMR); application to characterization of enzymes and nucleic acids.	3.00	20	MWF 9:00-9:50AM
AS.250.383	01		W	**Molecular Biophysics Laboratory** *Fitch, Carolyn A* An advanced inquiry based laboratory course covering experimental biophysical techniques to introduce fundamental physical principles governing the structure/function relationship of biological macromolecules. Students will investigate a “model protein”, staphylococcal nuclease, the “hydrogen atom” of biophysics. Using a vast library of variants, the effect of small changes in protein sequence will be explored. A variety of techniques will be used to probe the equilibrium thermodynamics and kinetics of this system; chromatography, spectroscopy (UV-Vis, fluorescence, circular dichroism, nuclear magnetic resonance), calorimetry, analytical centrifugation, X-ray crystallography and computational methods as needed for analysis. These methods coupled with perturbations to the molecular environment (ligands, co-solvents, and temperature) will help to elucidate protein function.	3.00	24	M 1:30-5:30PM
AS.250.383	02		W	**Molecular Biophysics Laboratory**	3.00	24	W 1:30-5:30PM
AS.250.411	01	N	W	**Advanced Seminar in Structural Biology of Chromatin** *Bowman, Gregory D* Focus is on structural and physical aspects of DNA processes in cells, such as nucleosomal packaging, DNA helicases, RNA polymerase, and RNA inhibition machinery. Topics are meant to illustrate how the structural and chemical aspects of how proteins and nucleic acids are studied to understand current biological questions. Recommended Course Background: Biochemistry I (AS.250.315) and Biochemistry II (AS.250.316) or Biochemistry (AS.020.305) and Intro to Biophys Chem (AS.250.372)	3.00	15	T 3:00-5:30PM

Center for Africana Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.060.356	01	H	W	**Gordimer and Coetzee: Politics and Form** *Jackson, Jeanne-Marie* A comparative study of major works by the South African Nobel Laureates Nadine Gordimer and J.M. Coetzee. Special attention to critical essays by both writers about each other, as well as about issues of shared historical and literary concern. Topics will include the role of the public intellectual in apartheid-era South Africa, competing scales of literary reception and evaluation (e.g. national, international, and universal), and the relationship between politics, form, and genre.	3.00	18	M 2:30-4:50PM
AS.100.367	01	HS		**Slavery, Capitalism, and Free Labor in the United States, 1650-1867** *Heerman, Matthew Scott* This reading seminar will explore how free labor assumed dominance in the United States with a focus on legal, economic, social, and cultural forces.	3.00	18	TTh 12:00-1:15PM
AS.190.339	01	S	W	**American Racial Politics** *Spence, Lester* Recommended Course Background: AS.190.214	3.00	40	T 1:30-3:50PM
AS.190.342	01	S	W	**Black Politics II** *Spence, Lester*	3.00	40	M 1:30-3:50PM
AS.211.394	01	H	W	**Brazilian Cult & Civ** *De Azeredo Cerqueira, Flavia Christina* This course is intended as an introduction to the culture and civilization of Brazil. It is designed to provide students with basic information about Brazilian history, art, literature, popular culture, theater, cinema, and music. The course will focus on how indigenous Asian, African, and European cultural influences have interacted to create the new and unique civilization that is Brazil today. The course is taught in English, but ONE extra credit will be given to students who wish to do the course work in Portuguese. Those wishing to do the course work in English for 3 credits should register for section 01. Those wishing to earn 4 credits by doing the course work in Portuguese should register for section 02. The sections will be taught simultaneously. Section 01: 3 credits Section 02: 4 credits (instructor's permission required)	3.00	26	M 1:30-4:30PM
AS.211.394	02	H	W	**Brazilian Cult & Civ**	4.00	4	M 1:30-4:00PM

Center for Africana Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.230.332	01	S		**Race, Racism & Racial Priviledge** *McDonald, Katrina Bell* This course will examine the concepts of race, racism, racial privilege in contemporary America, and the West in general. Examples from other countries will be integrated as well. Historical contexts such as the colonialism, the Civil War and Reconstruction, the Civil Rights movement, and the post Civil Rights era will help to provide an understanding of the social, political, economic, and cultural forces processes that have constructed and shaped the concepts of race and the racialized subject over time.	3.00	20	MWF 1:30-2:20PM
AS.362.220	01	H	W	**America, Post-Civil Rights** *Connolly, Nathan D* This course will explore the role of the 1964 Civil Rights Act and mid-twentieth century reform movements in transforming American politics, economy, and culture since the late 1960s.	3.00	25	T 1:30-3:50PM
AS.362.221	01	H	W	**African American Poetry and Poetics** *Robbins, Hollis* This seminar explores the literary and political influences of poetry written and published by African Americans from the 18th century to the present (from Phyllis Wheatley to Terrance Hayes).	3.00		TTh 9:00-10:20AM
AS.362.325	01	H		**The Role of "Place" in Racial/Ethnic Health Disparities** *Bell, Caryn N* This course will introduce students to racial/ethnic health disparities, the need to examine the role of “place”, give different definitions of “place”, how the characteristics of where people live affects individual’s health, and how this leads to racial/ethnic health disparities. The course will first examine large-scale measures of place, then down to smaller scale measures. Students will discuss various theories generally associated with racial/ethnic health disparities, as well as, the extension of “place” theories to this topic. Students will apply this knowledge through various assignments and activities about racial/ethnic health disparities of interest. These activities include class discussions, group assignments and development of interventions and solution-focused policy recommendations. This course is being offered for sophomores, juniors and seniors who have completed a statistic course or who have received permission from the instuctor.	3.00	20	TTh 3:00-4:15PM
AS.362.440	01	H	W	**Oppression and Revolt** *Hayes, Floyd, III.* This seminar examines the history, theory, and practice of oppression and rebellion in Africa, the Caribbean, and the United States of America. The seminar will focus on popular struggles for liberation against systems of slavery, colonialism, sexism, and racism.	3.00	25	T 1:30-3:50PM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.310.316	01	H		**First Year Classical Chinese: Language and Literature of the Ancient Period** *Cass, Victoria B* Readings in prose and poetic texts of the Zhou and Han Dynasties. Class emphasizes language acquisition, especially grammar and vocabulary memorization. In addition we will read and discuss works in western languages that treat the culture and writers of the Ancient period. Quizzes and Tests (Midterm and Final) will cover both language and cultural data. A short paper also required.	3.00	15	TTh 9:00-10:15AM
AS.373.112	01			**First Year Heritage Chinese II** *Zhao, Nan* For students who have significant previously-acquired ability to understand and speak Modern Standard Chinese. Course focuses on reading and writing. Teaching materials are the same as used in AS.373.115-116; however, both traditional and simplified versions of written Chinese characters are used. Lab required. Continuation of AS.373.111. Recommended Course Background: AS.373.111 or permission required.	3.00	15	MWF 10:00-10:50AM
AS.373.112	02			**First Year Heritage Chinese II**	3.00	15	MWF 3:00-3:50PM
AS.373.116	01			**First Year Chinese II** *Chen, Jing-Yun* Introductory course in Modern Standard Chinese. Goals: mastery of elements of pronunciation and control of basic vocabulary of 800-900 words and most basic grammatical patterns. Students work first with Pin-Yin system, then with simplified version of written Chinese characters. Continuation of AS.373.115. Note: Student with existing demonstrable skills in spoken Chinese should take AS.373.111-112. Recommended Course Background: AS.373.115 or permission required.	4.50	18	MWF 9:00-9:50AM; TTh 12:00-12:50PM
AS.373.116	02			**First Year Chinese II**	4.50	18	MWF 11:00-11:50AM; TTh 3:00-3:50PM
AS.373.116	03			**First Year Chinese II**	4.50	18	MWF 12:00-12:50PM; TTh 3:00-3:50PM
AS.373.212	01	H		**Second Year Heritage Chinese II** *Chen, Aiguo* For students who have significant previously-acquired ability to understand and speak Modern Standard Chinese. Course focuses on reading and writing. Teaching materials are the same as used in AS.373.115-116; however, both traditional and simplified versions of written Chinese characters are used. Continuation of AS.373.211. Recommended Course Background: AS.373.211 or permission required.	3.00	15	MWF 11:00-11:50AM
AS.373.212	02	H		**Second Year Heritage Chinese II**	3.00	15	MWF 12:00-12:50PM
AS.373.216	01	H		**Second Year Chinese II** *Chen, Yanfei*	4.50	18	MWF 9:00-9:50AM; TTh 12:00-12:50PM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Consolidation of the foundation that students have laid in their first year of study and continued drill and practice in the spoken language, with continued expansion of reading and writing vocabulary and sentence patterns. Students will work with both simplified and traditional characters. Note: Students who have native-like abilities in comprehension and speaking should take AS.373.211-212. Recommended Course Background: AS.373.215 or Permission Required. Cross-listed with East Asian Studies			
AS.373.216	02	H		**Second Year Chinese II**	4.50	23	MWF 11:00-11:50AM; TTh 3:00-3:50PM
AS.373.216	03	H		**Second Year Chinese II**	4.50	23	MWF 1:30-2:20PM; TTh 3:00-3:50PM
AS.373.314	01	H		**Third Year Heritage Chinese II** *Chen, Aiguo* This course is a continuation of AS.373.313. Students need to have native-level fluency in speaking and understanding Chinese. The course focuses on reading and writing. In addition to the textbooks, downloaded articles on current affairs may also be included on a regular basis. Recommended Course Background: AS.373.313 or Permission Required. Lab required.	3.00	15	MWF 10:00-10:50AM
AS.373.316	01	H		**Third Year Chinese II** *Chen, Yanfei* This two-semester course consolidates and further expands students' knowledge of grammar and vocabulary and further develops reading ability through work with textbook material and selected modern essays and short stories. Class discussions will be in Chinese insofar as feasible, and written assignments will be given. Continuation of AS.373.315. Recommended Course Background: AS.373.315 or permission required.	3.00	15	MWF 3:00-3:50PM
AS.373.416	01	H		**Fourth Year Chinese II** *Zhao, Nan* Continuation of AS.373.415. Readings in modern Chinese prose, including outstanding examples of literature, newspaper articles, etc. Students should understand most of the readings with the aid of a dictionary, so that class discussion need not focus primarily on detailed explanations of grammar. Discussion, to be conducted in Chinese, will concentrate on the cultural significance of the readings' content. Recommended Course Background: AS.373.415 or Permission Required. Cross-listed with East Asian Studies	3.00	15	MWF 9:00-9:50AM
AS.373.492	01			**Fifth Year Chinese** *Chen, Jing-Yun*	3.00	16	TTh 10:30-11:45AM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Fifth Year Chinese is designed for students who finished fourth year regular or third year heritage Chinese course at JHU or its equivalent and wish to achieve a higher advanced proficiency level in Chinese. The goal of the course is to help students further develop their listening, speaking, reading and writing skills cohesively and to enhance students' understanding of Chinese culture and society through language learning.			
AS.375.116	01			**First Year Arabic II** *Rajab, Baraa* Continuation of AS.375.115. Introductory course in speaking, listening, reading, and writing Modern Standard Arabic. Presents basic grammatical structures and a basic vocabulary. Through oral-aural drill in classroom, tapes in Language Laboratory, and reading/writing exercises, students attain a basic level of competence on which they can build in subsequent years of study. Accelerated students should register for Section 01. May not be taken Satisfactory/ Unsatisfactory	4.50	18	MTWThF 9:00-9:50AM
AS.375.116	02			**First Year Arabic II**	4.50	18	MTWThF 10:00-10:50AM
AS.375.216	01	H		**Second Year Arabic II** *Jafire, Sana* Continuation of AS.375.215. Designed to bring students up to competency level required for third/fourth year Arabic. Students will consolidate and expand their mastery of the four basic skills acquired in AS.375.115-116. More authentic material--written, audio, and visual--will be used, and culture will be further expanded on as a fifth skill. Accelerated students should register for Section 01. Recommended Course Background: AS.375.215 or permission required.	4.00	18	MTWTh 12:00-12:50PM
AS.375.216	02	H		**Second Year Arabic II**	4.00	18	MTWTh 3:00-3:50PM
AS.375.302	01	H		**Third Year Arabic II** *Rajab, Baraa* Designed to enhance students' ability to read, discuss, and write about various topics covered in traditional and contemporary Arabic texts. Continuation of AS.375.301. Recommended Course Background: AS.375.301or permission required.	3.00	18	MW 12:00-1:15PM
AS.375.402	01	H		**Fourth Year Arabic II** *Jafire, Sana* This is an introductory course to different periods of the Arabic literature. Selections of famous Arabic poetry and short prose works are the substance of the course. Continuation of AS.375.401. Recommended Course Background: AS.375.302 or equivalent.	3.00	15	MWF 11:00-11:50AM
AS.377.132	01			**Elementary Russian II** *Samilenko, Olya*	4.00	25	MTWF 9:00-9:50AM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Designed to give students a firm foundation in the language, with special emphasis on the development of vocabulary, basic reading, and conversational skills. Continuation of AS.377.131. Section 02 taught at Goucher. May not be taken Satisfactory/Unsatisfactory. Recommended Course Background: AS.377.131.			
AS.377.132	02			**Elementary Russian II** *Czeczulin, Annalisa*	4.00	17	MTWF 1:00-1:50PM
AS.377.209	01	H		**Adv Russian Grammar** *Czeczulin, Annalisa* Continuation of AS.377.208. Intensive oral work; continued emphasis on grammar and reading comprehension.	4.00	17	MTWF 10:00-10:50AM
AS.377.210	01	H		**Russian Conversation & Composition** *Samilenko, Olya* Discussions based on readings, films, and multimedia exercises. Special attention is paid to the active use of grammar structures in fourth semester Russian. Taught at Goucher. Recommended Course Background: AS.377.209 or instructor's permission.	3.00	17	Th 10:30AM-1:00PM
AS.377.210	02	H		**Russian Conversation & Composition**	3.00	1	TBA
AS.377.253	01	H	W	**The Soul of Russia: Culture and Civilization** *Czeczulin, Annalisa* The evolution of Russian culture and civilization from the Mongol invasion to the present day conducted through a study of literary texts, architecture, art, music, film, and multimedia. Taught in English. Held at Goucher.	3.00	17	MWF 12:00-12:50PM
AS.377.318	01	H		**Chekov and the Short Story** *Samilenko, Olya* Chekhov's short stories and plays studied against the social, political, and philosophic background of his time. Close readings and in-depth stylistic analysis. Designed for advanced students. Taught in Russian	3.00	17	MWF 10:00-10:50AM
AS.377.396	01	H		**Senior Seminar II: Master & Margarita** *Samilenko, Olya* Rotating topics in 20th century prose, poetry, drama, or film. This course focuses on political, social, and ideological factors in the development of Russian literature of the 20th century. A study of leading Russian authors and the conflicts between artistic freedom and political conformity. Taught in Russian.	3.00	17	MWF 11:00-11:50AM
AS.378.116	01			**First Year Japanese II** *Katagiri, Satoko*	4.50	16	MWF 10:00-10:50AM; TTh 12:00-1:15PM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is designed for students who have no background or previous knowledge in Japanese. The course consists of lectures on Tuesday/Thursday and conversation classes on Monday/Wednesdays/Fridays. The goal of the course is the simultaneous progression of four skills (speaking, listening, writing, and reading) as well as familiarity with aspects of Japanese culture. By the end of the fall term, students will have basic speaking and listening comprehension skills, a solid grasp of basic grammar items, reading and writing skills, and a recognition and production of approximately 60 kanji in context. Knowledge of grammar will be expanded significantly in 2nd year Japanese. May not be taken Satisfactory/Unsatisfactory. Recommended Course Background: AS.378.115			
AS.378.116	02			**First Year Japanese II**	4.50	16	MWF 11:00-11:50AM; TTh 12:00-1:15PM
AS.378.116	03			**First Year Japanese II**	4.50	16	MWF 12:00-12:50PM; TTh 12:00-1:15PM
AS.378.216	01	H		**Second Year Japanese II** *Nakao, Makiko Pennington* Continuation of Beginning Japanese and Intermediate Japanese I. Training in spoken and written language, increasing students' knowledge of more complex patterns. At completion, students will have a working knowledge of about 250 Kanji. Lab required. Recommended Course Background: AS.378.215 or equivalent.	4.50	16	MWF 11:00-11:50AM; TTh 10:30-11:20AM
AS.378.216	02	H		**Second Year Japanese II**	4.50	16	MTWThF 12:00-12:50PM
AS.378.316	01	H		**Third Year Japanese II** *Nakao, Makiko Pennington* Emphasis shifts toward reading, while development of oral-aural skills also continues apace. The course presents graded readings in expository prose and requires students to expand their knowledge of Kanji, grammar, and both spoken and written vocabulary. Lab required. Continuation of AS.378.315. Recommended Course Background: AS.378.315 or equivalent.	3.00	16	MWF 9:00-9:50AM
AS.378.416	01	H		**Fourth Year Japanese II** *Katagiri, Satoko* By using four skills in participatory activities (reading, writing, presentation, and discussion), students will develop reading skills in modern Japanese and deepen and enhance their knowledge on Kanji and Japanese culture. Lab required. Recommended Course Background: AS.378.415	3.00	15	MW 3:00-4:15PM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.380.102	01			**First Year Korean II** *Song, Jayoung* Focuses on improving speaking fluency to Limited Proficiency so that one can handle simple daily conversations with confidence. It provides basic high-frequency structures and covers Korean holidays. Continuation of AS.380.101. Recommended Course Background: AS.380.101 or permission required.	3.00	16	MWF 9:00-9:50AM
AS.380.102	02			**First Year Korean II**	3.00	16	MWF 3:00-3:50PM
AS.380.202	01	H		**Second Year Korean II** *Song, Jayoung* Aims for improving writing skills with correct spelling. Reading materials of Korean people, places, and societies will enhance cultural understanding and awareness, including discussion on family tree. Continuation of AS.380.201. Recommended Course Background: AS.380.201 or equivalent.	3.00	16	MWF 10:00-10:50AM
AS.380.302	01	H		**Third Year Korean II** *Song, Jayoung* Emphasizes reading literacy in classic and modern Korean prose. By reading Korean newspapers and professional articles in one's major, it enables one to be well-versed and truly literate. Continuation of AS.380.301. Cross-listed with East Asian Studies Prerequisite: AS.380.301 or equivalent.	3.00	16	MWF 1:30-2:20PM
AS.381.102	01			**First Year Hindi II** *Saini, Uma* This course prepares students to function in everyday situations in the Hindi speaking world. Focuses on the acquisition of basic vocabulary and grammatical structures in culturally authentic contexts through listening, speaking, reading, and writing comprehension. Hindi reading and writing is taught in its original Dayva-nagari script. Oral-aural drills in class and work in the Language Lab is required.	3.00	15	TTh 10:30-11:45AM
AS.381.102	02			**First Year Hindi II**	3.00	15	TTh 3:00-4:15PM
AS.381.202	01	H		**Second Year Hindi II** *Saini, Uma* Course provides refinement of basic language skills in cultural context. Emphasis will be on expansion of vocabulary and grammatical structures and further development of communicative skills. Continuation of AS.381.201. Recommended Course Background: AS.381.201 or permission required.	3.00	15	TTh 12:00-1:45PM
AS.381.302	01	H		**Third Year Hindi II** *Saini, Uma* This course is geared towards listening comprehension, enrichment of vocabulary and exposure to various social situations. Students will get an opportunity to learn to narrate and support their views in informal and formal styles. The course will promote a meaningful interaction to understand the cultural nuances.	3.00	16	M 4:30-7:15PM
AS.384.116	01			**First Year Modern Hebrew II**	4.00	15	TThF 12:00-1:15PM; M 2:50-3:40PM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Cohen, Zvi Designed to provide reading and writing mastery, to provide a foundation in Hebrew grammar and to provide basic conversational skills. Cross-listed with Jewish Studies.			
AS.384.216	01	H		**Second Year Modern Hebrew II** *Cohen, Zvi* Designed to enrich vocabulary and provide intensive grammatical review, and enhance fluency in reading, writing and comprehension. Recommended Course Background: AS.384.215 or permission required.	4.00	10	MWF 10:00-10:50AM; T 9:00-9:50AM
AS.384.316	01	H		**Third Year Modern Hebrew II** *Cohen, Zvi* Designed to: maximize comprehension and the spoken language through literary and newspaper excerpts providing the student with the language of an educated Israeli. Recommended Course Background: AS.384.315 or permission required. Cross-listed with Jewish Studies.	4.00	10	TTh 10:30-11:45AM; W 2:25-3:15PM

Chemistry

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.030.102	01	N		**Introductory Chemistry II** *Staff* Continuation of AS.030.101 emphasizing chemical kinetics, chemical bonding. Topics: energy levels and wavefunctions for particle-in-a-box and hydrogen atom and approximate wavefunctions for molecules including introduction to hybrid orbitals. Note: Appropriate adjusting caps should be used – to ensure both sections are approximately the same size	3.00	290	MWF 9:00-9:50AM
AS.030.102	02	N		**Introductory Chemistry II**	3.00	290	MWF 10:00-10:50AM
AS.030.103	01	N		**Applied Chemical Equilibrium and Reactivity w/lab** *Greco, Jane* This course is designed for freshmen who have previously taken AP chemistry or have similar advanced chemistry experience. This course will review an advanced introductory chemistry sequence in a single semester. Chemical equilibrium, reactivity and bonding will be covered. These topics will be explored through the use of laboratory experiments and problem solving, and the use of these principles in current research areas will be discussed. Students may receive credit for AS.030.103 or EN.510.101, but not both.	4.00	30	MWF 9:00-9:50AM; T 1:30-5:00PM
AS.030.103	02	N		**Applied Chemical Equilibrium and Reactivity w/lab**	4.00	30	MWF 9:00-9:50AM; Th 1:30-5:00PM
AS.030.106	01	N		**Introductory Chemistry Laboratory II** *Pasternack, Louise* Laboratory work includes some quantitative analysis and the measurement of physical properties. Open only to those who are registered for or have completed Introductory Chemistry. Permission required for pre-college students.	1.00	100	M 1:30-4:20PM
AS.030.106	02	N		**Introductory Chemistry Laboratory II**	1.00	100	T 1:30-4:20PM
AS.030.106	03	N		**Introductory Chemistry Laboratory II**	1.00	100	W 1:30-4:20PM
AS.030.106	04	N		**Introductory Chemistry Laboratory II**	1.00	100	Th 1:30-4:20PM
AS.030.106	05	N		**Introductory Chemistry Laboratory II**	1.00	100	F 1:30-4:20PM
AS.030.113	01			**Chemistry with Problem Solving II** *Hill, Eric Anthony* This course is for students who have had moderate or limited exposure to the subject. Special emphasis is placed on scientific problem-solving skills. There are two discussion sections per week, including one devoted exclusively to interactive quantitative problem solving. A typical student may have taken a year of descriptive chemistry as a high school sophomore, but has not been exposed to the problem-solving mathematical approach used in university-level science courses. Taken concurrently with AS.030.101 and AS.030.102.		20	TBA
AS.030.204	01	N		**Chemical Structure and Bonding w/Lab** *Mcqueen, Tyrel*	4.00	32	MWF 9:00-9:50AM; M 1:30-6:30PM

Chemistry

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				An introduction to the synthesis, structure, and reactivity of inorganic compounds. Modern approaches to chemical bonding, including molecular orbital, ligand field, and crystal field theories, will be applied to understanding the physical and chemical properties of inorganic materials. Other topics to be discussed include magnetic properties, electronic spectra, magnetic resonance spectra, and reaction kinetics. The integrated laboratory will cover basic synthetic, measurement, and calculation methods of inorganic chemistry.			
AS.030.204	02	N		**Chemical Structure and Bonding w/Lab**	4.00	32	MWF 9:00-9:50AM; T 1:30-6:30PM
AS.030.204	03	N		**Chemical Structure and Bonding w/Lab**	4.00	32	MWF 9:00-9:50AM; Th 1:30-6:30PM
AS.030.206	01	N		**Organic Chemistry II** *Staff* Continuation of AS.030.205 Organic Chemistry II with biochemistry topics. This course is a continuation of Organic Chemistry I starting with carbonyl chemistry and organometallic reactions. Synthetic strategies and retro-synthetic analysis are emphasized. The second half of the course focuses on biochemical topics including biological pericyclic reactions, carbohydrates, amino acids, proteins, nucleic acids, RNA, DNA, catalysis, and lipids. The organic chemistry of key metabolic steps will also be covered. Students may not simultaneously enroll for AS.030.212 and AS.030.206.	4.00	290	MWF 9:00-9:50AM; Th 9:00-10:20AM
AS.030.206	02	N		**Organic Chemistry II**	4.00	290	MWF 10:00-10:50AM; Th 9:00-10:20AM
AS.030.212	01	N		**Honors Organic Chemistry** *Lectka, Thomas* Second semester undergraduate organic chemistry from an advanced and rigorous prospective. Enrollment limited to, and highly recommended for, students who have done well in the first semester (AS.030.205.01). Topics include synthesis with a stress on modern methods, chiral molecules, and mechanistic analysis. Students will be required to access the primary literature and to use molecular modeling programs such as Spartan. Students may not simultaneously enroll for AS.030.212 and AS.030.206.	4.00	100	TBA
AS.030.225	01	N		**Introductory Organic Chemistry Lab** *D'Souza, Larissa N* Techniques for the organic chemistry laboratory including methods of purification, isolation, synthesis, and analysis. Chemistry majors should take this course in the fall semester. Course lecture meets at 9:00 am. Freshman are not eligible to register. Students may not simultaneously enroll in AS.030.225 and AS.030.227.	3.00	50	M 1:30-6:30PM; T 9:00-10:20AM
AS.030.225	02	N		**Introductory Organic Chemistry Lab**	3.00	50	T 12:30-5:30PM; T 9:00-10:20AM
AS.030.225	03	N		**Introductory Organic Chemistry Lab**	3.00	46	W 1:30-6:30PM; T 9:00-10:20AM
AS.030.225	04	N		**Introductory Organic Chemistry Lab**	3.00	50	Th 12:30-5:30PM; T 9:00-10:20AM
AS.030.225	05	N		**Introductory Organic Chemistry Lab**	3.00	46	F 1:30-6:30PM; T 9:00-10:20AM
AS.030.227	01	N		**Chemical Chirality: An Introduction in Organic Chem. Lab, Techniques**	3.00	8	T 9:00-9:50AM; W 1:30-6:30PM

Chemistry

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Hill, Eric Anthony This is a project lab designed for freshman who are concurrently enrolled in AS.030.206 or AS.030.212. Techniques for the organic chemistry laboratory including methods of purification, isolation, synthesis, and analysis will be explored through a project focused on chemical chirality. Freshmen only. Students may not simultaneously enroll for AS.030.225 and AS.030.227.			
AS.030.227	02	N		**Chemical Chirality: An Introduction in Organic Chem. Lab, Techniques**	3.00	16	T 9:00-9:50AM; F 1:30-6:30PM
AS.030.228	01			**Intermediate Organic Chemistry Laboratory** *Klausen, Rebekka* Lab skills already acquired in AS.030.225 will be further developed for synthesis, isolation, purification, and identification of organic compounds. Spectroscopic techniques, applications will be emphasized. Recommended Course Background: AS.030.225	3.00	32	WF 1:30-6:30PM
AS.030.302	01	N		**Physical Chemistry II** *Silverstone, Harris* Introduction to quantum mechanics, its application to simple problems for which classical mechanics fails. Topics: Harmonic oscillator, hydrogen atom, very approximate treatments of atoms and molecules, and theoretical basis for spectroscopy. Recommended Course Background: AS.030.301	3.00	40	MWF 10:00-10:50AM
AS.030.306	01	N		**Physical Chemistry Instrumentation Laboratory II** *Tolman, Joel R* Designed to illustrate the principles of physical chemistry, introduce the student to spectroscopic techniques and instruments used in modern chemical research. Chemistry majors expected to take this sequence of courses rather than AS.030.307.	3.00	16	M 1:30-2:20PM; M 2:30-6:30PM
AS.030.306	02	N		**Physical Chemistry Instrumentation Laboratory II**	3.00	16	T 1:30-2:20PM; T 2:30-6:30PM
AS.030.316	01			**Biochemistry II** *Rokita, Steven* Biochemical anabolism, nucleic acid structure, molecular basis of transcription, translation and regulation, signal transduction with an emphasis on physical concepts and chemical mechanisms. Format will include lectures and class discussion of readings from the literature.	3.00	18	TBA
AS.030.345	01	N		**Chemical Applications of Group Theory** *Yarkony, David R* The theory of the representations of finite and continuous groups will be applied to problems in chemistry.	3.00	25	MW 12:00-1:15PM
AS.030.371	01			**Chemistry for Connoisseurs** *Tovar, John Dayton*	3.00	20	TTh 12:00-1:15PM

Chemistry

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will survey the structural and physical properties of chemicals often considered as part of the “finer things in life” including topical discussions of the chemistries of food, drink, art, cosmetics and clothing, among others. Despite the pretentious name, the general theme of the course is to put chemical identities onto the things we interact with on a daily basis but most likely take for granted at a molecular level. Current event topics in consumer chemistry will also be covered (melamine in milk, “shoe rubber” in bread, etc.). Students will have the chance to research and present topics of interest, and there will be field trips. Open to Freshmen and Sophomores ONLY. Juniors and Seniors can enroll with instructor’s permission			
AS.030.402	01			**Experimental Methods in Physical Chemistry** *Bowen, Kit H, Jr.* This course introduces the student to experimental methodologies used in gas phase physical chemistry. Topics to be covered include vacuum technology, charged particle optics, lasers, mass spectrometry, data acquisition, detectors, measurement of temperature and pressure, and design and fabrication of scientific apparatus. These topics will be tied together with examples of specific experimental studies.	3.00	30	TBA
AS.030.451	01	N		**Spectroscopy** *Dagdigian, Paul J* Spectroscopy and structure of molecules starting from rotational, vibrational and electronic spectra of diatomic molecules and extending to polyatomic molecules as time permits.	3.00	15	TTh 9:00-10:20AM
AS.250.310	01			**Exploring Protein Biophysics using Nuclear Magnetic Resonance (NMR) Spectroscopy** *Majumdar, Ananya*	3.00	6	TTh 10:30-11:45AM

Chemistry

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time

NMR is a spectroscopic technique which provides unique, atomic level insights into the inner workings of biomolecules in aqueous solution. A wide variety of biophysical properties can be studied by NMR. For example, we can use the technique to determine three dimensional structure of biological macromolecules such as proteins and nucleic acids, probe their dynamical properties in solution, study their interaction with other molecules and understand how physico-chemical properties (such electrostatics and redox chemistry) affects and modulates structure-function relationships.
NMR exploits the exquisite sensitivity of magnetic properties of atomic nuclei to their local electronic (and therefore, chemical) environment. As a result, biophysical properties can be studied at atomic resolution. That is to say, we can deconstruct global properties of a molecule in terms of detailed, atomic level information. In addition, interactions between nuclei can be exploited to enhance the information content of NMR spectra via multi-dimensional (2D and 3D) spectroscopy. Since these properties can be studied in solution, NMR methods serve as an effective complement to X-Ray crystallography, which also provides detailed, atomic level information in the solid state.
In this course, we will learn about the basics of NMR spectroscopy, acquire 1D and 2D NMR spectra and use various NMR experiments to characterize and probe biophysical properties of proteins at an atomic level. Juniors and Seniors Only.

Classics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.205	01	H	W	**The Painted Worlds of Early Greece: Fantasy, Form and Action** *Anderson, Emily S.K.* This course explores the creation and role of early Aegean wall painting. Found primarily in palaces, villas and ritual spaces, these paintings interacted with architecture to create micro-worlds for social activities taking place in their midst. Their subjects range—from mythological to documentary, from ornamental to instructive. They depict dance and battle, fantastical beasts and daily life. We examine their complex relationship to lived reality as well as the activities that surrounded them, from their crafting, to performance of rituals, to their role in "international" relations.	3.00	15	M 1:30-4:00PM
AS.010.308	01	H		**Art and Architecture in Republican Rome** *Tucci, Pier Luigi* The course investigates the influence of the Hellenistic world on Roman artists, architects and patrons during the Republican age (509-31 BC).	3.00	20	TTh 12:00-1:15PM
AS.040.106	01			**Elementary Ancient Greek** *Staff* Course provides comprehensive, intensive introduction to the study of ancient Greek. The first semester's focus is morphology and vocabulary; the second semester's emphasis is syntax and reading. Credit is given only upon completion of a year's work. Course may not be taken Satisfactory/ Unsatisfactory.	4.00	20	MWF 9:00-9:50AM; TTh 9:00-9:50AM
AS.040.108	01			**Elementary Latin** *Staff* Course provides comprehensive, intensive introduction to the study of Latin for new students as well as systematic review for students with background in Latin. The first semester's emphasis is morphology and vocabulary; the second semester's focus is syntax and reading. Credit is given only upon completion of a year's work. Course may not be taken Satisfactory/Unsatisfactory.	3.50	15	MWF 10:00-10:50AM
AS.040.108	02			**Elementary Latin**	3.50	15	MWF 11:00-11:50AM
AS.040.146	01			**Classics and Comics: Ancient Writers and Modern Visual Culture** *Gessert, Genevieve Simandl* Course analyzing the adaptation of ancient Greek and Roman literature and visual culture in modern comic books, graphic novels, and manga.	3.00	50	TTh 12:00-1:15PM
AS.040.206	01	H		**Intermediate Ancient Greek** *Montiglio, Silvia* Reading ability in classical Greek is developed through a study of various authors, primarily Plato (fall) and Homer (spring). Recommended Course Background: AS.040.105-AS.040.106 or equivalent.	3.00	15	TTh 3:00-4:15PM

Classics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.040.208	01	H		**Intermediate Latin** *Staff* Reading ability in Latin is developed through the study of various authors, primarily Cicero (fall) and Vergil (spring). Recommended Course Background: AS.040.107-AS.040.108 or equivalent.	3.00	20	MWF 10:00-10:50AM
AS.040.306	01	H		**Advanced Ancient Greek** *Montiglio, Silvia* Reading of prose or verse authors, depending on the needs of students. This semester's focus will be on poetry: Homer's Iliad. Recommended Course Background: AS.040.205-AS.040.206 or equivalent. Co-listed with AS.040.702.	3.00	8	TTh 3:00-4:15PM
AS.040.307	01	H		**Advanced Latin Prose** *Yatromanolakis, Dimitrios* This course aims to increase proficiency and improve comprehension of the Latin language. Intensive reading of Latin texts, with attention to grammar, idiom, translation, etc. Specific offerings vary. This semester's focus is on Pliny the Younger, Epistles, and other major examples of Latin Epistolography. Recommended Course Background: AS.040.207-AS.040.208 or equivalent. Co-listed with AS.040.707.	3.00	8	MW 3:00-4:15PM
AS.040.410	01	H		**Junior-Senior Capstone: Food and Dining in the Ancient World** *Roller, Matthew* This junior-senior capstone course examines the culture of food and drink, and its associated social practices and values, in the ancient Greek and Roman worlds. The evidence examined will include texts, images, and archaeological remains.	3.00	15	MW 12:00-1:15PM
AS.150.403	01	H	W	**Hellenistic Philosophy** *Bett, Richard* A study of later Greek philosophy, stretching roughly from the death of Aristotle to the Roman imperial period. Epicureans, Stoics, and Skeptics will be the main philosophical schools examined.	3.00	20	TTh 10:30-11:45AM
AS.214.390	01	H	W	**Machiavelli: A Renaissance Master** *Celenza, Christopher* Who was Niccolò Machiavelli? The author of the Italian Renaissance's most famous book, The Prince, he also wrote histories, commentaries, comedies, and letters. And he had a career as a prominent Florentine diplomat, which ended tragically but informed everything he wrote. This course is intended to offer students an introduction to Machiavelli's major works and to the intellectual, social, and political contexts that shaped his thinking.	3.00	25	TTh 10:30-11:45AM

Classics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.389.335	01	H		**Recreating Ancient Greek Ceramics** *Balachandran, Sanchita* This hands-on course in experimental archaeology brings together undergraduate and graduate students across disciplines to study the making of Athenian vases. Students work closely with expert ceramic artists, and in consultation with art historians, archaeologists, art conservators, and materials scientists to recreate Greek manufacturing processes.	4.00	14	Th 1:30-5:00PM

Cognitive Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.050.107	01	NS		**Language and Advertising** *Rawlins, Kyle* Advertising pervades our culture; interactions with advertising are an unavoidable fact of modern life. This class uses tools from linguistics and cognitive science to analyze these interactions, and understand the impact of advertising on its viewers. A central theme is to treat ads as communicative acts, and explore the consequences -- what can theories of communication (from linguistics, psychology, and philosophy) tell us about ads? How do ads use central features of human cognition to accomplish their aims? Do ads manipulate, and if so, how successfully? The theories of communication we explore include Gricean pragmatics, theories of speech acts, linguistic theories of presuppositions, and more. Students will collect, analyze, and discuss advertisements in all mediums.	3.00	75	TTh 9:00-10:15AM
AS.050.203	01	NS		**Cognitive Neuroscience: Exploring the Living Brain** *Park, Soojin* This course surveys theory and research concerning how mental processes are carried out by the human brain. Currently a wide range of methods of probing the functioning brain are yielding insights into the nature of the relation between mental and neural events. Emphasis will be placed on developing an understanding of both the physiological bases of the techniques and the issues involved in relating measures of brain activity to cognitive functioning. Methods surveyed include electrophysiological recording techniques such as EEG, ERP, single/multiple unit recording and MEG; functional imaging techniques such as PET and fMRI; and methods that involve lesioning or disrupting neural activity such as cortical stimulation, animal lesion studies, and the study of brain-damaged individuals. Highly recommended for course background are one of the following: AS.050.105 OR AS.080.105 OR OR AS.200.141. (Co-listed as AS.080.203 in Neuroscience.)	3.00	100	TTh 10:30-11:45AM
AS.050.315	01	NS		**Cognitive Neuropsychology of Visual Perception: The Malfunctioning Visual Brain** *McCloskey, Michael E*	3.00	75	TTh 12:00-1:15PM

Cognitive Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				When we think about our ability to see, we tend to think about our eyes, but in fact vision happens mostly in the brain. This course explores the remarkable perceptual deficits that occur when the visual regions of the brain are damaged or fail to develop normally, focusing on what these perceptual malfunctions tell us about normal visual perception. Topics include visual system anatomy and physiology; functional specialization in the lower visual system as revealed by cerebral achromatopsia (color blindness resulting from brain damage) and akinetopsia (impaired motion perception); cortical plasticity in the visual system; spatial deficits in perception and action; and the implications of high-level visual deficits, including prosopagnosia (impaired face recognition), Charles Bonnet syndrome (complex visual hallucinations in blind areas of the visual field), blindsight (accurate responding to visual stimuli despite apparent inability to see them), and Anton's syndrome (denial of blindness). Cross-listed with Neuroscience. One or more of the following recommended: AS.050.105, AS.050.203, AS.080.203, AS.050.101, OR AS.200.110.			
AS.050.318	01	NS		**Practicum in Language Disorders-Community Based Learning** *McCloskey, Michael E* This course provides the opportunity to learn about adult aphasias, language disorders which are one of the most common consequences of stroke. You will receive training in supportive communication techniques and work as a communication partner with an individual with aphasia for two hours per week. Three class meetings for orientation and reading assignments will be held on campus; training and practicum will be conducted at a local aphasia support center. Transportation required. Student must have and A- or better in AS.050.203, AS.080.203, AS.050.105, OR AS.050.311; have junior or senior status; and hold a 3.5 GPA. Instructor's permission required. Interested students should contact the instructor directly. Co-listed with Neuroscience (AS.080.400). Additional information can be found on the Department of Neuroscience's website.	2.00	2	TBA
AS.050.320	01	NS		**Syntax I** *Legendre, Geraldine* Introduces the basic methods and means of analysis used in contemporary syntax investigations, practicing with data from different languages. Graduate students wishing to enroll in this course should register for AS.050.620.	3.00	20	TTh 3:00-4:15PM
AS.050.333	01	NS	W	**Psycholinguistics** *Omaki, Akira*	3.00	20	MW 1:30-2:45PM

Cognitive Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course provides a broad survey of current research on language processing in adult native speakers and language learners. Topics include speech perception, word recognition, and sentence production and comprehension. We will discuss the nature of representations that are being constructed in real-time language use, as well as how the mental procedures for constructing linguistic representations could be studied by various behavioral and physiological measures. Graduate students wishing to enroll in this course should register for AS.050.633.			
AS.050.339	01	NS		**Cognitive Development** *Yarmolinskaya, Julia S* This is a survey course in developmental psychology, designed for individuals with some basic background in psychology or cognitive science, but little or none in development. The course is strongly theoretically oriented, with emphasis on issues of nature, nurture, and development. We will consider theoretical issues in developmental psychology as well as relevant empirical evidence. The principle focus will be early development, i.e., from conception through middle childhood. The course is organized topically, covering biological and prenatal development, perceptual and cognitive development, the nature and development of intelligence, and language learning. Cross-listed with Neuroscience. One or more of the following recommended: AS.050.105, AS.050.203, AS.080.203, AS.050.101, OR AS.200.110. Graduate students wishing to enroll in this course should register for AS.050.639.	3.00	25	T 3:00-5:30PM
AS.050.372	01	NQ		**Formal Methods in Cognitive Science: Neural Networks** *Smolensky, Paul* Introduction to continuous mathematics for cognitive science, with applications to biological and cognitive network models: real and complex numbers, differential and integral multi-variable calculus, linear algebra, dynamical systems, numerical optimization. Graduate students wishing to enroll in this course should register for AS.050.672.	4.00	15	MWF 10:00-11:50AM
AS.080.320	01	N		**The Auditory System** *Boatman, Dana F* This course will cover the neuroanatomy and neurophysiology of the human auditory system from the ear to the brain. Behavioral, electrophysiological, and neuroimaging methods for assessing peripheral and central auditory function will be discussed. Acquired and developmental disorders of auditory function will be reviewed using clinical case studies.	3.00	30	WF 1:30-2:45PM

Dean's Teaching Fellowship Courses

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.100.209	01	HS	W	**Fresh Sem:Mexico and the World from Cortés to Cartels** *Clark, Joseph Michael* This introductory course examines Mexico's political, economic, and cultural role in global history from the time of Spanish conquest until the twenty-first century.	3.00	19	TTh 9:00-10:15AM
AS.100.235	01	HS		**Freshman Seminar: Politics, Society and Economics in the Renaissance** *Stein, Heather* This course will focus on the long-distance trade of both foodstuffs and clothe in order to investigate urbanization and the development of national monarchies in western Europe from the outbreak of the Black Death (1347) to the eve of the Reformation (1517).	3.00	19	TTh 3:00-4:15PM
AS.100.342	01	HS		**Colonial Lives: Individuals in the Atlantic World, 1600-1850** *Brown, William Allan Sazie* This course traces the emergence of an Atlantic world, 1600-1850, through the lens of biography. Major themes include European colonization, cross-cultural encounters, slavery and trade, imperial warfare, and political revolutions.	3.00	15	TTh 3:00-4:15PM
AS.100.344	01	HS	W	**The Holocaust** *Braun, Linda* This course expands the knowledge of the Holocaust by including experiences of Eastern European Jewry and by discussing recent historiographic debates in the field such as 'ordinary men,' perpetrators, and collaboration.	3.00	19	TTh 9:00-10:15AM
AS.140.344	01	HS		**Rejected Knowledge? Alchemy and Astrology in Early Modern European Science and Medicine** *Rivest, Justin Kyle* This course surveys the rise and fall of alchemy and astrology in early modern Europe. Topics include chemical and astrological medicine, prognostication, and the quest for the Philosopher's Stone.	3.00	16	MW 4:30-5:45PM
AS.140.350	01	HS	W	**Disability in 20th century America: Rights, Restrictions, Reproduction** *Schmidt, Marion Andrea* Is disability a biological fact or determined by culture? This class discusses different ideas of difference in the context of disability rights, professional power, reproductive technology and bioethics. Cross-listed with Studies of Women, Gender, and Sexuality	3.00	15	TTh 10:30-11:45AM
AS.140.379	01	HS		**Health and the City: Urban Public Health In Historical Perspective** *Anders, Eli Osterweil* This course examines the history of cities as spaces of public health concern since the nineteenth century, and seeks to understand how social, political, and economic contexts have shaped urban public health interventions.	3.00	16	TTh 10:30-11:45AM
AS.150.322	02	H	W	**Emotion, Mind & Morality** *Bergamaschi Ganapini, Marianna*	3.00	19	TTh 4:30-5:45PM

Dean's Teaching Fellowship Courses

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				In this course, we will investigate a number of important philosophical questions about the normative structure of emotions and their role in moral cognition by surveying some of the classic works in philosophy. We will also read a number of contemporary papers. Finally, we will look at recent work in psychology and cognitive neuroscience on the impact of emotion on reason.			
AS.180.308	01	S		**Financial Regulations in the US** *Nguyen, Hai Xuan* This course begins with the time of the great Framers and adopts a historical approach to U.S. financial regulations. By examining all major crises and the respective policy responses, the course will provide a narrative on the evolution of the regulatory landscape in America. Students will also be exposed to influential academic papers that address the essentiality (and even the redundancies and failures) of key aspects of financial regulations, including deposit insurance, bank capital and liquidity requirements, and supervisory rules. Dean's Teaching Fellowship course. Recommended courses: AS.180.261, AS.180.266, AS.180.302	3.00	20	MW 1:30-2:45PM
AS.191.324	01	S		**International Relations of Security and Development** *McNeill, Casey* This course examines how the politics of security and development shape relations between "global North" and "global South", engaging both historical and contemporary debates around intervention, humanitarianism and development.	3.00	19	TTh 4:30-5:45PM
AS.191.359	01	S		**Size Matters: Small, medium and large states in global politics** *Wang, Jiamin Karyn* Do large states dictate the terms in global politics? Are small states doomed to vulnerability in an anarchic world? And are medium states stuck in-between, incapable of exerting any real influence? This course explores whether size is a determinant of foreign policy, security calculus, democratic or authoritarian proclivity, and success in global political economy.	3.00	19	TTh 3:00-4:15PM

Earth & Planetary Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.270.110	01	N		**Freshman Seminar: Sustainable + Non-Sustainable Resources** *Sverjensky, Dimitri* An introduction to the important resources involved in the origin and production of oil, natural gas, coal, cement, metals and geothermal fluids.	1.00	12	T 3:00-4:00PM
AS.270.114	01	N		**Guided Tour: The Planets** *Strobel, Darrell F* An introduction to planetary science and planetary exploration primarily for non-science majors. A survey of concepts from astronomy, chemistry, geology, and physics applied to the study of the solar system.	3.00	110	TTh 1:30-2:45PM
AS.270.201	01	N		**Dinosaurs** *Weishampel, David B* This course covers all of the major groups of dinosaurs, from Triceratops to T. Rex and their relatives living, today birds. It will also cover the origins of the group, their near demise 65 million years ago, their behavior, growth and development, and a history of their study.	3.00	50	TTh 3:00-4:30PM
AS.270.224	01	N		**Oceans & Atmospheres** *Gnanadesikan, Anand* A broad survey of the Earth's oceans and atmospheres, and their role in the environment and climate. Topics covered include waves, tides, ocean and atmosphere circulation, weather systems, tornadoes and hurricanes, El Niño, and climate change. For science and engineering majors	3.00	30	MWF 1:30-2:20PM
AS.270.302	01	N		**Aqueous Geochemistry** *Sverjensky, Dimitri* Thermodynamic basis for calculation of equilibria involving minerals and aqueous species at both low and high temperatures and pressures. Theoretical calculation of surface geochemical processes including adsorption and dissolution kinetics.	4.50	10	MW 3:00-5:00PM
AS.270.311	01	N		**Geobiology** *Levin, Naomi E* A survey of the interactions between geological and biological processes at and near the Earth's surface, covering topics such as biogeochemistry and nutrient cycles, soil chemistry, biomarkers, archives of paleobiology, and the evolution of life, with an emphasis on terrestrial systems. Recommended Course Background: AS.270.220	3.00	25	TTh 3:00-4:15PM

Earth & Planetary Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.270.312	01	N		**Mammalian Evolution** *Rose, Kenneth David* An introduction to the evolutionary history and diversity of mammals, with emphasis on the first half of the Cenozoic - the beginning of the Age of Mammals. The course will focus primarily on the adaptive radiation of mammals (including our own order primates) that followed the extinction of the dinosaurs, exploring the origins and relationships of the major groups of mammals as well as the anatomical and ecological reasons for their success. Lectures will be supplemented with relevant fossils and recent specimens.	3.00	30	MW 3:00-4:30PM
AS.270.313	01	N		**Isotope Geochemistry** *Passey, Benjamin H* Principles of equilibrium and kinetic isotope fractionation in fluid, solid and heterogeneous systems. Stable isotopes in the biosphere, hydrosphere and atmosphere. Reconstruction of past climatic and ecological settings. Stable isotopes in igneous and metamorphic systems. Introduction to radiogenic isotopes, geochronology, thermochronology, cosmogenic isotopes and “clumped” isotopes.	3.00	15	MW 3:00-4:15PM
AS.270.315	01	N		**Natural Catastrophes** *Olson, Peter Lee* A survey of naturally occurring catastrophic phenomena, with emphasis on the underlying physical processes. Topics include hurricanes, tornadoes, lightning, earthquakes, tsunamis, landslides, and volcanic eruptions and climate change. Intended for students in science and engineering.	3.00	30	MWF 10:00-10:50AM
AS.270.325	01	N		**Introductory Oceanography** *Gnanadesikan, Anand* This class is an introduction to a wide range of physical, chemical, and biological phenomena in the world’s oceans. Underlying basic principles are exposed wherever possible. Topics covered include: seawater, waves, tides, ocean circulation, chemical oceanography, biogeochemical ocean processes, and remote sensing of the oceans. Recommended Course Background: freshman Physics, Chemistry, Calculus through ordinary differential equations.	3.00	15	MWF 3:00-3:50PM
AS.270.332	01	N		**Soil Ecology** *Szlavecz, Katalin* The course introduces basic aspects of cycles and flows in the soil ecosystem, and provides students with an overview of the higher groups of soil organisms. Laboratory and field surveying methods are also covered.	3.00	10	T 1:30-4:30PM

Earth & Planetary Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.270.395	01	N		**Planetary Physics and Chemistry** *Strobel, Darrell F* The fundamental principles governing the dynamic processes within and around the planets are treated in some detail. Core equations are developed and used to analyze nebula condensation, planetary accretion, convection in mantles and atmospheres, radiative and conductive heat transport, seismic waves, hurricanes, volcanism, and meteorite impacts, among others. Emphasis is on fundamentals and problem solving.	3.00	15	MW 3:00-4:15PM
AS.270.405	01			**Modeling the Hydrological Cycle** *Zaitchik, Benjamin* Survey of modeling techniques for hydrological monitoring, analysis and prediction, including applied exercises with commonly used models. Topics include the terrestrial water balance, rivers and floods, groundwater, atmospheric transport, and precipitation processes. Focus is on numerical methods applicable at the large watershed to global scale.	3.00	20	TTh 1:30-2:45PM
AS.270.496	01		W	**Senior Thesis** *Haine, Thomas* Preparation of a substantial thesis based upon independent student research, supervised by at least one faculty member in Earth and Planetary Sciences. Open to Senior departmental majors only. Required for department honors.	3.00	10	TBA
AS.271.107	01	N		**Introduction to Sustainability** *Parker, Cindy L* Will introduce interactions between global environment and humans, discuss meaning of sustainability, and introduce use of tools to attain sustainability such as policy, law, communication, marketing, research, advocacy, international treaties.	3.00	110	TTh 3:00-4:15PM
AS.271.360	01	N		**Climate Change: Science & Policy** *Waugh, Darryn* Prereq: 270.103 or permission of instructor. This course will investigate the policy and scientific debate over global warming. It will review the current state of scientific knowledge about climate change, examine the potential impacts and implications of climate change, explore our options for responding to climate change, and discuss the present political debate over global warming.	3.00	50	TTh 10:30-11:45AM
AS.271.401	01			**Environmental Ethics** *Monopolis, Alexios Nicolaos*	3.00	12	Th 1:30-4:00PM

Earth & Planetary Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Environmental Ethics is a philosophical discipline that examines the moral relationship between human beings and the natural environment. Beginning with an analysis of their own values, students will explore complex ethical questions, philosophical paradigms and real-life case studies. Through readings, films, seminar discussions and debates, this course will help students strengthen their ability to communicate viewpoints rooted in ethical principles. Afterwards, students will apply these tools to an examination of contemporary environmental issues, ranging from natural resource depletion, pollution, species extinction, environmental justice, climate change, and overpopulation. This course is geared towards Global Environmental Change & Sustainability and Philosophy majors.			
AS.271.403	01	S		**Environmental Policymaking and Policy Analysis** *Solomon, Rhey M* This course provides students with a broad introduction to US environmental policymaking and policy analysis. Included are a historical perspective as well as an analysis of future policymaking strategies. Students examine the political and legal framework, become familiar with precedent-setting statutes such as NEPA, RCRA, and the Clean Air and Clean Water Acts, and study models for environmental policy analysis. Cost benefit studies, the limits of science in policymaking, and the impact of environmental policies on society are important aspects of this course. A comparison of national and international policymaking is designed to provide students with the proper perspective. This course is taught in conjunction with an identical graduate course. All students will be expected to perform at a graduate level.	3.00	15	Th 6:00-8:45PM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.100.424	01	HS	W	**Women & Modern Chinese History** *Meyer-Fong, Tobie* This course examines the experience of Chinese women, and also how writers, scholars, and politicians (often male, sometimes foreign) have represented women's experiences for their own political and social agendas. Cross listed with East Asian Studies.	3.00	15	W 1:30-3:50PM
AS.140.305	01	HS		**From the Compass to Androids: History of Science, Technology, and Medicine in Asia** *Frumer, Yulia* The course explores the history and cultural context of science, medicine, and technology in East Asia, from the ancient Chinese science to the latest scientific and technological developments in Japan.	3.00	20	MW 12:00-1:15PM
AS.140.398	01	HS	W	**Godzilla and Fukushima: Japanese Environment in History and Films** *Frumer, Yulia* Juxtaposing Japanese environmental history and its reflection in popular media, the course will explore the intersection between technology, environment, and culture. The course will be accompanied by relevant movie screenings.	3.00	18	W 3:00-5:20PM
AS.190.320	01	S		**Politics Of East Asia** *Chung, Erin* Examines some of the central ideas and institutions that have transformed politics in the contemporary world through the lens of East Asia, focusing on Japan, South Korea, Taiwan, and China. Topics include state-society relations, late development, nationalism, democratization, political culture, social movements, and globalization.	3.00	20	MW 1:30-2:20PM; F 1:30-2:20PM
AS.190.320	02	S		**Politics Of East Asia**	3.00	20	MW 1:30-2:20PM; F 3:00-3:50PM
AS.230.275	01	S	W	**Revolution, Reform and Social Inequality in China** *Andreas, Joel* This course explores various aspects of social inequality in China during the Mao Zedong and the post-Mao reform eras. We will examine inequality within villages, the rural/urban divide, urban inequality, education and health policies, and gender and ethnic inequality. Each of these issue areas will be tackled analytically, but the aim is also to understand what it was/is like to live in China during and after the Mao era. Formerly offered as AS.230.321.	3.00	28	TTh 1:30-2:45PM
AS.230.285	01	S	W	**Maritime East Asia** *Kuo, Huei-Ying*	3.00	20	TTh 1:30-2:45PM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course examines the transnational connections among merchants and migrants in the waters of East and Southeast Asia from a historical and comparative perspective. We will explore how diplomatic ties, long-distance trade and migration contributed to the making of cosmopolitan cities such as Quanzhou (Zayton), Malacca, Fort Zeelandia (Formosa), Batavia, Manila, Singapore and Hong Kong in the region from the tenth century onwards. The course will close with an examination of how the transnational connections are relevant to understand inter-state competition in Asia's long twentieth century. Key subjects to be introduced include tribute trade system, trading diasporas, Euro-Chinese co-colonialism, pan-Asianism, as well as history and historiography of maritime silk road.			
AS.310.103	01	HS		**Modern Japan - 1800 to the Present** *Bronson, Adam* An introduction to the history of Japan from the 18th century to the present. In lectures and discussion we will draw upon a combination of primary source materials (political documents, memoirs, oral histories, journalism, fiction, film) and scholarly writings in order to gain insight into the complex and tumultuous process by which Japan became an industrialized society, a modern nation-state, and a world power.	3.00	50	MWF 1:30-2:20PM
AS.310.116	01	H		**Romantic Love in Chinese Literature** *Joo, Fumiko* This course aims to introduce students to a variety of literary texts featuring romantic love from the 9th to the mid-20th centuries in China. The target materials cover a wide range of literary products from Bo Juyi's court poem to the modern Shanghai novella by the woman writer Zhang Ailing (Eileen Chang). As we read romance in a variety of narrative forms such as fiction, drama, and poetry, we will examine changing ideas about marriage, love, sexuality, family, emotion, and morality within the literary discourse as well as in society. Thus, students are expected to connect various literary texts about romance to their socio-historical, literary, and political surroundings. At the same time, we will discuss the shifting significance of romance for writers and reading public and consider how literary texts formed ideas about romance in society. The course is organized chronologically and thematically. Reading assignments are all in English.	3.00	25	MW 1:30-2:45PM
AS.310.214	01	HS	W	**Empire and Hierarchy in East Asia** *Wang, Jiamin Karyn* This course investigates the spectrum of unequal political authority in international politics. Empire, as one pole of hierarchical politics, persists in today's multilateral, rule-based order. We will examine the theoretical foundations of hierarchy and empire in the study of international politics in East Asia. In addition, we will look at why empires arose at particular junctures, and contemporary directions in the debate on empire.	3.00	25	MW 3:00-4:15PM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.310.303	01	HS		**A World Upturned: Cultures of Catastrophe in Japan** *Sayre, Ryan J* Focusing on earthquake science and earthquake lore, radioactive mutation and nuclear decimation, this course will consider the relationship between technological culture and large-scale cataclysm. In addition to treating a broad array of written, graphic, and filmic representations of Japan's past and potential catastrophes, we will also be keeping a close and careful eye on present developments in Japan's 2011 earthquake/tsunami/nuclear disaster.	3.00	25	TTh 12:00-1:15PM
AS.310.304	01	HS	W	**The Architectonics of Tokyo: The Anthropology of City Life in Japan and Abroad** *Sayre, Ryan J* In this advanced undergraduate seminar on urban life and the anthropology of aesthetics, we will develop tools with which to think and write about city life in Japan and abroad. 'Architectonic' is a philosophical term referring to the ability to pull otherwise autonomous ideas together into a single coherent whole. In this course we will employ methodologies culled from class readings, lectures, web-based resources, and class discussions to collectively construct a digital patchwork of writings and images that will serve as the classes' own quasi-coherent whole, or 'architectonic' of city life in Tokyo.	3.00	15	Th 2:00-4:30PM
AS.310.306	01	HS	W	**Domestic Politics of Contemporary China** *Yang, Yi* This course introduces students to China's contemporary political history and current political system. It helps students develop a critical understanding of China's governance institutions and processes, political economy, and state-society relations. The course focuses primarily on China's domestic politics but also covers China's changing role in Asia and the world.	3.00	40	TTh 1:30-4:00PM
AS.310.308	01	H	W	**The Frontier in Late Imperial China** *Bandy, John Ross* The tremendous expansion of Chinese frontiers during the late imperial period forced the state and those who lived within it to grapple with complex problems of governance, ethnicity, and the geographic extent of "China". Issues and concerns associated with the massive Chinese frontiers have extended into the present; hence, no one can appreciate the current problems plaguing China's northwestern, southwestern, or coastal regions without an understanding of its historical antecedents. This seminar is designed to introduce major scholarly works and theoretical frameworks on the Chinese frontier.	3.00	16	Th 3:00-5:30PM
AS.310.316	01	H		**First Year Classical Chinese: Language and Literature of the Ancient Period** *Cass, Victoria B*	3.00	15	TTh 9:00-10:15AM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Readings in prose and poetic texts of the Zhou and Han Dynasties. Class emphasizes language acquisition, especially grammar and vocabulary memorization. In addition we will read and discuss works in western languages that treat the culture and writers of the Ancient period. Quizzes and Tests (Midterm and Final) will cover both language and cultural data. A short paper also required.			
AS.310.432	01	S	W	**Senior Thesis Seminar: East Asian Studies** *Chung, Erin* This course is the continuation of Senior Thesis Course AS.360.431 for students completing their thesis in the East Asian Studies program.	3.00	10	TBA
AS.373.112	01			**First Year Heritage Chinese II** *Zhao, Nan* For students who have significant previously-acquired ability to understand and speak Modern Standard Chinese. Course focuses on reading and writing. Teaching materials are the same as used in AS.373.115-116; however, both traditional and simplified versions of written Chinese characters are used. Lab required. Continuation of AS.373.111. Recommended Course Background: AS.373.111 or permission required.	3.00	15	MWF 10:00-10:50AM
AS.373.112	02			**First Year Heritage Chinese II**	3.00	15	MWF 3:00-3:50PM
AS.373.116	01			**First Year Chinese II** *Chen, Jing-Yun* Introductory course in Modern Standard Chinese. Goals: mastery of elements of pronunciation and control of basic vocabulary of 800-900 words and most basic grammatical patterns. Students work first with Pin-Yin system, then with simplified version of written Chinese characters. Continuation of AS.373.115. Note: Student with existing demonstrable skills in spoken Chinese should take AS.373.111-112. Recommended Course Background: AS.373.115 or permission required.	4.50	18	MWF 9:00-9:50AM; TTh 12:00-12:50PM
AS.373.116	02			**First Year Chinese II**	4.50	18	MWF 11:00-11:50AM; TTh 3:00-3:50PM
AS.373.116	03			**First Year Chinese II**	4.50	18	MWF 12:00-12:50PM; TTh 3:00-3:50PM
AS.373.212	01	H		**Second Year Heritage Chinese II** *Chen, Aiguo* For students who have significant previously-acquired ability to understand and speak Modern Standard Chinese. Course focuses on reading and writing. Teaching materials are the same as used in AS.373.115-116; however, both traditional and simplified versions of written Chinese characters are used. Continuation of AS.373.211. Recommended Course Background: AS.373.211 or permission required.	3.00	15	MWF 11:00-11:50AM
AS.373.212	02	H		**Second Year Heritage Chinese II**	3.00	15	MWF 12:00-12:50PM
AS.373.216	01	H		**Second Year Chinese II** *Chen, Yanfei*	4.50	18	MWF 9:00-9:50AM; TTh 12:00-12:50PM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Consolidation of the foundation that students have laid in their first year of study and continued drill and practice in the spoken language, with continued expansion of reading and writing vocabulary and sentence patterns. Students will work with both simplified and traditional characters. Note: Students who have native-like abilities in comprehension and speaking should take AS.373.211-212. Recommended Course Background: AS.373.215 or Permission Required. Cross-listed with East Asian Studies			
AS.373.216	02	H		**Second Year Chinese II**	4.50	23	MWF 11:00-11:50AM; TTh 3:00-3:50PM
AS.373.216	03	H		**Second Year Chinese II**	4.50	23	MWF 1:30-2:20PM; TTh 3:00-3:50PM
AS.373.314	01	H		**Third Year Heritage Chinese II** *Chen, Aiguo* This course is a continuation of AS.373.313. Students need to have native-level fluency in speaking and understanding Chinese. The course focuses on reading and writing. In addition to the textbooks, downloaded articles on current affairs may also be included on a regular basis. Recommended Course Background: AS.373.313 or Permission Required. Lab required.	3.00	15	MWF 10:00-10:50AM
AS.373.316	01	H		**Third Year Chinese II** *Chen, Yanfei* This two-semester course consolidates and further expands students' knowledge of grammar and vocabulary and further develops reading ability through work with textbook material and selected modern essays and short stories. Class discussions will be in Chinese insofar as feasible, and written assignments will be given. Continuation of AS.373.315. Recommended Course Background: AS.373.315 or permission required.	3.00	15	MWF 3:00-3:50PM
AS.373.416	01	H		**Fourth Year Chinese II** *Zhao, Nan* Continuation of AS.373.415. Readings in modern Chinese prose, including outstanding examples of literature, newspaper articles, etc. Students should understand most of the readings with the aid of a dictionary, so that class discussion need not focus primarily on detailed explanations of grammar. Discussion, to be conducted in Chinese, will concentrate on the cultural significance of the readings' content. Recommended Course Background: AS.373.415 or Permission Required. Cross-listed with East Asian Studies	3.00	15	MWF 9:00-9:50AM
AS.378.116	01			**First Year Japanese II** *Katagiri, Satoko*	4.50	16	MWF 10:00-10:50AM; TTh 12:00-1:15PM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is designed for students who have no background or previous knowledge in Japanese. The course consists of lectures on Tuesday/Thursday and conversation classes on Monday/Wednesdays/Fridays. The goal of the course is the simultaneous progression of four skills (speaking, listening, writing, and reading) as well as familiarity with aspects of Japanese culture. By the end of the fall term, students will have basic speaking and listening comprehension skills, a solid grasp of basic grammar items, reading and writing skills, and a recognition and production of approximately 60 kanji in context. Knowledge of grammar will be expanded significantly in 2nd year Japanese. May not be taken Satisfactory/Unsatisfactory. Recommended Course Background: AS.378.115			
AS.378.116	02			**First Year Japanese II**	4.50	16	MWF 11:00-11:50AM; TTh 12:00-1:15PM
AS.378.116	03			**First Year Japanese II**	4.50	16	MWF 12:00-12:50PM; TTh 12:00-1:15PM
AS.378.216	01	H		**Second Year Japanese II** *Nakao, Makiko Pennington* Continuation of Beginning Japanese and Intermediate Japanese I. Training in spoken and written language, increasing students' knowledge of more complex patterns. At completion, students will have a working knowledge of about 250 Kanji. Lab required. Recommended Course Background: AS.378.215 or equivalent.	4.50	16	MWF 11:00-11:50AM; TTh 10:30-11:20AM
AS.378.216	02	H		**Second Year Japanese II**	4.50	16	MTWThF 12:00-12:50PM
AS.378.316	01	H		**Third Year Japanese II** *Nakao, Makiko Pennington* Emphasis shifts toward reading, while development of oral-aural skills also continues apace. The course presents graded readings in expository prose and requires students to expand their knowledge of Kanji, grammar, and both spoken and written vocabulary. Lab required. Continuation of AS.378.315. Recommended Course Background: AS.378.315 or equivalent.	3.00	16	MWF 9:00-9:50AM
AS.378.416	01	H		**Fourth Year Japanese II** *Katagiri, Satoko* By using four skills in participatory activities (reading, writing, presentation, and discussion), students will develop reading skills in modern Japanese and deepen and enhance their knowledge on Kanji and Japanese culture. Lab required. Recommended Course Background: AS.378.415	3.00	15	MW 3:00-4:15PM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.380.102	01			**First Year Korean II** *Song, Jayoung* Focuses on improving speaking fluency to Limited Proficiency so that one can handle simple daily conversations with confidence. It provides basic high-frequency structures and covers Korean holidays. Continuation of AS.380.101. Recommended Course Background: AS.380.101 or permission required.	3.00	16	MWF 9:00-9:50AM
AS.380.102	02			**First Year Korean II**	3.00	16	MWF 3:00-3:50PM
AS.380.202	01	H		**Second Year Korean II** *Song, Jayoung* Aims for improving writing skills with correct spelling. Reading materials of Korean people, places, and societies will enhance cultural understanding and awareness, including discussion on family tree. Continuation of AS.380.201. Recommended Course Background: AS.380.201 or equivalent.	3.00	16	MWF 10:00-10:50AM
AS.380.302	01	H		**Third Year Korean II** *Song, Jayoung* Emphasizes reading literacy in classic and modern Korean prose. By reading Korean newspapers and professional articles in one's major, it enables one to be well-versed and truly literate. Continuation of AS.380.301. Cross-listed with East Asian Studies Prerequisite: AS.380.301 or equivalent.	3.00	16	MWF 1:30-2:20PM

Economics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.180.102	01	S		**Elements of Microeconomics** *Hamilton, Bruce W* An introduction to the economic system and economic analysis with emphasis on demand and supply, relative prices, the allocation of resources, and the distribution of goods and services; theory of consumer behavior, theory of the firm, and competition and monopoly, including the application of microeconomic analysis to contemporary problems. Prerequisite: basic facility with graphs and algebra. *Students who are looking to register for AS.180.102 and need to take the course should attend class on 1/28 and see Dr. Hamilton immediately afterwards*	3.00	22	MW 9:00-9:50AM; F 9:00-9:50AM
AS.180.102	02	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; F 9:00-9:50AM
AS.180.102	03	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; F 9:00-9:50AM
AS.180.102	04	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 12:00-12:50PM
AS.180.102	05	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 9:00-9:50AM
AS.180.102	06	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 9:00-9:50AM
AS.180.102	07	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 9:00-9:50AM
AS.180.102	08	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 10:30-11:20AM
AS.180.102	09	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 10:30-11:30AM
AS.180.102	10	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 10:30-11:20AM
AS.180.102	11	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 10:30-11:20AM
AS.180.102	12	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 10:30-11:20AM
AS.180.102	13	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 10:30-11:20AM
AS.180.102	14	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 12:00-12:50PM
AS.180.102	15	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 12:00-1:00PM
AS.180.102	16	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 12:00-12:50PM
AS.180.102	17	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 12:00-12:50PM
AS.180.102	18	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 12:00-12:50PM
AS.180.102	19	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 12:00-12:50PM
AS.180.102	20	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 12:00-12:50PM
AS.180.102	21	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 1:30-2:20PM
AS.180.102	22	S		**Elements of Microeconomics**	3.00	22	MW 9:00-9:50AM; Th 1:30-2:20PM
AS.180.102	23	S		**Elements of Microeconomics**	3.00	18	MW 9:00-9:50AM; F 9:00-9:50AM
AS.180.102	24	S		**Elements of Microeconomics**	3.00	18	MW 9:00-9:50AM; F 9:00-9:50AM
AS.180.203	01			**Faculty Research in Economics** *Hamilton, Bruce W* This course will consist of a series of informal lectures by various professors in the Department of Economics. Each lecture will consist of a description of a professional research project which he/shel has undertaken over the course of his/her profession career. S/U grading only.	1.00	40	M 1:30-3:00PM

Economics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.180.242	01	S		**International Monetary Economics** *Jeanne, Olivier* Balance of payments concepts and the trade balance, exchange rates and the foreign exchange market, expectations, interest rates and capital flows, central banking and monetary policy in open economies, exchange rate regimes and macroeconomic policy. Formerly AS.180.342	3.00	125	T 12:00-1:15PM
AS.180.252	01	S	W	**Economics of Discrimination** *Morgan, Barbara Anne* What does the empirical evidence show, and how can we explain it? How much of the difference in observed outcomes is driven by differences in productivity characteristics and how much is due to discrimination? How have economists theorized about discrimination and what methodologies can be employed to test those theories? What has been the impact of public policy in this area; how do large corporations and educational institutions respond; and what can we learn from landmark lawsuits? The course will reinforce skills relevant to all fields of applied economics, including critical evaluation of the theoretical and empirical literature, the reasoned application of statistical techniques, and analysis of current policy issues.	3.00	30	MW 1:30-2:45PM
AS.180.263	01	S		**Corporate Finance** *Duffee, Gregory R* This course is an introduction to the financial management of a corporation. Students study the following broad questions. How should a firm decide whether to invest in a new project? How much debt and equity should a firm use to finance its activities? How should a firm pay its investors? How do taxes affect a firm's investment and financing decisions? What determines the value of a firm? The emphasis throughout the course is on the economic principles that underlie answers to these questions.	3.00	100	MW 12:00-1:15PM
AS.180.266	01	S		**Financial Markets and Institutions** *Faust, Jon* Understanding design and functioning of financial markets and institutions, connecting theoretical foundations and real-world applications and cases. Basic principles of asymmetric information problems, management of risk. Money, bond, and equity markets; investment banking, security brokers, and venture capital firms; structure, competition, and regulation of commercial banks. Importance of electronic technology on financial systems.	3.00	125	TTh 10:30-11:45AM

Economics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.180.302	01	S		**Macroeconomic Theory** *Korinek, Anton* The course provides a treatment of macroeconomic theory including a static analysis of the determination of output, employment, the price level, the rate of interest, and a dynamic analysis of growth, inflation, and business cycles. In addition, the use and effectiveness of monetary and fiscal policy to bring about full employment, price stability, and steady economic growth will be discussed.	4.50	42	TTh 1:30-2:45PM; W 7:00-8:30PM
AS.180.302	02	S		**Macroeconomic Theory** *Driscoll, John C*	4.50	42	TTh 1:30-2:45PM; T 5:30-7:00PM
AS.180.302	03	S		**Macroeconomic Theory**	4.50	41	TTh 1:30-2:45PM; T 7:00-8:30PM
AS.180.302	04	S		**Macroeconomic Theory**	4.50	41	TTh 1:30-2:45PM; W 5:30-7:00PM
AS.180.308	01	S		**Financial Regulations in the US** *Nguyen, Hai Xuan* This course begins with the time of the great Framers and adopts a historical approach to U.S. financial regulations. By examining all major crises and the respective policy responses, the course will provide a narrative on the evolution of the regulatory landscape in America. Students will also be exposed to influential academic papers that address the essentiality (and even the redundancies and failures) of key aspects of financial regulations, including deposit insurance, bank capital and liquidity requirements, and supervisory rules. Dean's Teaching Fellowship course. Recommended courses: AS.180.261, AS.180.266, AS.180.302	3.00	20	MW 1:30-2:45PM
AS.180.309	01			**Economics of Uncertainty and Information** *Karni, Edi* In this course we'll discuss the theory of decision making in the face of risk, the theory of risk aversion and its applications to financial and insurance markets. Building on the theory of individual decision making under risk, we will study the economic implications of asymmetric information, the type of market failures produced by adverse selection and moral hazard problems, and the models that were advanced to analyze these problems, including incentive contracts, screening and signaling equilibria.	3.00	10	TTh 1:30-2:45PM
AS.180.317	01			**Economics of Fixed Income Instruments** *Duffee, Gregory R* Students study economic principles and state-of-the-art mathematical models used to value fixed securities and their dervatives. The course emphasizes advanced practical applications as well as theory. Students will develop their own computer code for price fixed-income instruments and evaluate their risks.	3.00	20	TTh 1:30-2:45PM
AS.180.334	01	QS		**Econometrics** *Krasnokutskaya, Elena*	3.00	30	M 3:00-5:00PM; F 3:00-3:50PM

Economics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Introduction to the methods of estimation in economic research. The first part of the course develops the primary method employed in economic research, the method of least squares. This is followed by an investigation of the performance of the method in a variety of important situations. The development of a way to handle many of the situations in which ordinary least squares is not useful, the method of instrumental variables, concludes the course.			
AS.180.334	02	QS		**Econometrics** *Balat, Jorge F*	3.00	30	M 3:00-5:00PM; Th 1:30-2:20PM
AS.180.336	01	S		**Economic Forecasting** *Barbera, Robert* Will sketch out a strategy for anticipating economic turning points. Business cycle basics, monetary policy/financial market/real economy interactions will be reviewed. Long-term growth issues will be explored.	3.00	30	W 1:00-3:30PM
AS.180.351	01	S		**Labor Economics** *Takahashi, Yuya* The course discusses various issues in labor markets from the perspective of economic theory. We first study the major forces at work that shape labor market behavior; firms' labor demand and workers' labor supply. Then we discuss the equilibrium behavior of employment and wages. Using these tools, we also cover various applied topics in labor economics, such as minimum wage regulations, male-female wage differentials, human capital investment, worker mobility, and unemployment.	3.00	30	TTh 12:00-1:15PM
AS.180.368	01	S		**Managerial Economics and Business Strategy** *Knapp, J. Barclay* Seminar on quantitative concepts, decision-making, and strategy in business organizations. Overall context is 'value' – how it is measured and maximized long term. Microeconomic theory of the firm, competitive analysis, corporate finance.	3.00	25	M 1:30-4:00PM
AS.180.371	01	S		**Industrial Organization** *Krasnokutskaya, Elena* Investigation of firm behavior in markets characterized by imperfect competition. Imperfect competition lies in between monopoly and perfect competition and characterizes most major industries in modern capitalist economies. Central issues to be covered in the course include what determines the intensity of competition? What determines the extent of entry and exit? How is it that some firms consistently dominate their industries?	3.00	40	MW 12:00-1:15PM
AS.180.389	01	S		**Social Policy Implications of Behavioral Economics** *Papageorge, Nick W*	3.00	25	TTh 9:00-10:15AM

Economics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Economists increasingly incorporate insights from psychology into models of rational decision-making. Known as "behavioral economics", this line of research considers how, for example, emotions, rules-of-thumb, biased beliefs and time-inconsistent preferences influence how we make choices. Behavioral economics increasingly pervades policy discussions on topics as diverse as: obesity, the role of media, subprime mortgages and voting patterns. Behavioral models are certainly novel, but do they help us to design superior social policies? With the goal of preparing students to address this question, this course (1) provides a thorough overview of the main contributions of behavioral economics, highlighting departures from more traditional economic models and (2) emphasizes how behavioral economic models might (or might not) improve how we think about social policy.			
AS.180.390	01	S	W	**Health Economics & Developing Countries** *Gersovitz, Mark* Benefits of good health and its costs. Health demand and supply in poor countries. Welfare economics of Public Health.	3.00	12	T 3:00-5:30PM
AS.180.391	01		W	**Economics of China** *Gersovitz, Mark* Discussion of the economic experince of Post-War China, primarily emphasizing topics rather than historical narative: agriculture, industry including corporate governance and public enterprises, international trade, population, migration, education, health, public finances among other topics.	3.00	12	M 3:00-5:30PM
AS.360.331	01	S		**Methods for Policy Research** *Morgan, Barbara Anne* This course will introduce students to quantitative methods for studying social policy problems. Topics to be covered include descriptive statistics and sampling, correlation and causation, simple and multiple regression, experimental methods, and an introduction to cost-benefit analysis. The emphasis will be on the selection, interpretation and practical application of these methodologies in specific policy settings, rather than with formal proofs. Skills will be reinforced by hands-on exercises using statistical software. Over the course of the semester, students will critically analyze policy reports and empirical research in a range of policy areas and learn how to present this research to a non-specialist audience. Finally, we will discuss the pros and cons of quantitative vs. qualitative methodologies. The course will conclude with group presentations that draw on all these skills. Enrollment restricted to Social Policy minors only.	3.00	15	TBA
AS.360.357	01	S	W	**Baltimore as an Urban Laboratory** *Deluca, Stefanie*	3.00	15	TBA

Economics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course uses the city of Baltimore as a lens through which to explore issues of urban inequality. We will focus on Baltimore's history of racial segregation and concentrated poverty, and its effect on the social and economic well-being of the city and its residents, with attention to education, employment, health and crime. Students will learn how to employ Census data, GIS approaches, and sociological research to inform questions about population change, inequality and the distribution of resources across the city and metropolitan region. Students will also work on one or more policy relevant studies based in Baltimore, including: a project on abandoned and vacant housing, a desegregation intervention, and a longitudinal study of inner city youth. Finally, students will become familiar with Baltimore City's programs and policy approaches to addressing the city's most pressing problems, and will design innovative and effective and innovative solutions as part of their course assignments. Enrollment restricted to Social Policy minors only.			
AS.360.366	01	S	W	**Public Policy Writing Workshop** *Longman, Phillip* This workshop is designed to hone the analytical and communications skills necessary for effective formulation and advocacy of public policy. Topics include how to develop op-ed pieces and other forms of advocacy journalism, memoranda, position papers, and grant proposals. The workshop puts special stress on how to make a clear and persuasive exposition of complex or counter-intuitive policy arguments in the market place of ideas, including the challenges of writing for popular journals and communicating to specific audiences both in and out of government. Students receive intensive individual instruction, including close editing of their work and advice on how to publish or promote it in the public sphere. Enrollment restricted to Social Policy minors only.	3.00	15	TBA
AS.360.372	01	S	W	**Poverty and Public Policy** *Edin, Kathryn* This course examines the causes and consequences of U.S. urban poverty, it's implications for health and wellbeing, and explores strategies for addressing it. We cover the major theoretical explanations scholars have advanced to explain the persistence of urban poverty including labor markets, residential segregation, welfare policy, family structure, and the criminal justice system. Within each topic area, students are introduced to a range of interventions aimed at alleviating urban poverty. Students will conduct a formal policy analysis of 20 pages and participate in a mock congressional hearing. Permission required for Social Policy minors.	3.00	15	TBA
AS.360.380	01	S	W	**Making America Social Policy** *Schlozman, Daniel*	3.00	15	TBA

Economics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course analyzes the distinctive US welfare state in historical and comparative perspective. We begin with a survey of the policy context, an historical overview from the poorhouses through the Great Society, and a tour of welfare states across the rich democracies. We then survey developments – and explain the actual workings of policy – across jobs, education, welfare, pensions, and health care. We explore the institutional and political factors behind their divergent trajectories through conservative revival and the age of Obama. Students will write a seminar paper exploring policy development over time in a program or area of their choosing. Enrollment restricted to Social Policy minors only.			
EN.570.428	01	S	W	**Problems in Applied Economics** *Hanke, Steve H* This course brings the principles of economic theory to bear upon particular problems in the fields of economics, finance and public policy. Micro, macro and international problems, from both the private and public sectors, are addressed. A heavy emphasis is placed on research and writing. Students learn how to properly conduct substantive economic research, utilizing statistical techniques and lessons from economic history. Findings are presented in the form of either memoranda or working papers. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.	3.00	25	TBA
EN.570.470	01	QS	W	**Applied Econ & Finance** *Hanke, Steve H* This course focuses on company valuations, using the proprietary Hanke-Guttridge Discounted Free Cash Flow Model. Students use the model and data from financial statements filed with the Securities and Exchange Commission to calculate the value of publicaly-traded companies. Using Monte Carlo simulations, students also generate forecast scenarios, project likely share-price ranges and assess potential gains/losses. Stress is placed on using these simulations to diagnose the subjective market expectations contained in current objective market prices, and the robustness of these expectations. During the weekly seminar, students' company valuations are reviewed and critiqued.	3.00	20	F 1:30-4:30PM
EN.570.487	01	S	W	**Financial Market Research** *Hanke, Steve H* This course investigates the workings of financial, foreign exchange, and commodity futures markets. Research is focused on price behavior, speculation, and hedging in these markets. Extensive research and writing is required. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.	3.00	20	TBA

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.060.100	01	H	W	**Introduction to Expository Writing** *Evans, William* Introduction to “Expos” is designed to introduce less experienced writers to the elements of academic argument. Students learn to recognize the paradigm of academic argument as they learn to read and summarize academic essays, and then they apply the paradigm in academic essays of their own. Classes are small, no more than 10 students, and are organized around three major writing assignments. Each course guides students’ practice through pre-writing, drafting, and revising, and includes discussions, workshops, and tutorials with the instructor. In addition to its central focus on the elements of academic argument, each “Intro” course teaches students to avoid plagiarism and document sources correctly. “Intro” courses do not specialize in a particular topic or theme and are available to freshmen only.	3.00	10	MW 1:30-2:45PM
AS.060.100	02	H	W	**Introduction to Expository Writing** *Brodsky, Anne-Elizabeth Murdy*	3.00	10	TTh 10:30-11:45AM
AS.060.100	03	H	W	**Introduction to Expository Writing**	3.00	10	TTh 12:00-1:15PM
AS.060.107	01	H	W	**Introduction to Literary Study** *Thompson, Mark C* See section descriptions.	3.00	20	TTh 1:30-2:45PM
AS.060.114	01	H	W	**Expository Writing: Freedom of Will in Neuroscience & Philosophy** *Brandau, John Alexander* “Expos” is designed to introduce more confident student writers to the elements of academic argument. Students learn to apply the paradigm of academic argument in academic essays of their own. Classes are capped at 15 students and organized around four major writing assignments. Each course guides students’ practice through pre-writing, drafting, and revising, and includes discussions, workshops, and tutorials with the instructor. In addition to its central focus on the elements of academic argument, each “Expos” course teaches students to document sources correctly and provides its own topic or theme to engage students’ writing and thinking. Please see the following list of individual course descriptions to decide which sections of “Expos” will most interest you. “Expos” courses are available to freshmen, sophomores, and juniors, and to seniors by special permission.	3.00	15	MWF 9:00-9:50AM
AS.060.114	02	H	W	**Expository Writing: Roman Gladiators** *Campbell, Elisabeth*	3.00	15	MWF 9:00-9:50AM
AS.060.114	03	H	W	**Expository Writing: Balancing Freedom and Security** *Webber, Robert Paul*	3.00	15	MWF 10:00-10:50AM
AS.060.114	04	H	W	**Expository Writing: Dissent and the Power of Persuasion** *Day, Robert D.*	3.00	15	MWF 10:00-10:50AM
AS.060.114	06	H	W	**Expository Writing: 06 Life, the Cosmos, and Intelligent Design** *Stojanovic, Pavle*	3.00	15	MW 12:00-1:15PM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.060.114	07	H	W	**Expository Writing: The Power of Language and the Force of Law** *O'Connor, Marie T*	3.00	15	MW 12:00-1:15PM
AS.060.114	08	H	W	**Expository Writing: The Power of Language and the Force of Law**	3.00	15	MW 1:30-2:45PM
AS.060.114	09	H	W	**Expository Writing: Hitchcock** *Sisson, Andrew Reynolds*	3.00	15	MW 1:30-2:45PM
AS.060.114	10	H	W	**Expository Writing: Detective Stories** *Tye, Douglas Allen*	3.00	15	MW 1:30-2:45PM
AS.060.114	11	H	W	**Expository Writing: Better Than Human** *Flaherty, Matthew Thomas*	3.00	15	MW 3:00-4:15PM
AS.060.114	12	H	W	**Expository Writing: Shakespeare's God** *Miller, William Cook*	3.00	15	TTh 9:00-10:15AM
AS.060.114	13	H	W	**Expository Writing: The Body as Art** *Libina, Maria*	3.00	15	TTh 10:30-11:45AM
AS.060.114	14	H	W	**Expository Writing: Living Other Lives in American Short Stories** *Berger, Donald W*	3.00	15	TTh 10:30-11:45AM
AS.060.114	15	H	W	**Expository Writing:** *Staff*	3.00	15	TTh 12:00-1:15PM
AS.060.114	16	H	W	**Expository Writing:**	3.00	15	TTh 12:00-1:15PM
AS.060.114	17	H	W	**Expository Writing:**	3.00	15	TTh 1:30-2:45PM
AS.060.114	18	H	W	**Expository Writing:**	3.00	15	TTh 1:30-2:45PM
AS.060.114	19	H	W	**Expository Writing:**	3.00	15	TTh 1:30-2:45PM
AS.060.114	20	H	W	**Expository Writing:**	3.00	15	TTh 3:00-4:15PM
AS.060.114	21	H	W	**Expository Writing:**	3.00	15	MW 12:00-1:15PM
AS.060.139	01	H	W	**Expository Writing: The Narrative Essay** *Kain, Patricia* Telling stories is one of the first and most important ways that human beings try to make sense of the world and their experience of it. The narrative art informs fiction and nonfiction alike, is central to the writing of history, anthropology, crime reports and laboratory reports, sports stories and political documentaries. What happened? The answer may be imagined or factual, but it will almost certainly be narrative. This course focuses on the narrative essay, a nonfiction prose form that answers the question of "what happened" in a variety of contexts and aims to make sense not only of what happened but how and why. We will begin by summarizing narrative essays, will move to analyzing them, and in the second half of the course you will write two narrative essays of your own, the first based on a choice of topics and sources, the second of your own design. Authors may include James Baldwin, Annie Dillard, Chang Rae Lee, Danielle Ofri, George Orwell, Richard Rodriguez, Richard Selzer, and Abraham Verghese. You will learn the power of narrative to inform and persuade as you test that power in your own writing.	3.00	12	MW 1:30-2:45PM
AS.060.171	01	H	W	**Russian Classics & Their Afterlives** *Jackson, Jeanne-Marie*	3.00	18	TTh 10:30-11:45AM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The idea of the "Russian Soul" has long been a source of captivation to English-language writers. How has their imagination of the dense nineteenth-century works for which Russian literature is best known evolved in the era of globalization? This course reads three major Russian novels in tandem with recent works that invoke them: Tolstoy's Anna Karenina with Nilo Cruz's 2003 Pulitzer Prize-winning play Anna in the Tropics; Dostoevsky's Demons with J.M. Coetzee's 1994 novel Master of Petersburg; and Turgenev's Fathers and Sons with Tom Stoppard's 2002 Coast of Utopia trilogy. We will attend both to the aspects of Russian writing that find perennial appeal, and to the nuances of Russian intellectual history that get lost in the clamor to claim it as universal.			
AS.060.207	01	H		**Shakespeare** *Daniel, Andrew* Reading the major comedies, histories and tragedies alongside the narrative poem "Venus and Adonis" and the sonnets, this survey course considers Shakespeare's hybrid career as poet and playwright. Pre 1800 course.	3.00	20	MW 12:00-12:50PM; F 12:00-12:50PM
AS.060.207	02	H		**Shakespeare**	3.00	20	F 12:00-12:50PM; MW 12:00-12:50PM
AS.060.207	03	H		**Shakespeare**	3.00	20	F 12:00-12:50PM; MW 12:00-12:50PM
AS.060.207	04	H		**Shakespeare**	3.00	20	F 12:00-12:50PM; MW 12:00-12:50PM
AS.060.219	01	H		**American Literature to 1865** *Hickman, Jared W* A survey course of American literature from contact to the Civil War.	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.060.219	02	H		**American Literature to 1865**	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.060.265	01	H		**Nineteenth Century British Novel** *Rosenthal, Jesse Karl* Reading major novelists from the nineteenth century including Austen, C. Brontë, Dickens, Eliot, Hardy, and Conrad. We will pay attention to formal conventions, and relation to social and historical context.	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.060.265	02	H		**Nineteenth Century British Novel**	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.060.265	03	H		**Nineteenth Century British Novel**	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.060.338	01	H	W	**Literary Scenes** *Zecca, Amanda Elizabeth* From Paris in the 1920s to San Francisco in the 1960s and beyond, this course will cover literature produced within major and minor literary "scenes" of the 20th Century. Authors include Hemingway, Stein, Woolf, Ginsberg, Kerouac, and others. Dean's Teaching Fellowship course.	3.00	18	MW 3:00-4:15PM
AS.060.339	01	H	W	**Lunatics, Lovers, Poets: Obsessive Minds in Romantic and Victorian Verse** *Hann, Jennie Kay* Focusing on the long nineteenth century, we will examine how major Anglo-American poets treat the complex relationship between madness, passion, and genius. Additional readings in philosophy and psychoanalysis. Dean's Teaching Fellowship course.	3.00	18	MW 4:30-5:45PM
AS.060.348	01	H	W	**Virginia Woolf and Bloomsbury**	3.00	18	T 1:30-3:50PM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Mao, Douglas An exploration of the achievements and investments of one of the most influential coteries in the history of Britain. In addition to delving into key fictions by Virginia Woolf, we will examine novels by Leonard Woolf and E. M. Forster, art criticism by Roger Fry and Clive Bell, biographical essays by Lytton Strachey, economic writings by John Maynard Keynes, and poetry by T. S. Eliot.			
AS.060.356	01	H	W	**Gordimer and Coetzee: Politics and Form** *Jackson, Jeanne-Marie* A comparative study of major works by the South African Nobel Laureates Nadine Gordimer and J.M. Coetzee. Special attention to critical essays by both writers about each other, as well as about issues of shared historical and literary concern. Topics will include the role of the public intellectual in apartheid-era South Africa, competing scales of literary reception and evaluation (e.g. national, international, and universal), and the relationship between politics, form, and genre.	3.00	18	M 2:30-4:50PM
AS.060.364	01	H	W	**Utopias** *Mao, Douglas* This course examines how writers have imagined perfect, or at least vastly improved, human societies from antiquity through our own day. Topics of particular interest will be the relation between individual liberty and social cohesion in utopian schemes, views on the nature of happiness and justice, and speculations about the ease or arduousness with which utopia might be created or maintained. Authors to be studied may include Plato, Thomas More, Edward Bellamy, William Morris, Charlotte Perkins Gilman, H. G. Wells, E. M. Forster, and Ursula K. LeGuin.	3.00	18	Th 1:30-3:50PM
AS.060.368	01	H	W	**Aesthetic Play in the Contemporary Global Novel** *Hashem, Noor* This seminar will explore the role of aesthetic play within contemporary world literature in order to ask the question: what challenges to global issues such as imperialism, racial and identity politics, gender parity and socioeconomic disparities are being made not only through subject matter, but through novel approaches to form? We will read short stories, novels, graphic novels, and watch films which subvert expectations about the structure of storytelling: these may include works by Mohsin Hamid, Margaret Atwood, China Miéville, Haruki Murakami, J. M. Coetzee, and Marjane Satrapi. We will also read critical scholarship on the subject of world literature like Pascale Casanova's World Republic of Letters and Aamir R. Mufti's "Orientalism and the Institution of World Literatures."	3.00	18	T 2:30-4:50PM
AS.060.381	01	H	W	**2500 Years of Tragicomedy** *Daniel, Andrew*	3.00	18	W 1:30-3:50PM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Spanning an arc from ancient Greek drama to the bleeding edge of contemporary literature, this course gathers together representative examples of a hybrid dramatic mode which has been derided by philosophers and dramatic theorists but beloved by audiences for millenia: tragicomedy. Variously understood as a comic play with dark elements or a dark play with a happy outcome, tragicomedy raises challenging questions about the nature of genre taxonomy, and the slippery relationship between authorial "tone," artistic intention, and emotional temperament. As such, tragicomedies offer a particularly revealing insight into both the history of drama and philosophical questions about the nature of spectatorial pleasure. Grounding ourselves with a reading of Aristotle's Poetics and a consideration of Plautus' "Amphitryon", we will read a broad swathe of plays divided evenly between a first half which focuses upon the ancient and early modern period and a second half focusing on the last century, possibly including: Euripedes "Alcestis", Christopher Marlowe "The Jew of Malta", Anonymous, "Arden of Faversham", William Shakespeare "Hamlet" and "All's Well That Ends Well", John Fletcher "The Faithful Shepherdess", John Dryden "The Maiden Queen", Samuel Beckett "Endgame", Tom Stoppard "Rosencrantz and Guildenstern Are Dead", Harold Pinter "The Caretaker", Joe Orton, "The Erpingham Camp", Young Jean Lee "The Shipment." Pre-1800 course.			
AS.060.388	01	H	W	**Old World/New World Women** *Achinstein, Sharon* This course considers women's experiences in British North America during the period 1620-1773 as a three-way encounter between Europeans, Africans, and First-nations peoples of America. We will focus on three great women writers, Anne Bradstreet, Aphra Behn, and Phyllis Wheatley, supplementing their contribution to literary tradition with many sources. Pre-1800 course	3.00	18	TTh 9:00-10:15AM
AS.212.205	01	H		**Winter Is Coming: Writing and Rewriting French Dark Ages** *Alhinho, Marie Elisabeth* This course will not aim at drawing the exhaustive literary landscape of French Middle Ages, neither will it be a Comparative Literature or History class. It may be considered a gateway to French Medieval literature, given that the Modern Fantasy has obviously improved the last decades, the latter being built as a rewriting of Medieval themes and Western European folklore. Looking at texts originally written in Old French, including prose and poetry, but also at the French Medieval iconography, we will try to understand the old roots of the Modern and so popular (but sacrificing) Fantasy Literature. Basic French will be required.	3.00	12	TTh 3:00-4:15PM
AS.212.478	01	H	W	**Guillaume de Machaut: exploring medieval authorship in the digital age** *Rose-Steel, Tamsyn*	3.00	12	M 4:00-6:30PM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Using new websites devoted to the lyrics and music of Guillaume de Machaut, the foremost poet and composer of the 14th-century French royal court, this seminar will explore the role of music and literature during the Hundred Years War. The course aims to give students a thorough grounding in Machaut's literary and musical works, while also introducing them to digital tools to view and analyze original illustrated musical manuscripts of his work. Critical analysis of Machaut's work will be assessed not only through more traditional essay writing, but also through the creation of a multimedia digital edition of a section of his oeuvre using Omeka exhibition software. The course is designed so that no prior knowledge of musical notation or medieval French is necessary.			
AS.214.333	01	H	W	**Shakespeare on the Opera Stage** *Refini, Eugenio* From Rossini's Otello to Cole Porter's Kiss me Kate, from Verdi's Macbeth to Leonard Bernstein's West Side Story, the works of William Shakespeare have been an extraordinary source of inspiration for musical theatre. By exploring operatic adaptations of Shakespeare in different periods and contexts, this course will examine the ways in which composers and librettists have interpreted and reshaped the plays. The course, primarily focused on the 19th century Italian reception of Shakespeare and, in particular, on operas by Rossini and Verdi, will also consider the phenomenon within a broad transnational perspective up to include contemporary opera and musical.	3.00	15	T 1:30-4:00PM
AS.214.479	01	H	W	**Dante Visits the Afterlife: The Divine Comedy** *Stephens, Walter E* Dante's Divina commedia is the greatest long poem of the Middle Ages; some say the greatest poem of all time. We will study the Commedia critically to find: (1) What it reveals about the worldview of late-medieval Europe; (2) how it works as poetry; (3) its relation to the intellectual cultures of pagan antiquity and Latin (Catholic) Christianity; (4) its presentation of political and social issues; (5) its influence on intellectual history, in Italy and elsewhere; (6) the challenges it presents to modern readers and translators; (7) what it reveals about Dante's understanding of cosmology, world history and culture. We will read and discuss the Commedia in English, but students will be expected to familiarize themselves with key Italian terms and concepts. Students taking section 02 (for 4 credits) will spend an additional hour working in Italian at a time to be mutually decided upon by students and professor.	3.00	12	TTh 10:30-11:45AM
AS.214.479	02	H	W	**Dante Visits the Afterlife: The Divine Comedy**	4.00		TTh 10:30-11:45AM
AS.215.353	01	H	W	**Women Writing in Latin America: Prose and Poetry by Sor Juana, Mistral, Lisoba, Pizarnik, Castellanos, and other poets** *Castro-Klaren, Sara*	3.00	15	W 1:30-4:00PM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The first objective of the course is to train students in close reading and analysis of literary texts. The second objective is to read prose and poetry by some of the canonical texts in the Latin American tradition written by women. Taught in English.			
AS.215.452	01	H		**Che Guevara and Magical Realism** *Gonzalez, Eduardo* His detractors often compare him to Hitler while many of his admirers see in him a saint and a martyr like Jesus Christ. Cuban school children are taught to be like him. Che was killed in 1967, the same year in which Gabriel García Márquez published Cien años de soledad (One Hundred Years of Solitute). We will study Guevara's life as a militant revolutionary through his own writings and the exorbitant style known as realismo mágico, crafted by García Márquez, one of Che's great admirers. Four movies will anchor our visual take on the myth and the man: Los diarios de motocicleta (Walter Salles, 2004), Che I and Che II (Steven Soderbergh, 2008), and Wall Street (Oliver Stone, 1987). The nineteen-eighties narcotraffic boom in Colombia and the cocaine-driven financial high times during the late Reagan years will frame our study. Taught in Spanish	3.00	30	TTh 10:30-11:45AM
AS.389.359	01	H	W	**Literary Archive** *Dean, Gabrielle* This course invites students to grapple with the theory and practice of building literary archives in 19th- and 20th-century American culture. For the final project students will work collaboratively to build a digital archive and exhibit of selected materials from the JHU rare book and manuscript collections. Meets in Special Collections. Coss-listed with English. M&S practicum course.	3.00	15	TTh 4:30-5:45PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.061.141	01	H		**Introduction to Cinema, 1941-present** *Ward, Meredith C* Introduction to Cinema provides an overview of American and international cinema from the post World War II era to the present. Through lectures and discussion, weekly screenings, and intensive visual analysis of individual films, we will explore the aesthetic, cultural, political, and economic forces that have shaped the art and industry of film over the past 70 years. Regular quizzes, writing assignments, class participation required. Mandatory film screenings Th 7:30-10:00 PM. $40.00 lab fee.	3.00	45	MW 12:00-1:15PM; Th 7:30-10:00PM
AS.061.147	01			**Introduction to Latin American Cinema** *Busó-García, Roberto* An introductory overview of the evolution of narrative feature filmmaking in Latin America, with an emphasis on comparing and contrasting myriad technical approaches to visual storytelling in different countries and eras. We address form and content, issues of identity, and politics and aesthetics. We will also discuss the influence, effect and dialogue between the films, their historical contexts and among each other. Filmmakers discussed include Cuarón, Martel, Silva, Alonso, Del Toro, Gutiérrez Alea, Reygadas, Salles, Subiela, Babenco, Sorín and Buñuel, among others. Co-listed with Program in Latin American Studies AS.361.147. Film screenings T 7:30-10:00 PM. $40 lab fee.	3.00	7	W 1:30-3:50PM; T 7:30-10:00PM
AS.061.150	01	H		**Introduction to Film Production: Rediscovering Early Cinema** *Mann, John* This course presents several basic elements of 16mm. film production. These include the use of a light meter, an understanding of camera lenses and how they function, and some basic aesthetic concerns. These aesthetic issues primarily involve shot composition and lighting. You will also learn basic concepts of film editing. You will be assigned readings from classical film theory texts (primarily from Jean Epstein and Sergei Eisenstein). These readings will closely align with specific exercises for each class. This coalescence of the practical with the theoretical is a vital component of the class. $125 lab fee	3.00	12	F 12:00-2:30PM
AS.061.152	01	H		**Introduction to Digital Film** *Roche, Jimmy* This course introduces students to the world of digital filmmaking. Through screenings, production assignments, and in-class labs, students will develop proficiency in digital cameras, sound recording devices, and software. Students will work individually and in groups to produce several video projects. For their final projects students will pitch an idea and develop a more complex film. Lab fee: $100	3.00	9	W 3:00-5:20PM
AS.061.205	01	H	W	**Introduction to Dramatic Writing: Film** *Busó-García, Roberto*	3.00	15	T 4:30-6:50PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				We will explore the basic principles of visual storytelling in narrative film as they apply to the design and execution of a screenplay. During the course of the semester, each student will work on different writing exercises as they search for their specific story and the best way to approach it and execute it. We will study different narrative tools and methods of screenwriting by analyzing specific films to ascertain how they work or fail to do so at script level. Through in-class critiques, group discussions and one-on-one sessions, students will apply these techniques to their own work as they undergo the process of designing, breaking down, outlining and writing a screenplay for a short film. In-class analysis and debate on the strengths and challenges posed by the students' work will help shape the thematic emphasis of the second half of the course.			
AS.061.219	01			**Special Topics: Animation Workshop** *Yasinsky, Karen* Students will produce several animations using hand-made techniques, including drawing animation, paper puppets and stop-motion. Screenings and readings will provide a historical and conceptual context to the exploration of animation as an experimental technique within both narrative and non-narrative works. Weekly film screenings Th 7:30-10:00PM. $40 lab fee.	3.00	8	M 3:00-5:20PM; Th 7:30-10:00PM
AS.061.229	01			**French New Wave** *Roos, Suzanne* An exploration of the major films and directors of the French New Wave that is also designed to help students consolidate their skills in the analysis of film. The course will examine the origins of the French New Wave, looking at the directors as critics and as passionate film fans, along with the institutional and historical context of the films. It will also ask how the French New Wave changed the process of filmmaking, and transformed the way we think about the work of the director--inspiring more vocations in filmmaking than any other movement in cinema history. Film screenings T 7:30-10:00PM. $40 lab fee.	3.00	15	Th 1:30-3:50PM; T 7:30-10:00PM
AS.061.245	01	H		**Introduction to Film Theory** *Ward, Meredith C* This course offers an introduction to the major paradigms of film theory, with work ranging from Sergei Eisenstein to Andre Bazin. Frequent film screenings are designed to help illustrate film theory concepts. Designed around one operative question, “What is cinema?” the course explores the varied and divergent answers provided by the great thinkers of the cinema in the past century. Students are expected to enter the course ready to engage in discussion. Film screenings W 7:30-10:00 PM. $40 lab fee.	3.00	18	W 7:30-10:00PM; T 1:30-3:50PM
AS.061.301	01	H		**Advanced Film Production: The mongrel film** *Mann, John*	3.00	6	T 2:00-4:30PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				In this course, each student is responsible for the design and production of a short 16mm film. The film may be shot on color and/or black and white negative stock. The format is Super 16mm. The film may include sync and/or non-sync sound. The idea behind the “mongrel” film is for the student to incorporate a variety of genres within this project. These may include stylistic elements typically associated with documentaries, experimental, narrative, animation, and lost and found films. $125 Lab fee			
AS.061.313	01	H	W	**Story and Character Design: for the Screenplay** *Bucknell, Lucy* A workshop devoted to developing dimensional characters and compelling, original stories. Weekly screenings, short written exercises, and a longer final project. Weekly screenings M 7:30-10 PM.	3.00	9	M 7:30-10:00PM; W 1:30-3:50PM
AS.061.328	01	H		**Gangster Films** *Bucknell, Lucy* The bad guy as hero from Little Caesar to Goodfellas. Film screenings Th 7:30-10:00 PM, Sun 7:00-9:30 PM. Lab fee: $40.	3.00	15	Th 7:30-10:00PM; S 7:00-9:30PM; M 3:00-5:20PM
AS.061.356	01	H		**Narrative Productions** *Porterfield, Matthew* This course is designed to immerse students in the creative and practical challenges of narrative production. It is our hope that you will emerge with a greater understanding of the professional structure of a film crew, as well as with an understanding of the collaborative creativity necessary to make a narrative short. We will work hard, but if you are interested in video, film and filmmaking, we guarantee you will learn a great deal. In this course students will be divided into teams, each of which will produce a short narrative film based upon a script written by a fellow student. All films will be fully student produced. Students will fill all principal roles: scripting, casting, producing, directing, designing, shooting, sound recording, and editing. Throughout the course, instructors will expose students to relevant films and film professionals in order to illuminate the key creative roles necessary in the making of any film. Instructors will serve a guiding role in the production of student projects, offering technical information and advice. Students will be evaluated not only on the films they produce, but also on their ability to create and contribute to the collaborative art of filmmaking. Lab fee: $100	6.00	15	M 4:00-10:00PM
AS.061.374	01		W	**Kubrick/Malick: The Poetics of Space** *DeLibero, Linda*	3.00	12	Th 4:00-6:20PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Beyond their balding pates, their notorious reclusiveness, and the relative paucity of their output, Stanley Kubrick and Terrence Malick share a mastery of cinematic space. This course will closely examine selected films from their work, with particular emphasis on their visionary manipulation of the epic vastness and lyrical intimacies of screen space. With this primary concern in mind, we will consider the directors' engagement with philosophies of history and time, their experiments with narrative and generic conventions, and their enduring fascination with the relationship between the human and natural worlds. Sunday 7:00pm-9:30pm weekly film screenings. $40 lab fee.			
AS.061.375	01			**Surrealism and Film** *Yasinsky, Karen* We will define Surrealism through primary texts, including those of Andre Breton, Antonin Artaud and Rene Daumal and other works that defined and influenced the movement in the early part of the 20th century. Using an understanding of the practice of surrealism found in the readings, as well as in surrealist games and automatic writing, we'll study a diverse group of filmmakers influenced by the practice, including Luis Buñuel, Joseph Cornell, Raul Ruiz and contemporary artists such as David Lynch. Assignments include weekly papers and one final creative project. Weekly film screenings Monday 7:30-10:00 PM. $40 lab fee.	3.00	12	M 7:30-10:00PM; T 1:30-3:50PM
				Media, Online			
AS.061.376	01		W	**Arts and Culture Journalism: Interactive Media, Online Publishing** *Ober, Caroline* Students will participate in the ongoing creation of BmoreArt.com, an online arts and culture publication that serves the Baltimore community. In conjunction with visiting professionals, students will investigate the Baltimore cultural community and create different types of editorial content using interactive media including film, video, sound, and writing. Students will produce creative content utilizing their individual areas of expertise - such as visual art, art history, music, literary arts, film, and theater - while working together as a professional organization. A strong emphasis will be placed on the student's collaborative participation and creative experimentation. Students with differing backgrounds in media will approach this project from unique perspectives, which will be valued and cultivated. Students with previous experience in journalism are welcome. An introductory writing or film course is suggested as a prerequisite.	3.00	15	T 4:30-6:50PM
AS.061.396	01	H		**Modern Paris on Film** *Mason, Laura*	3.00	12	M 7:30-10:00PM; T 3:00-5:20PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course uses French film to examine the history of twentieth-century Paris. We will consider how filmmakers interpreted the social, political, and technological transformations that shaped Paris in the modern era, treating movies as expressions of change and means by which filmmakers comment on it. Taught in English. Film screenings Monday 7:30-10:00 PM. $40 lab fee			
AS.061.403	01			**Sound on Film II** *Dolby, Thomas* This course continues the explorations in sound and music for film begun in AS.061.381. This 3 -credit upper-level course, sponsored by the Film and Media Studies Program at JHU and the program in Recording Arts and Sciences at the Peabody Institute, offers undergraduates and faculty/staff from both institutions an unprecedented opportunity to collaborate on all aspects of designing soundtracks for film. Classic and contemporary film scores are screened and analyzed. Then, using their own short films, students from the Film and Media Studies program work with Peabody students to create soundtracks, from the initial phases of 'spotting', composition and scoring, through the interim stages of studio recording and sound syncing, and on to final mixing of music with dialog and sound effects using industry-standard Digidesign ProTools. Students work in small teams in a lab setting to create their soundtracks, exploring a variety of scenarios, including the implications of image-driven music vs music-driven images, and the various uses of acoustic and electronic sound. The course also touches on the logistics of music budget, licensing and copyright. Lab work is supplemented by guest lectures and faculty presentations on various aspects - practical and theoretical - of applying sound to film. Guest lecturers may include sound designers and engineers, composers, editors, and filmmakers working in live action, documentary or animated film. Screenings are provided on Wednesdays from 7:30-10:00 PM. In order to be admitted to the course, students must have completed at least one 5-10 minute short film to be used for scoring a soundtrack during the semester. $40 lab fee.	3.00	4	W 7:30-10:00PM; F 1:30-3:50PM
AS.061.404	01		W	**Advanced Dramatic Writing: Film** *Busó-García, Roberto* Intensive workshop course where students will write both a first draft and a full revision of a feature length screenplay. Classes will be designed and centered on the specific challenges of the students' works-in-progress, with an emphasis on exploring and discussing different narrative approaches and solutions that will enhance their writing and revision processes. Select films will be screened and analyzed as they pertain to the students' scripts. Students will aim to have a polished draft of their screenplay to be submitted to industry-recognized screenwriting labs at the end of the semester.	3.00	10	T 1:30-3:50PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.061.421	01	H	W	**History and Film** *Mason, Laura* How do films inform, shape, or fundamentally alter our sense of the past? What are the strengths and limitations of cine-history? This course pairs traditional and avant-garde fiction films and documentaries with essays about history, historiography, memory and the political uses of the past to investigate fast-changing relationships between image and text, film and history. Screening T 7:30-10:00 PM. $40 Lab fee	3.00	12	Th 3:00-5:20PM; T 7:30-10:00PM
AS.061.441	01	H		**Sen Proj-Film Production** *Mann, John*	3.00		TBA
AS.061.443	01	H		**Sen Proj-Digital Video Prod** *Mann, John* Perm. Req'd.	3.00		TBA
AS.061.443	02	H		**Sen Proj-Digital Video Prod** *Porterfield, Matthew*	3.00		TBA
AS.213.305	01	H		**Contemporary German Film** *Strowick, Elisabeth* After almost a quarter century of neglect, German cinema is on the map again. The many awards German films have been granted over the last 15 years speak to the renaissance of German Cinema since 2000. Among these movies are Florian Henckel von Donnersmarcks The Lives of Others (Academy Award for Best Foreign Language Film, 2006), Caroline Link's Nowhere in Africa (Academy Award for Best Foreign Language Film, 2002), Fatih Akin's Head-On (Golden Bear at the Berlin International Film Festival, 2004; European Film Award 2004), Oliver Hirschbiegel's Downfall (nominated for Academy Award for Best Foreign Language Film, 2004) or Wolfgang Becker's Goodbye, Lenin! (European Film Award, 2003). Nazi Germany, the Stasi, or the Reunification are prominent topics of this internationally acclaimed Contemporary German Cinema. Parallel to these mainstream productions, an aesthetically far more adventurous cinema has developed known as "Berlin School" or "Nouvelle Vague Allemande". Directors associated with the Berlin School are Christian Petzold, Angela Schanelec, Christoph Hochhäusler or Valeska Grisebach. Dissecting the everyday reality of post-wall Germany, this 'counter-cinema' draws on the New German Cinema of the 1970s (among others) to develop radical notions of realism and challenge narrative conventions. This course will give a survey on German Film since 2000 – discussing the historical and cultural context of selected movies as well as analyzing aesthetic strategies and concepts of realism in Contemporary German Cinema. Taught in German.	3.00	15	M 1:30-4:00PM
AS.215.452	01	H		**Che Guevara and Magical Realism** *Gonzalez, Eduardo*	3.00	30	TTh 10:30-11:45AM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				His detractors often compare him to Hitler while many of his admirers see in him a saint and a martyr like Jesus Christ. Cuban school children are taught to be like him. Che was killed in 1967, the same year in which Gabriel García Márquez published Cien años de soledad (One Hundred Years of Solitute). We will study Guevara's life as a militant revolutionary through his own writings and the exorbitant style known as realismo mágico, crafted by García Márquez, one of Che's great admirers. Four movies will anchor our visual take on the myth and the man: Los diarios de motocicleta (Walter Salles, 2004), Che I and Che II (Steven Soderbergh, 2008), and Wall Street (Oliver Stone, 1987). The nineteen-eighties narcotraffic boom in Colombia and the cocaine-driven financial high times during the late Reagan years will frame our study. Taught in Spanish			
AS.216.444	01	H	W	**Apocolaypse Now: Apocalpype in Literature and Cinema** *Stahl, Neta* This course studies literary and cinematic representations of the apocalypse. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and seek to trace the narrative dynamics as well as literary and cinematic means of apocalyptic representations. We will discuss works from various periods, languages, cultures and religions. Among the issues to be discussed: what is the apocalypse, war and the apocalypse, the Holocaust as apocalypse, Biblical apocalypse, post-apocalyptic works, the apocalypse in popular culture, realism, anti-realism and the apocalypse.	3.00	15	T 1:30-4:00PM

Freshman Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.162	01	H		**Freshman Seminar: From Found Object to Junk Art** *Watson, Jennifer Lynn* The course explores the recurring strategy of using junk materials for artistic creation in the twentieth century, in both Europe and the United States, and considers the different ways this strategy has been employed by artists and experienced by viewers at different historical moments.	3.00	15	TTh 4:30-5:45PM
AS.020.104	01	N		**Freshmen Seminar: From Genes to DNA and Back** *Moudrianakis, E N* Students must obtain permission from Dr. Moudrianakis to register. A course consisting of introductory lectures followed by student presentations in the form of seminars. The issues analyzed will be: How did we arrive at the concept of the “gene”? Early experiments that gave substance to this concept. How did we arrive at the “one gene, one enzyme” dogma? What is the chemical nature of the gene? Is DNA enough for regulated gene expression? Is it “all in our genes”? What is genetic plasticity and epigenetics? What about genomics and proteomics? Freshmen Only.	1.50	24	T 1:30-2:45PM
AS.020.113	01	N		**Freshmen Seminar: Microbes in the Media** *Cebula, Thomas* This seminar discusses scientific issues that are in the news today. Possible topics might include: genomics; adaptation and evolution of bacterial pathogens; emergence of antibiotic resistance; pandemic flu; microbial communities and impact on public health; food safety; bioterrorism; synthetic biology; bioremediation; microbial fuel cells; or other biotechnology topics that could emerge during the semester. Freshmen Only. Instructor's permission required for upperclassmen.	2.00	20	W 2:00-4:00PM
AS.070.113	01	HS		**Freshman Seminar: Water and Collective Life** *Pandian, Anand* This course explores the place of water in human collective life, religious practice, cultural identity, and political aspiration. Students will learn basic ethnographic methodologies and writing strategies through both seminar discussions and class fieldtrips to water sources and sites in and around Baltimore. Some seminar discussions and fieldtrips will be carried out jointly with the freshman seminar in Political Science 090.199 ("Politics of Water")	3.00	18	M 1:30-3:50PM
AS.130.116	01	H		**Freshman Seminar: Ritual and Magic in Ancient Egypt** *Fraser, Meredith Anne* This course will serve to introduce students to the study of religion, ritual and magic through the lens of a specific culture: ancient Egypt. Throughout the course students will be introduced to ancient Egyptian culture and will interact with Egyptian texts and artifacts, including those found in the collections of the Johns Hopkins Archaeological Museum, in order to illustrate key concepts.	3.00	20	MW 3:00-4:15PM

Freshman Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.140.129	01	HS	W	**Freshman Seminar: Johns Hopkins Medicine** *Leslie, Stuart W* Johns Hopkins medicine has set the standards since the late 19th c. Learn how Hopkins reinvented medical education, public health, and hospital care and meet the people behind the famous names.	3.00	15	MW 12:00-1:15PM
AS.190.108	01	S	W	**Freshmen Seminar: The Human Condition** *Culbert, Jennifer* This freshman seminar will focus on reading just one book, The Human Condition, by Hannah Arendt. Such a narrow focus is justified by the breadth of topics the book itself discusses and the influence these various discussions have had on modern political thought. Among the various topics that will be studied and talked about are the meaning of the distinctions Arendt makes between “public,” “private,” and “social,” as well as between “labor,” “work,” and “action.” In the course of their studies, students will be challenged to think about the relation of philosophy to politics, the significance of the scientific revolution for public life, the character of contemporary society, and what it means to be “free.” Also, by focusing on just one book, students will have the opportunity to learn how to do the kind of close reading and textual analysis success in college requires. In addition to reading assignments, students will be required to write four short papers.	3.00	15	T 1:30-3:50PM
AS.200.159	01	S		**Freshmen Seminar: Evolutionary Psychology** *Egeth, Howard E* In this course we discuss evolutionary psychology, which is the idea that the mind can be understood as an adaptation to our ancestral environment by means of natural selection. Freshmen only.	1.00	13	T 2:00-2:50PM
AS.270.110	01	N		**Freshman Seminar: Sustainable + Non-Sustainable Resources** *Sverjensky, Dimitri* An introduction to the important resources involved in the origin and production of oil, natural gas, coal, cement, metals and geothermal fluids.	1.00	12	T 3:00-4:00PM
AS.300.291	01	H	W	**Freshman Seminar: Home and Exile** *Eakin Moss, Anne* This interdisciplinary seminar examines the concept of home and the condition of exile in 20th century Russian and Soviet culture from a variety of theoretical and methodological perspectives. Students will be introduced to classics of Soviet dissident, exilic, and official literature (Akhmatova, Brodsky, Nabokov, Bulgakov, Zamyatin), Soviet films (including Tarkovsky's Solaris), as well as key theoretical texts about what it means to be “at home.” Open to freshmen and sophomores with approval of professor.	3.00	15	Th 1:30-3:50PM
AS.389.105	01	H	W	**Freshman Seminar: Art in the Museum** *Kingsley, Jennifer P*	3.00	15	Th 1:30-3:50PM

Freshman Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Limited to Freshman. Explore fundamental concepts and social issues particular to the collection and display of art objects in museum contexts in the past and today. Includes fieldwork in Baltimore and DC art museums. Cross-listed with History of Art.			

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.150.483	01			**Topics in Jewish Philosophy: Hassidism** *Melamed, Yitzhak Yohanan* Hassidism is the ecstatic religious movement that emerged in East European Jewry in the mid eighteenth century. In this research seminar we will concentrate on the teachings and activities of the circle of Dov Ber of Mezrich between 1760 and 1772. We will study both internal and external sources (such as Salomon Maimon's report in his Lebensgeschichte). All materials will be available in English translation, though reading knowledge of Hebrew would be an asset.	3.00	20	W 1:30-4:00PM
AS.193.304	01	S		**Everyday Voices of the Holocaust: Popular Jewish Poetic Expression in the Ghettos and Camps** *Trinh, Miriam* The course aims to encourage knowledge of a relatively unknown mass phenomenon - poetic creativity by Jews under Nazi Rule, in the Ghettos and Camps. The study of multi-lingual texts, written by non-professional writers, will enable to better understand the complexity of immediate Jewish reaction to Holocaust reality, in its multi-cultural contexts. Texts from selected ghettos and camps, originally written in Yiddish, Polish, German and Hebrew will be read in English translation and analyzed. Emphasis will be put on the differences and similarities between Eastern and Western European Jewry.	3.00	15	TTh 10:30-11:45AM
AS.210.102	01			**French Elements II** *Staff* Provides a multi-faceted approach to teaching language and culture to the novice French student. The emphasis of the course is an aural-oral proficiency without neglecting the other basic skills of grammar structure, phonetics, reading, and writing. May not be taken Satisfactory/Unsatisfactory. Recommended course background: AS.210.101 or AS.210.103.	4.00	17	MWF 9:00-9:50AM; T 4:30-5:45PM
AS.210.102	02			**French Elements II**	4.00	17	MWF 10:00-10:50AM; T 4:30-5:45PM
AS.210.102	03			**French Elements II**	4.00	17	MWF 11:00-11:50AM; T 4:30-5:45PM
AS.210.102	04			**French Elements II**	4.00	17	T 4:30-5:45PM; MWF 11:00-11:50AM
AS.210.102	05			**French Elements II**	4.00	17	T 4:30-5:45PM; MWF 12:00-12:50PM
AS.210.103	01	H		**Learner Managed French Elements I** *Anderson, Bruce* This course is designed for students with limited French background. It covers the material of the first semester of French Elements at a fast pace and more independently than the regular course. Not recommended for true beginners unless fluent in another Romance language. Major online component supplements in-class instruction. Must complete the second semester of Learner Managed or regular French Elements in order to receive credit. May not be taken on a Satisfactory/Unsatisfactory basis. Please contact the Language Program Director if you have any questions: KACG@mac.com	3.00	17	TTh 3:00-4:15PM
AS.210.111	01			**Spanish Elements I** *Staff*	4.00	17	MWF 9:00-9:50AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This is an introductory Spanish language course. On completion of this course, the students will have acquired the basic communication and grammatical skills necessary for speaking, writing, listening and reading in Spanish. Students will demonstrate these skills through their performance in class, and by completing several online assignments, in addition to three comprehensive exams which focus on the following thematic topics: Greetings, University Life, Family and Leisure. Students will also be introduced to the culture, history and geography of various Spanish and Latin American countries. The content covered in Spanish Elements 1 is the foundation for all consecutive Spanish courses. There are no prerequisites for this course. A placement exam is often required to ensure the appropriate level.			
AS.210.111	02			**Spanish Elements I**	4.00	17	MWF 10:00-10:50AM
AS.210.112	01			**Spanish Elements II**	4.00	17	MWF 9:00-9:50AM
				Tracy, Michelle			
				This introductory Spanish language course is a continuation of the content covered in Spanish Elements I. On completion of this course, the students will have further developed the communication and grammatical skills necessary for speaking, writing, listening and reading in Spanish. Students will demonstrate these skills through their performance in class, and by completing several online assignments, in addition to three comprehensive exams which focus on the following thematic topics: Food, Sports, Shopping, Travel, and Health. Students will also be introduced to the culture, history and geography of various Spanish and Latin American countries. The content covered in Spanish Elements II prepares the students for Intermediate Spanish.			
AS.210.112	02			**Spanish Elements II**	4.00	17	MWF 10:00-10:50AM
				Staff			
AS.210.112	03			**Spanish Elements II**	4.00	17	MWF 10:00-10:50AM
AS.210.112	04			**Spanish Elements II**	4.00	17	MWF 11:00-11:50AM
AS.210.112	05			**Spanish Elements II**	4.00	17	MWF 11:00-11:50AM
AS.210.112	06			**Spanish Elements II**	4.00	17	MWF 12:00-12:50PM
AS.210.152	01			**Italian Elements II**	4.00	17	MWF 10:00-10:50AM
				Staff			
				Course helps students develop basic listening, reading, writing, speaking, and interactional skills in Italian. The content of the course is highly communicative, and students are constantly presented with real-life, task-based activities. Course adopts a continuous assessment system (no mid-term and no final).			
AS.210.152	02			**Italian Elements II**	4.00	17	MWF 11:00-11:50AM
AS.210.152	03			**Italian Elements II**	4.00	17	MWF 12:00-12:50PM
AS.210.162	01			**German Elements II**	4.00	17	MWF 9:00-9:50AM; T 9:00-9:50AM
				Staff			

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Continuation to the introduction to the German language and a development of reading, speaking, writing & listening through the use of basic texts and communicative activities. The culture of the German-language countries is also incorporated into the curriculum. May not be taken on a Satisfactory/Unsatisfactory basis. Choose your section based on MWF schedule. Tuesday hour is mandatory but flexible and conflicts with Tuesday hour can be resolved after the start of the semester.			
AS.210.162	02			**German Elements II**	4.00	17	MWF 10:00-10:50AM; T 10:30-11:20AM
AS.210.162	03			**German Elements II**	4.00	17	MWF 11:00-11:50AM; T 12:00-12:50PM
AS.210.162	04			**German Elements II**	4.00	17	MWF 12:00-12:50PM; T 12:00-12:50PM
AS.210.164	01	H		**Elementary Yiddish II** *Caplan, Beatrice* Year-long course that includes the four language skills--reading, writing, listening, and speaking--and introduces students to Yiddish culture through text, song, and film. Emphasis is placed both on the acquisition of Yiddish as a tool for the study of Yiddish literature and Ashkenazic history and culture, and on the active use of the language in oral and written communication. Both semesters must be taken with a passing grade to receive credit. Recommended Course Background: AS.210.163 or instructor permission.	3.00	12	TTh 10:30-11:45AM
AS.210.172	01	H		**Italian Elements II for Advanced Spanish Speakers** *Zannirato, Alessandro* Course draws on the many similarities between Spanish and Italian to help students develop basic listening, reading, writing, speaking, and interactional skills in Italian in an accelerated fashion. The content of the course is highly communicative, and students are constantly presented with real-life, task-based activities. Course is taught in Spanish and Italian. Students successfully completing the course with a grade of A- or higher will be allowed to place into Advanced Italian I (AS210.351)	4.00	17	MWF 10:00-10:50AM
AS.210.178	01			**Portuguese Elements II** *De Azeredo Cerqueira, Flavia Christina* This course expands students knowledge of the basic language skills: reading, writing, listening, speaking. It uses a multifaceted approach to immerse students in the cultures of Brazil, Portugal, and Portuguese-speaking Africa. The focus of the course is on oral communication with, however, extensive training in grammar. The course is conducted entirely in Portuguese. Lab work required. Students must complete both semesters with passing grades to receive credit.	4.00	20	MWF 11:00-11:50AM
AS.210.202	01	H		**Intermediate French II** *Staff*	3.00	17	MWF 9:00-9:50AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Focus on oral communication; develops skills in oral and written expression, listening comprehension, and reading, with extensive study of films and readings from French-speaking countries. Online component via Blackboard. Continuation of AS.210.201. Recommended course background: AS.210.201 or AS.210.203.			
AS.210.202	02	H		**Intermediate French II**	3.00	17	MWF 10:00-10:50AM
AS.210.202	03	H		**Intermediate French II**	3.00	17	MWF 11:00-11:50AM
AS.210.202	04	H		**Intermediate French II**	3.00	17	MWF 11:00-11:50AM
AS.210.202	05	H		**Intermediate French II**	3.00	17	MWF 12:00-12:50PM
AS.210.202	06	H		**Intermediate French II**	3.00	17	MWF 12:00-12:50PM
AS.210.211	01	H		**Intermediate Spanish I** *Staff* Intermediate Spanish I is a comprehensive study of Spanish designed for students who have attained an advanced elementary level in the language. The course is organized around a thematic approach to topics relevant to contemporary Hispanic culture. Students will practice the four language skills in the classroom through guided grammatical and creative conversational activities and through the completion of three comprehensive exams. Outside of class, students will complete extensive online assignments and write three major compositions (as part of the three exams). In addition, students will broaden their knowledge of Hispanic culture by viewing a Spanish-language film and by reading several literary selections. Successful completion of Intermediate Spanish I will prepare students for the next level of Spanish (Intermediate Spanish II).	3.00	17	MWF 9:00-9:50AM
AS.210.211	02	H		**Intermediate Spanish I**	3.00	17	MWF 10:00-10:50AM
AS.210.211	03	H		**Intermediate Spanish I**	3.00	17	MWF 11:00-11:50AM
AS.210.211	04	H		**Intermediate Spanish I**	3.00	17	MWF 12:00-12:50PM
AS.210.211	05	H		**Intermediate Spanish I**	3.00	17	MWF 12:00-12:50PM
AS.210.212	01	H		**Intermediate Spanish II** *Staff* Intermediate Spanish II is a comprehensive study of Spanish designed for students who have attained a mid-intermediate level in the language or who have completed Spanish 210 and 211. The course is organized around a thematic approach to topics relevant to contemporary Hispanic culture. Students will practice the four language skills in the classroom through guided grammatical and creative conversational activities and through the completion of three comprehensive exams. Outside of class, students will complete extensive online assignments and write three major compositions (as part of the three exams). In addition, students will broaden their knowledge of Hispanic culture by viewing a Spanish-language film and by reading several literary selections. Successful completion of Intermediate Spanish II will prepare students for the next level of Spanish (Advanced Spanish I).	3.00	17	MWF 9:00-9:50AM
AS.210.212	02	H		**Intermediate Spanish II**	3.00	17	MWF 10:00-10:50AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.210.212	03	H		**Intermediate Spanish II**	3.00	17	MWF 11:00-11:50AM
AS.210.212	04	H		**Intermediate Spanish II**	3.00	17	MWF 11:00-11:50AM
AS.210.212	05	H		**Intermediate Spanish II**	3.00	17	MWF 12:00-12:50PM
AS.210.252	01	H		**Intermediate Italian II** *Staff* Taught in Italian. Course provides further development of students' language skills through intensive listening, speaking, reading, writing and interactional activities on topics of increasing complexity. Course adopts a continuous assessment system (no mid-term and no final).	3.00	17	MWF 10:00-10:50AM
AS.210.252	02	H		**Intermediate Italian II**	3.00	17	MWF 11:00-11:50AM
AS.210.252	03	H		**Intermediate Italian II**	3.00	17	MWF 12:00-12:50PM
AS.210.262	01	H		**Intermediate German II** *Staff* Taught in German. This course is designed to continue the four skills (reading, writing, speaking and listening) approach to learning German. Readings and discussions are topically based and include fairy tales, poems, art and film, as well as readings on contemporary themes such as Germany's green movement. Students will also review and deepen their understanding of the grammatical concepts of German.	3.00	17	MWF 9:00-9:50AM
AS.210.262	02	H		**Intermediate German II**	3.00	17	MWF 10:00-10:50AM
AS.210.262	03	H		**Intermediate German II**	3.00	17	MW 11:00-11:50AM
AS.210.278	01	H		**Intermed/Adv Portuguese** *De Azeredo Cerqueira, Flavia Christina* This course is conducted entirely in Portuguese. Emphasis is placed on vocabulary building, ease and fluency in the language through the use of a multifaceted approach. Materials used immerse students in the cultures of Brazil, Portugal, and Portuguese-speaking Africa, and reflect the mix of cultures at work in the contemporary Lusophone world. Lab work required.	3.00	20	MWF 10:00-10:50AM
AS.210.302	01	H	W	**Advanced Writing and Speaking in French II** *Staff* Taught in French. This is a third-year language course intended to bridge the intermediate level and more advanced levels in French literature and cultural studies. Students will be given the opportunity to continue strengthening their linguistic skills. Individualized review of grammar based on the students' written work. Students will be presented with a diversity of texts from current newspaper articles covering key national and international issues to a diversity of literary texts. Recommended course background: AS.210.301.	3.00	15	MWF 9:00-9:50AM
AS.210.302	02	H	W	**Advanced Writing and Speaking in French II**	3.00	15	MWF 10:00-10:50AM
AS.210.302	03	H	W	**Advanced Writing and Speaking in French II**	3.00	15	MWF 10:00-10:50AM
AS.210.302	04	H	W	**Advanced Writing and Speaking in French II**	3.00	15	MWF 11:00-11:50AM
AS.210.302	05	H	W	**Advanced Writing and Speaking in French II**	3.00	15	TTh 10:30-11:45AM
AS.210.302	06	H	W	**Advanced Writing and Speaking in French II**	3.00	15	TTh 12:00-1:15PM
AS.210.302	07	H	W	**Advanced Writing and Speaking in French II**	3.00	15	TTh 12:00-1:15PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.210.311	01	H		**Advanced Spanish I** *Staff* This course is a comprehensive study of the Spanish language focused on the continuing development of students' communicative abilities and their knowledge of Hispanic cultures. Students will expand their use of basic structures of Spanish with a special emphasis on more difficult grammatical and vocabulary aspects, and further improve both their oral and written skills. Students will sharper their critical thinking skills and listening abilities utilizing movies and written texts. This course combines an extensive use of an online component with class participation and three exams. Upon successful completion of this course, students will have acquired extended complex language tools that facilitate proficiency in Spanish and its use in various professional contexts.	3.00	15	MWF 9:00-9:50AM
AS.210.311	02	H		**Advanced Spanish I**	3.00	15	MWF 10:00-10:50AM
AS.210.311	03	H		**Advanced Spanish I**	3.00	15	MWF 11:00-11:50AM
AS.210.311	04	H		**Advanced Spanish I**	3.00	15	MWF 11:00-11:50AM
AS.210.311	05	H		**Advanced Spanish I**	3.00	15	MTW 12:00-12:50PM
AS.210.312	01	H		**Advanced Spanish II** *Staff* This course is thorough review of the Spanish language focused on the development of students' communicative abilities and their knowledge of Hispanic cultures. Students will both expand their knowledge of the basic structures of Spanish, with special emphasis on more difficult grammatical and vocabulary aspects, and further improve on oral and written skills. Students will increase their critical thinking skills and listening abilities utilizing movies and written texts. This course combines an extensive use of an online component, class participation and three exams. Upon successful completion of this course, students will have acquired more complex language tools to become proficient in Spanish and its use in various professional contexts.	3.00	15	MWF 10:00-10:50AM
AS.210.312	02	H		**Advanced Spanish II**	3.00	15	MWF 11:00-11:50AM
AS.210.312	03	H		**Advanced Spanish II**	3.00	15	MWF 12:00-12:50PM
AS.210.312	04	H		**Advanced Spanish II**	3.00	15	MWF 12:00-12:50PM
AS.210.313	01	H		**Medical Spanish** *Staff* Medical Spanish is a comprehensive examination of vocabulary and grammar for students who either work or intend to work in medicine and health-related fields in Spanish-speaking environments. The student will be able to participate in conversations on topics such as contrasting health systems, body structures, disorders and conditions, consulting your doctor, physical and mental health, first-aid, hospitalization and surgery on completion of this course. In completing the course's final project students will apply, synthesize, and reflect on what has been learned in the class by creating a professional dossier individualized to their professional interests.	3.00	15	TTh 12:00-1:15PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.210.315	01	H		**Spanish for International Relations** *Staff* Spanish for international relations is an advanced examination of grammar and an analysis of international relations' topics in Spanish. By completion of this course the student will have developed the ability to read, critically discuss and demonstrate mastery of political and socio-economic issues in Spanish-speaking environments. Potential topics include a survey of the professions in international relations, NGOs in Latin America, intellectual property, cultural diplomacy, remesas, regional coalitions and treaties, and the environment. Class presentations and final projects will allow students to apply, synthesize, and reflect on what has been learned in the class by participating in a global simulation that will include a written exercise individualized to their professional interests.	3.00	15	TTh 10:30-11:45AM
AS.210.316	01	H		**Conversational Spanish** *Staff* Conversational Spanish surveys high-interest themes, discusses short films by contemporary Hispanic filmmakers and offers a thorough review of grammar. The student will be able to participate in conversations on topics such as personality traits, social media, political power, art and lifestyles on completion of this course. Conversational skills mastered during the course apply to all careers interconnected by Spanish.	3.00	15	TTh 10:30-11:45AM
AS.210.317	01	H	W	**Adv Spanish Composition** *Staff* This third-year course is a hands-on and process-oriented introduction to discussion and compositional analysis. On completion of this course, students will have improved their Spanish writing skills in various types of compositions they might be expected to write in academic settings and in real-life formats such as film reviews, letters to the editor, cover letters, etc. The course also focuses on refinement of grammar and vocabulary use.	3.00	12	TTh 12:00-1:15PM
AS.210.352	01	H	W	**Advanced Italian II** *Staff* Course presents a systematic introduction to a variety of complex cultural and historical topics related to present-day Italy, emphasizing intercultural comparisons, interdisciplinarity, and encouraging a personal exploration of such topics. Course adopts a continuous assessment system (no mid-term and no final).	3.00	15	MWF 11:00-11:50AM
AS.210.362	01	H	W	**Advanced German II: Contemporary Issues in the German Speaking World** *Staff*	3.00	17	MWF 11:00-11:50AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Taught in German. Topically, this course focuses on contemporary issues such as national identity, multiculturalism and the lingering social consequences of major 20th century historical events. Readings include literary and journalistic texts, as well as radio broadcasts, internet sites, music and film. Students read a full-length novel. Emphasis is placed on improving mastery of German grammar, development of self-editing skills and practice in spoken German for academic use. Introduction/Review of advanced grammar.			
AS.210.362	02	H	W	**Advanced German II: Contemporary Issues in the German Speaking World**	3.00	17	MW 12:00-1:15PM
AS.210.365	01	H		**German for Science and Engineering** *Staff* Taught in German. This course is designed to provide language training in German tailored to students of science & engineering. Germany has long been a world leader in engineering, most notably in chemical and mechanical engineering. Over the past decades, Germany also has taken a lead in environmental sciences and information technology. In addition, Germany is now becoming an increasingly attractive place to pursue degrees in the technical fields. This course will provide practice and expansion in all language skill areas: analysis of texts, hands-on-activities, preparation of presentations, and discussion of topics. Specific areas of interest to the course members will be taken into consideration for the selection of materials. [Does not replace 210.362 as prerequisite for upper level courses or as major requirement.]	3.00	12	TTh 10:30-11:45AM
AS.210.370	01	H		**Yiddish Texts II** *Caplan, Beatrice* Continuation of Yiddish Texts I. This course will give students who have completed Advanced Yiddish the chance to improve their proficiency. The curriculum will be determined according to the research interests of the students with an emphasis placed on reading primary texts fluently. Since the course is taught in Yiddish, students will also have ample opportunity to practice the other language skills (listening, speaking, writing).	3.00	12	TTh 12:00-1:15PM
AS.210.392	01	H	W	**Advanced Portuguese: Language and Literature II** *De Azeredo Cerqueira, Flavia Christina* This course focuses on reading, writing, and oral expression. Under the supervision of the instructor, students will read several works by major Brazilian, Portuguese, and/or Afro-Portuguese writers, followed by intensive writing and oral discussion on the topics covered. Grammar will be reviewed as necessary. The course is conducted entirely in Portuguese. No satisfactory/unsatisfactory.	3.00	15	MWF 9:00-9:50AM
AS.210.411	01	H	W	**Translation for the Professions** *Staff*	3.00	12	TTh 12:00-1:15PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Spanish Translation for the Professions surveys the field of contemporary translation theory and provides practice of translation from English to Spanish. Translation exercises may include comparing and contrasting texts of literature, medicine, health, law, technology, politics, and journalism. Students will identify and differentiate terminology specific to these various fields and will focus on practicing correct uses of the grammatical structures relevant to the translation of both English and Spanish. In the course's final projects students will apply, synthesize, and reflect on what has been learned in the class by completing a translation exercise individualized to their professional interests. Strategies of communication mastered in this course will help students of Spanish throughout their careers, in that achievement of the course objectives will help students discern, translate, and evaluate the usefulness of translations in different professional settings.			
AS.210.412	01	H	W	**Spanish Language Practicum-Community Based Learning** *Sanchez, Loreto* This fourth-year course involves a specially designed project related to the student's minor concentration. On completion of this course, the student will be able to use the Spanish language in real world contexts. The student-designed project may be related to each student´s current employment context or developed in agencies or organizations that complement student's research and experimental background while contributing to the improvement of his/her language proficiency.	3.00	12	T 1:30-4:00PM
AS.210.413	01	H	W	**Curso de Perfeccionamiento** *Sanchez, Loreto* This fourth-year course is an in-depth examination of the Spanish grammar, including a wider range of idiomatic expressions and usages than students might have previously encountered. On completion of this course, students will be able to achieve the ACTFL Advanced-Mid to high level in oral and written expression as well as in reading and listening skills. The course will also help to prepare students for the DELE Intermediate or Superior levels, offered by the Instituto Cervantes.	2.00	12	TTh 12:00-12:50PM
AS.210.417	01	H	W	**Eloquent French** *Cook-Gailloud, Kristin* This interactive, writing intensive course places emphasis on: 1. Building linguistic tools that will help students reach the highest level of proficiency (advanced lexical, stylistic and idiomatic expressions, linking expressions used in complex sentences, stylistic and grammatical differences between French and English) 2. Enhancing analytical skills through French "Explication de textes" (close reading method) 3. Developing individual style through creative writing	3.00	12	MWF 11:00-11:50AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.211.207	01	H		**Waves of Feminism through Film and Media** *Wegenstein, Bernadette* This course will examine the movements known as second- and third-wave feminism as expressed in film and other media since the 1950s. Second-wave feminism—influenced in part by the French philosopher Simone de Beauvoir but driven by social and economic factors in the US and the post-war, industrialized west—departed from the practical exigencies of suffrage that drove the first wave before it and became concerned with defending the identity of women from being defined in terms of patriarchal norms. From popularized images of working women in US television series to the formalist experimentation of the France's New-Wave in cinema, the media of the sixties and seventies absorbed and explored many of second-wave feminism's central themes and critiques. Largely a critique of the perceived Euro-centrism of the second wave, third-wave feminism, coined in the early nineties, focused on the experience of women of color and those from the developing world who did not share the relatively privileged backgrounds of their predecessors. The second part of the course will examine how film and media since the nineties has incorporated and reflected this new inclusiveness, and striven to tell stories of women from a broad spectrum of backgrounds. We will take advantage of the visit to Hopkins by acclaimed media artist Sharon Hayes to examine how her own media practice has been shaped by successive waves of feminist thought and has in turn affected feminism. Other works will include the films of Agnès Varda and Shirin Neshat.	3.00	20	M 3:00-5:30PM
AS.211.207	02	H		**Waves of Feminism through Film and Media**	3.00	20	W 3:00-5:30PM
AS.211.312	01	H		**Acting French: learning about French language and culture through theater** *Cook-Gailloud, Kristin* Performing a play in a foreign language not only improves language skills, but develops the ability to express oneself through the body and to communicate both efficiently and elegantly. Using excerpts from popular French stage plays by Camus, Sartre, Feydeau, Ionesco, Pagnol and Rostand among others, this course aims to help students to 1) improve French pronunciation, intonation, syntax, and vocabulary; 2) appreciate and understand linguistic nuance and socio-cultural practices; 3) learn fundamentals of acting that carry over into everyday communication, from body language and vocal projection to the expression of emotion and improvisation. Students will view filmed representations of select plays as well as present an end-of-semester staging. Recommended course background: AS.210.301.	3.00	12	MWF 12:00-12:50PM
AS.211.319	01	H		**¡Salsa! The Afro-Antillean song** *Ramos, Rosario*	3.00	15	TTh 1:30-2:45PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				¡Salsa! The Afro-Antillean song surveys Caribbean music in an international Spanish-speaking context. As a language course, it reviews grammar and instils vocabulary acquisition through the close analysis of the biggest hits of salsa from the past one hundred years. On completion of this course the student will have developed the ability to read and critically discuss music and its history in the Spanish-speaking Caribbean and will have examined cultural roots, market dominance, and media crossovers in the musical universe of the Spanish-speaking archipelago of the Antilles. In completing the course's final project students will apply, synthesize, and reflect on what has been covered in the class by creating a professional dossier individualized to their own personal musical interests. Concepts learned in this course will be directly applicable to careers linked to intercultural and international relations while also apply to multiple careers in media, music industry and dance. There is no final exam. May not be taken satisfactory/unsatisfactory. Not open to native speakers of Spanish. No new enrollments permitted after the third class session.			
AS.211.341	01	H		**Power and Resistance: Approaches to French Political Thought.** *Russo, Elena* Even as a coherent, rational conception of state power emerged in France in as early as the Renaissance, French thinkers never stopped challenging the ways by which power justified itself in order to foster obedience and consensus. In so doing, they focused critically as much on the claims of sovereignty issuing from the top as on the willingness of the governed to submit to them. The course will examine the dialectic between the legitimation and delegitimation of power, from the Renaissance wars of religion to the Revolution and beyond: the haunting fear of the corruption and death of the political body; the notion of permanent crisis; the right to revoke the social contract; the reach of power in shaping minds and bodies. Readings may include works by La Boétie, Bodin, Bayle, Rousseau, Sade, Saint-Just, Constant, Maistre, Tocqueville, Foucault, Lefort and Rancière. Readings and discussion in English.	3.00	10	MW 12:00-1:15PM
AS.211.367	01	H		**La Nouvelle Vague** *Roos, Suzanne* Exploration des films les plus importants et des principaux cinéastes de la Nouvelle Vague française; introduction à l'analyse et à l'appréciation des films. Conducted in French. Recommended Course Background: AS.210.301 or permission of the instructor. Recommended screenings Tuesday 7:30pm. $40 lab fee.	3.00	12	W 1:30-4:00PM
AS.211.380	01	H		**Modern Latin American Culture** *Staff*	3.00	17	MW 12:00-1:15PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Taught in Spanish. This course will explore the fundamental aspects of Latin- America culture from the formation of independent states through the present—in light of the social, political, and economic histories of the region. The course will offer a general survey of history of Latin- America, and will discuss texts, movies, songs, pictures, and paintings, in relation to their social, political, and cultural contexts. May not be taken satisfactory/unsatisfactory.			
AS.211.380	02	H		**Modern Latin American Culture**	3.00	17	TTh 12:00-1:15PM
AS.211.394	01	H	W	**Brazilian Cult & Civ** *De Azeredo Cerqueira, Flavia Christina* This course is intended as an introduction to the culture and civilization of Brazil. It is designed to provide students with basic information about Brazilian history, art, literature, popular culture, theater, cinema, and music. The course will focus on how indigenous Asian, African, and European cultural influences have interacted to create the new and unique civilization that is Brazil today. The course is taught in English, but ONE extra credit will be given to students who wish to do the course work in Portuguese. Those wishing to do the course work in English for 3 credits should register for section 01. Those wishing to earn 4 credits by doing the course work in Portuguese should register for section 02. The sections will be taught simultaneously. Section 01: 3 credits Section 02: 4 credits (instructor's permission required)	3.00	26	M 1:30-4:30PM
AS.211.394	02	H	W	**Brazilian Cult & Civ**	4.00	4	M 1:30-4:00PM
AS.211.402	01	H	W	**La France Contemporaine II** *Staff* Students will explore contemporary French society and culture through a wide variety of media: fiction and non-fiction readings (graphic novels, news periodicals, popular magazines), films, music, art, websites and podcasts. A diverse range of hands-on activities in addition to guided readings will help students develop cultural awareness as we discuss topics such as education, politics, humor, sports, cuisine, immigration, slang, and national identity, as well as the historical factors that have influenced these facets of French and francophone culture. Recommended Course Background: AS.210.301-AS.210.302 or AS.210.301 or permission of instructor.	3.00	15	TTh 10:30-11:45AM
AS.211.402	02	H	W	**La France Contemporaine II**	3.00	15	TTh 1:30-2:45PM
AS.212.205	01	H		**Winter Is Coming: Writing and Rewriting French Dark Ages** *Alhinho, Marie Elisabeth*	3.00	12	TTh 3:00-4:15PM

German & Romance Languages & Literatures

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				This course will not aim at drawing the exhaustive literary landscape of French Middle Ages, neither will it be a Comparative Literature or History class. It may be considered a gateway to French Medieval literature, given that the Modern Fantasy has obviously improved the last decades, the latter being built as a rewriting of Medieval themes and Western European folklore. Looking at texts originally written in Old French, including prose and poetry, but also at the French Medieval iconography, we will try to understand the old roots of the Modern and so popular (but sacrificing) Fantasy Literature. Basic French will be required.			
AS.212.334	01	H	W	**Introduction à la littérature française II** *Schilling, Derek* Readings and discussion of texts of various genres from the Middle Ages to the 20th century. The two semesters (212.333 and 212.334) may be taken in either order. This sequence is a pre¬requisite to all further literature courses. Students may co-register with an upper-level course during their second semester. Introduction à la littérature française II covers the time period from the Revolution to the present.	3.00	20	TTh 12:00-1:15PM
AS.212.334	02	H	W	**Introduction à la littérature française II** *Russo, Elena*	3.00	20	MW 10:30-11:45AM
AS.212.341	01	H		**Power and Resistance: Approaches to French Political Thought.** *Russo, Elena* Even as a coherent, rational conception of state power emerged in France in as early as the Renaissance, French thinkers never stopped challenging the ways by which power justified itself in order to foster obedience and consensus. In so doing, they focused critically as much on the claims of sovereignty issuing from the top as on the willingness of the governed to submit to them. The course will examine the dialectic between the legitimation and delegitimation of power, from the Renaissance wars of religion to the Revolution and beyond: the haunting fear of the corruption and death of the political body; the notion of permanent crisis; the right to revoke the social contract; the reach of power in shaping minds and bodies. Readings may include works by La Boétie, Bodin, Bayle, Rousseau, Sade, Saint-Just, Constant, Maistre, Tocqueville, Foucault, Lefort and Rancière. Readings and discussion in English.	3.00	10	MW 12:00-1:15PM
AS.212.421	01	H		**Textes et Performances: le théâtre français du 17e au 19e siècle** *Anderson, Wilda* Le théâtre français, des classiques aux romantiques. There will be a performance component to this course. Recommended co-registration with 210.312. Acting French. For more information, see http://www.wilda.org/Courses/CourseVault/Undergrad/18thTheaterUG/SyllabusTheater.html	3.00	10	T 1:30-4:00PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.212.429	01	H		**Thesis Prep** *Staff* This course will meet three times during the Fall semester to enable all French majors to prepare their thesis subject, thesis bibliography, and abstract prior to the writing of the Senior Thesis (AS.212.430) in the Spring semester of their senior year. This course is required of all French majors and must be taken during the Fall semester of their senior year. Schedule TBA upon consultation with the class list, as there are only three group meetings. The rest of the meetings are in individual appointments with the DUS or another chosen French professor.	1.00	15	TBA
AS.212.430	01	H	W	**Senior Seminar** *Neefs, Jacky G* An in-depth and closely supervised initiation to research and thinking, oral and written expression, which leads to the composition of a senior thesis in French.	3.00	16	Th 1:30-4:00PM
AS.212.478	01	H	W	**Guillaume de Machaut: exploring medieval authorship in the digital age** *Rose-Steel, Tamsyn* Using new websites devoted to the lyrics and music of Guillaume de Machaut, the foremost poet and composer of the 14th-century French royal court, this seminar will explore the role of music and literature during the Hundred Years War. The course aims to give students a thorough grounding in Machaut's literary and musical works, while also introducing them to digital tools to view and analyze original illustrated musical manuscripts of his work. Critical analysis of Machaut's work will be assessed not only through more traditional essay writing, but also through the creation of a multimedia digital edition of a section of his oeuvre using Omeka exhibition software. The course is designed so that no prior knowledge of musical notation or medieval French is necessary.	3.00	12	M 4:00-6:30PM
AS.213.305	01	H		**Contemporary German Film** *Strowick, Elisabeth*	3.00	15	M 1:30-4:00PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				After almost a quarter century of neglect, German cinema is on the map again. The many awards German films have been granted over the last 15 years speak to the renaissance of German Cinema since 2000. Among these movies are Florian Henckel von Donnersmarcks The Lives of Others (Academy Award for Best Foreign Language Film, 2006), Caroline Link's Nowhere in Africa (Academy Award for Best Foreign Language Film, 2002), Fatih Akin's Head-On (Golden Bear at the Berlin International Film Festival, 2004; European Film Award 2004), Oliver Hirschbiegel's Downfall (nominated for Academy Award for Best Foreign Language Film, 2004) or Wolfgang Becker's Goodbye, Lenin! (European Film Award, 2003). Nazi Germany, the Stasi, or the Reunification are prominent topics of this internationally acclaimed Contemporary German Cinema. Parallel to these mainstream productions, an aesthetically far more adventurous cinema has developed known as "Berlin School" or "Nouvelle Vague Allemande". Directors associated with the Berlin School are Christian Petzold, Angela Schanelec, Christoph Hochhäusler or Valeska Grisebach. Dissecting the everyday reality of post-wall Germany, this 'counter-cinema' draws on the New German Cinema of the 1970s (among others) to develop radical notions of realism and challenge narrative conventions. This course will give a survey on German Film since 2000 – discussing the historical and cultural context of selected movies as well as analyzing aesthetic strategies and concepts of realism in Contemporary German Cinema. Taught in German.			
AS.213.313	01	H		**Heidegger's "Being and Time" and "Rectify"** *Tobias, Rochelle* This course will introduce students to Heidegger's seminal work as seen through the lens of the TV series Rectify, which considers what it means to be "thrown" into the world and how we construct a meaningful horizon for our experiences. We will explore some of the fundamental concepts in Being and Time, including care, projection, fallenness, affect and time, and being-unto-death, and consider how these same issues are taken up in Rectify, which as a TV show has to develop its own visual vocabulary to explore the structure and nature of being in the world. Taught in English	3.00	20	W 1:30-4:00PM
AS.213.322	01	H		**Museums and Jews, Jews in Museums** *Spinner, Samuel Jacob*	3.00	30	TTh 12:00-1:15PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will examine the presence of Jews in museums. We will consider the history of the exhibition and collection of Jewish material culture in museums from the 19th century to the present day. Our main task will be to identify the various museological traditions that engage Jewish identity, including the collection of art and antiquities, ethnographic exhibitions, history museums, and Holocaust museums. Some of the questions we will ask include: how do museums shape identity? what is the relationship between the scholarly premises of many museums and their popular reception? and, centrally, what is the relationship between Jewish museums and museums of the Holocaust?			
AS.214.301	01	H	W	**Survey of Italian Literature** *Staff* Taught entirely in Italian. An overview of the key texts, authors, and movements in the Italian literary tradition, from the Middle Ages to the present. Recommended for all Italian majors and minors, and for Romance Languages majors who include Italian. Recommended course background: Italian AS.210.252; AS.214.301 may be taken concurrently with Advanced Italian AS.210.352.	3.00	15	TTh 12:00-1:15PM
AS.214.333	01	H	W	**Shakespeare on the Opera Stage** *Refini, Eugenio* From Rossini's Otello to Cole Porter's Kiss me Kate, from Verdi's Macbeth to Leonard Bernstein's West Side Story, the works of William Shakespeare have been an extraordinary source of inspiration for musical theatre. By exploring operatic adaptations of Shakespeare in different periods and contexts, this course will examine the ways in which composers and librettists have interpreted and reshaped the plays. The course, primarily focused on the 19th century Italian reception of Shakespeare and, in particular, on operas by Rossini and Verdi, will also consider the phenomenon within a broad transnational perspective up to include contemporary opera and musical.	3.00	15	T 1:30-4:00PM
AS.214.390	01	H	W	**Machiavelli: A Renaissance Master** *Celenza, Christopher* Who was Niccolò Machiavelli? The author of the Italian Renaissance's most famous book, The Prince, he also wrote histories, commentaries, comedies, and letters. And he had a career as a prominent Florentine diplomat, which ended tragically but informed everything he wrote. This course is intended to offer students an introduction to Machiavelli's major works and to the intellectual, social, and political contexts that shaped his thinking.	3.00	25	TTh 10:30-11:45AM
AS.214.479	01	H	W	**Dante Visits the Afterlife: The Divine Comedy** *Stephens, Walter E*	3.00	12	TTh 10:30-11:45AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Dante's Divina commedia is the greatest long poem of the Middle Ages; some say the greatest poem of all time. We will study the Commedia critically to find: (1) What it reveals about the worldview of late-medieval Europe; (2) how it works as poetry; (3) its relation to the intellectual cultures of pagan antiquity and Latin (Catholic) Christianity; (4) its presentation of political and social issues; (5) its influence on intellectual history, in Italy and elsewhere; (6) the challenges it presents to modern readers and translators; (7) what it reveals about Dante's understanding of cosmology, world history and culture. We will read and discuss the Commedia in English, but students will be expected to familiarize themselves with key Italian terms and concepts. Students taking section 02 (for 4 credits) will spend an additional hour working in Italian at a time to be mutually decided upon by students and professor.			
AS.214.479	02	H	W	**Dante Visits the Afterlife: The Divine Comedy**	4.00		TTh 10:30-11:45AM
AS.215.231	01	H		**Introduction to Literature in Spanish** *Staff* The main objective of this course is to examine and discuss specific authors and topics in literature in Spanish from the Middle Ages to the 20th century. The course is designed to cover a selection of Hispanic texts from Spain and Latin America. Literary genres to be studied will include narratives, poetry, and drama. The bulk of each class session will be dedicated to the discussion of the assigned readings. This course is taught in Spanish. This course is required for the major in Spanish.	3.00	15	MW 3:00-4:15PM
AS.215.231	02	H		**Introduction to Literature in Spanish**	3.00	15	TTh 3:00-4:15PM
AS.215.353	01	H	W	**Women Writing in Latin America: Prose and Poetry by Sor Juana, Mistral, Lisoba, Pizarnik, Castellanos, and other poets** *Castro-Klaren, Sara* The first objective of the course is to train students in close reading and analysis of literary texts. The second objective is to read prose and poetry by some of the canonical texts in the Latin American tradition written by women. Taught in English.	3.00	15	W 1:30-4:00PM
AS.215.440	01	H		**The Picaresque Novel in Spain** *Sieber, Harry* Close reading of the Lazarillo de Tormes, Guzman de Alfarache, Miguel de Cervantes, and others. Taught in Spanish.	3.00	10	T 4:00-6:30PM
AS.215.452	01	H		**Che Guevara and Magical Realism** *Gonzalez, Eduardo*	3.00	30	TTh 10:30-11:45AM

German & Romance Languages & Literatures

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				His detractors often compare him to Hitler while many of his admirers see in him a saint and a martyr like Jesus Christ. Cuban school children are taught to be like him. Che was killed in 1967, the same year in which Gabriel García Márquez published Cien años de soledad (One Hundred Years of Solitute). We will study Guevara's life as a militant revolutionary through his own writings and the exorbitant style known as realismo mágico, crafted by García Márquez, one of Che's great admirers. Four movies will anchor our visual take on the myth and the man: Los diarios de motocicleta (Walter Salles, 2004), Che I and Che II (Steven Soderbergh, 2008), and Wall Street (Oliver Stone, 1987). The nineteen-eighties narcotraffic boom in Colombia and the cocaine-driven financial high times during the late Reagan years will frame our study. Taught in Spanish			
AS.216.370	01	H	W	**Israel Through Prose** *Stahl, Neta* This course examines representations of various aspects of Israeli society and culture in contemporary Israeli prose. The course will follow both a thematic and chronological path in order to study the ways in which Israeli prose reflects political, ideological, social and cultural aspects of contemporary Israel. In this context, we will read works by several major authors such as: Agnon, Shabtai, Kahanah-Carmon, Oz, Kenaz, Yehoshua, Grossman, Castel-Bloom, Matalon, Laor, Kashua and Hoffmann.	3.00	16	TTh 10:30-11:45AM
AS.216.370	02	H	W	**Israel Through Prose**	4.00	4	TTh 10:30-11:45AM
AS.216.444	01	H	W	**Apocolaypse Now: Apocalpype in Literature and Cinema** *Stahl, Neta* This course studies literary and cinematic representations of the apocalypse. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and seek to trace the narrative dynamics as well as literary and cinematic means of apocalyptic representations. We will discuss works from various periods, languages, cultures and religions. Among the issues to be discussed: what is the apocalypse, war and the apocalypse, the Holocaust as apocalypse, Biblical apocalypse, post-apocalyptic works, the apocalypse in popular culture, realism, anti-realism and the apocalypse.	3.00	15	T 1:30-4:00PM

German & Romance Languages & Literatures

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AS.361.130	01	HS	W	**Introduction to Latin American Studies** *Gonzalez, Eduardo* Our basic premise will be the need to understand the workings of various political regimes in Latin America by countries and regional zones. Hence the broad expanse of South American histories and geographies will be surveyed from the perspective of current political, social, economic, and global conflicts: regional alliances, the geopolitical impact of The United States, China, and Russia; neoliberalism, populism, and social movements on behalf of popular sovereignty, often pitched against or in uneasy alliance with self-styled modes of democratic rule.	3.00		W 1:30-4:00PM
AS.384.116	01			**First Year Modern Hebrew II** *Cohen, Zvi* Designed to provide reading and writing mastery, to provide a foundation in Hebrew grammar and to provide basic conversational skills. Cross-listed with Jewish Studies.	4.00	15	TThF 12:00-1:15PM; M 2:50-3:40PM
AS.384.216	01	H		**Second Year Modern Hebrew II** *Cohen, Zvi* Designed to enrich vocabulary and provide intensive grammatical review, and enhance fluency in reading, writing and comprehension. Recommended Course Background: AS.384.215 or permission required.	4.00	10	MWF 10:00-10:50AM; T 9:00-9:50AM
AS.384.316	01	H		**Third Year Modern Hebrew II** *Cohen, Zvi* Designed to: maximize comprehension and the spoken language through literary and newspaper excerpts providing the student with the language of an educated Israeli. Recommended Course Background: AS.384.315 or permission required. Cross-listed with Jewish Studies.	4.00	10	TTh 10:30-11:45AM; W 2:25-3:15PM

History

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.061.396	01	H		**Modern Paris on Film** *Mason, Laura* This course uses French film to examine the history of twentieth-century Paris. We will consider how filmmakers interpreted the social, political, and technological transformations that shaped Paris in the modern era, treating movies as expressions of change and means by which filmmakers comment on it. Taught in English. Film screenings Monday 7:30-10:00 PM. $40 lab fee	3.00	12	M 7:30-10:00PM; T 3:00-5:20PM
AS.061.421	01	H	W	**History and Film** *Mason, Laura* How do films inform, shape, or fundamentally alter our sense of the past? What are the strengths and limitations of cine-history? This course pairs traditional and avant-garde fiction films and documentaries with essays about history, historiography, memory and the political uses of the past to investigate fast-changing relationships between image and text, film and history. Screening T 7:30-10:00 PM. $40 Lab fee	3.00	12	Th 3:00-5:20PM; T 7:30-10:00PM
AS.100.103	01	HS		**Early Modern Europe and the Wider World** *Kwass, Michael* This course surveys the history of Europe and its interactions with Africa, the Americas, and Asia during the early modern period (c. 1400-1800). Topics include: the Renaissance, the Reformation, International Relations and Warfare, Colonialism, the Enlightenment, and the Age of Revolutions.	3.00	20	MW 1:30-2:20PM; F 1:30-2:20PM
AS.100.103	02	HS		**Early Modern Europe and the Wider World**	3.00	20	MW 1:30-2:20PM; F 1:30-2:20PM
AS.100.103	03	HS		**Early Modern Europe and the Wider World**	3.00	20	MW 1:30-2:20PM; F 12:00-12:50PM
AS.100.103	04	HS		**Early Modern Europe and the Wider World**	3.00	20	MW 1:30-2:20PM; F 12:00-12:50PM
AS.100.110	01	HS		**Making America: Politics and Society since the Great Depression** *Burgin, Angus* This course explores the interplay between economic growth and instability, diversity and conformity, war and protest, and liberalism and conservatism in modern American politics and society. Previously offered as AS.100.182, “The United States since 1929.”	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.100.110	02	HS		**Making America: Politics and Society since the Great Depression**	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.100.110	03	HS		**Making America: Politics and Society since the Great Depression**	3.00	20	MW 10:00-10:50AM; F 9:00-9:50AM
AS.100.110	04	HS		**Making America: Politics and Society since the Great Depression**	3.00	20	MW 10:00-10:50AM; F 11:00-11:50AM
AS.100.117	01	HS		**History of Brazil** *Paquette, Gabriel* An introductory survey of Brazilian History c. 1500-2000.	3.00	20	MW 12:00-12:50PM; F 11:00-11:50AM
AS.100.117	02	HS		**History of Brazil**	3.00	20	MW 12:00-12:50PM; F 12:00-12:50PM
AS.100.117	03	HS		**History of Brazil**	3.00	20	MW 12:00-12:50PM; F 12:00-12:50PM
AS.100.117	04	HS		**History of Brazil**	3.00	20	MW 12:00-12:50PM; F 1:30-2:20PM
AS.100.129	01	HS		**Introduction to Modern Jewish History** *Moss, Kenneth*	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM

History

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				An examination of the history of Jews over the past three hundred years. Explores the dramatic encounter at the close of the 18th century between rapidly changing European societies caught up in intellectual, political, and economic revolution and a 2000-year old traditional civilization living in their midst; the kaleidoscopic array of Jewish political, religious, cultural and social responses to this encounter; the new forms of Jewish communal and individual life and consciousness which emerged in the course of the 19th and 20th centuries; the extension of this new modern framework to the Jews of the Middle East in the context of European imperialism and colonialism; the key roles played by the Jews as agents and symbols of political, economic, and cultural modernity; the phenomenon of anti-Semitism and whether it is a pathology or integral part of modern European civilization; the extreme shifts in Jewish life from the mid-20th century in light of the Holocaust, the creation of the state of Israel, and integration into American society.			
AS.100.129	02	HS		**Introduction to Modern Jewish History**	3.00	20	MW 11:00-11:50AM; F 10:00-10:50AM
AS.100.194	01	HS	W	**Undergraduate Seminar in History** *Walters, Ronald* The second semester of the two-semester sequence required for majors, this course further introduces students to the theory and practice of history. Students write an essay based on original research.	3.00	20	W 1:30-3:50PM
AS.100.194	02	HS	W	**Undergraduate Seminar in History** *Rowe, Erin*	3.00	20	T 1:30-3:50PM
AS.100.209	01	HS	W	**Fresh Sem:Mexico and the World from Cortés to Cartels** *Clark, Joseph Michael* This introductory course examines Mexico's political, economic, and cultural role in global history from the time of Spanish conquest until the twenty-first century.	3.00	19	TTh 9:00-10:15AM
AS.100.235	01	HS		**Freshman Seminar: Politics, Society and Economics in the Renaissance** *Stein, Heather* This course will focus on the long-distance trade of both foodstuffs and clothe in order to investigate urbanization and the development of national monarchies in western Europe from the outbreak of the Black Death (1347) to the eve of the Reformation (1517).	3.00	19	TTh 3:00-4:15PM
AS.100.279	01	HS		**Europe since 1945** *Balz, Hanno* This lecture course examines the political, social, and cultural history of postwar Europe with emphasis on the Cold War and the formation of the European Union.	3.00	40	MWF 1:30-2:20PM
AS.100.301	01	H	W	**America after the Civil Rights Movement** *Connolly, Nathan D* Explores the role of the 1964 Civil Rights Act and mid-twentieth century reform movements in transforming American politics, economy, and culture since the late 1960's.	3.00	25	T 1:30-3:50PM

History

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AS.100.342	01	HS		**Colonial Lives: Individuals in the Atlantic World, 1600-1850** *Brown, William Allan Sazie* This course traces the emergence of an Atlantic world, 1600-1850, through the lens of biography. Major themes include European colonization, cross-cultural encounters, slavery and trade, imperial warfare, and political revolutions.	3.00	15	TTh 3:00-4:15PM
AS.100.344	01	HS	W	**The Holocaust** *Braun, Linda* This course expands the knowledge of the Holocaust by including experiences of Eastern European Jewry and by discussing recent historiographic debates in the field such as 'ordinary men,' perpetrators, and collaboration.	3.00	19	TTh 9:00-10:15AM
AS.100.355	01	HS	W	**Islam between History and Anthropology** *Shepard, Todd* Co-taught by an anthropologist and a historian, this course will explore recent scholarly debates about--and critiques of--the representations of Islam and Muslim societies.	3.00	20	M 1:30-4:00PM
AS.100.365	01	HS	W	**Culture & Society in the High Middle Ages** *Spiegel, Gabrielle M* This course will cover the history of Medieval Europe in the High Middle Ages. It will investigate growth of feudalism, the revival of commerce, the growth of national kingdoms, and the intellectual revival known as the Renaissance of the 12th century, including the birth of courtly literature and the emergence of scholasticism.	3.00	35	MWF 11:00-11:50AM
AS.100.367	01	HS		**Slavery, Capitalism, and Free Labor in the United States, 1650-1867** *Heerman, Matthew Scott* This reading seminar will explore how free labor assumed dominance in the United States with a focus on legal, economic, social, and cultural forces.	3.00	18	TTh 12:00-1:15PM
AS.100.372	01	HS	W	**The Victorians** *Walkowitz, Judith* This course focuses on the politics of everyday life, consumption, intimate relations, and concepts of the self in Victorian Britain (1837-1901). Particular attention will be devoted to Victorian visual culture, including exhibitions, built environment, decorative arts and leisure culture. Other themes include popular nationalism, class cultures, feminism and body politics, Empire and racial thought. Cross-listed with WGS and Program in Museums and Society	3.00	20	W 1:30-3:50PM
AS.100.379	01	HS		**Age of Religious Wars: Reformation Europe, 1500-1650** *Rowe, Erin* Offers an in-depth examination of a volatile time in European history, when the rupture of unity in the Christian Church led to wide scale political upheaval, violence, rioting, and persecution.	3.00	30	TTh 9:00-10:15AM
AS.100.406	01	HS	W	**American Business in the Age of the Modern Corporation** *Galambos, Louis P*	3.00	25	T 1:30-3:50PM

History

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				This course will focus on business organizations, their performance, and sociopolitical relations in the 20th century. Each of the students will be expected to reach conclusions about that history and will be required to sharpen those conclusions by writing three, interrelated essays.			
AS.100.411	01	HS	W	**Readings in the History of Public Health in the 20th and 21st Centuries** *Galambos, Louis P* The students will read major and some minor works in the history of global public health and will each develop their own concept of how and why the major institutions, professions, and practices associated with public health have evolved over the past long century. To help the students focus on their ideas, they will write three essays on particular aspects of the history.	3.00	25	Th 1:30-3:50PM
AS.100.412	01	HS	W	**Jewish History in British Mandatory Palestine 1917-1947** *Moss, Kenneth* Recent historical writing on Jewish politics, culture, and society in British Mandatory Palestine, 1917-1947. Significant attention will also be paid to work on Palestinian Arab society and politics and to Jewish-Arab-British relations.	3.00	15	T 1:30-3:50PM
AS.100.420	01	HS	W	**George Washington and his World** *Furstenberg, Francois* This research-intensive course explores the eighteenth century through George Washington's papers, focusing particularly on themes of imperial identities, slavery, land, politics, and state-making. Workshop-style research and writing prepare students for the craft of history.	3.00	15	T 4:00-6:30PM
AS.100.424	01	HS	W	**Women & Modern Chinese History** *Meyer-Fong, Tobie* This course examines the experience of Chinese women, and also how writers, scholars, and politicians (often male, sometimes foreign) have represented women's experiences for their own political and social agendas. Cross listed with East Asian Studies.	3.00	15	W 1:30-3:50PM
AS.100.434	01	HS	W	**Early North America in Global Perspective: A Digital History** *Morgan, Philip* In the period 1500-1800, North America experienced massive changes. This course will introduce students to the environmental, demographic, economic, political, and cultural forces involved in the globalization of early North America. The aim is to explore the patterns and processes that connected peoples within and beyond North America in the early modern period. Students will engage in individual research projects and participate in technology tutorials leading to the production of content for an interactive digital map.	3.00	25	TTh 10:30-11:45AM
AS.100.497	01	HS		**Year of Revolt: 1968 in Europe** *Balz, Hanno*	3.00	15	Th 1:30-3:50PM

History

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will examine the dramatic events of 1968 in Western and Eastern Europe during 1968—a year of social and political revolts, generational conflicts, and cultural activism—as well as their long-term consequences.			
AS.193.201	01	S	W	**Early Modern Jewry in Europe and the Mediterranean** *Horowitz, Elliott* The course examines the transition from medievalism to modernity among the Jews of Europe and the Mediterranean between the sixteenth and eighteenth centuries, paying attention to both material and intellectual life, and to women and children side by side with merchants and rabbis.	3.00	30	TTh 10:30-11:45AM
AS.193.301	01	S	W	**Reading the Bible and Encountering its World** *Horowitz, Elliott* The course examines the interactions between travel and biblical interpretation between the seventeenth and twentieth centuries, paying particular attention to the ways in which travelers to the Middle East and then scholars saw its residents as relics of an unchanging biblical world, whose practices could be used to interpret scriptural texts from both the Old and New Testaments.	3.00	15	T 3:00-5:50PM
AS.211.341	01	H		**Power and Resistance: Approaches to French Political Thought.** *Russo, Elena* Even as a coherent, rational conception of state power emerged in France in as early as the Renaissance, French thinkers never stopped challenging the ways by which power justified itself in order to foster obedience and consensus. In so doing, they focused critically as much on the claims of sovereignty issuing from the top as on the willingness of the governed to submit to them. The course will examine the dialectic between the legitimation and delegitimation of power, from the Renaissance wars of religion to the Revolution and beyond: the haunting fear of the corruption and death of the political body; the notion of permanent crisis; the right to revoke the social contract; the reach of power in shaping minds and bodies. Readings may include works by La Boétie, Bodin, Bayle, Rousseau, Sade, Saint-Just, Constant, Maistre, Tocqueville, Foucault, Lefort and Rancière. Readings and discussion in English.	3.00	10	MW 12:00-1:15PM
AS.211.394	01	H	W	**Brazilian Cult & Civ** *De Azeredo Cerqueira, Flavia Christina*	3.00	26	M 1:30-4:30PM

History

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is intended as an introduction to the culture and civilization of Brazil. It is designed to provide students with basic information about Brazilian history, art, literature, popular culture, theater, cinema, and music. The course will focus on how indigenous Asian, African, and European cultural influences have interacted to create the new and unique civilization that is Brazil today. The course is taught in English, but ONE extra credit will be given to students who wish to do the course work in Portuguese. Those wishing to do the course work in English for 3 credits should register for section 01. Those wishing to earn 4 credits by doing the course work in Portuguese should register for section 02. The sections will be taught simultaneously. Section 01: 3 credits Section 02: 4 credits (instructor's permission required)			
AS.211.394	02	H	W	**Brazilian Cult & Civ**	4.00	4	M 1:30-4:00PM
AS.212.341	01	H		**Power and Resistance: Approaches to French Political Thought.** *Russo, Elena* Even as a coherent, rational conception of state power emerged in France in as early as the Renaissance, French thinkers never stopped challenging the ways by which power justified itself in order to foster obedience and consensus. In so doing, they focused critically as much on the claims of sovereignty issuing from the top as on the willingness of the governed to submit to them. The course will examine the dialectic between the legitimation and delegitimation of power, from the Renaissance wars of religion to the Revolution and beyond: the haunting fear of the corruption and death of the political body; the notion of permanent crisis; the right to revoke the social contract; the reach of power in shaping minds and bodies. Readings may include works by La Boétie, Bodin, Bayle, Rousseau, Sade, Saint-Just, Constant, Maistre, Tocqueville, Foucault, Lefort and Rancière. Readings and discussion in English.	3.00	10	MW 12:00-1:15PM
AS.214.390	01	H	W	**Machiavelli: A Renaissance Master** *Celenza, Christopher* Who was Niccolò Machiavelli? The author of the Italian Renaissance's most famous book, The Prince, he also wrote histories, commentaries, comedies, and letters. And he had a career as a prominent Florentine diplomat, which ended tragically but informed everything he wrote. This course is intended to offer students an introduction to Machiavelli's major works and to the intellectual, social, and political contexts that shaped his thinking.	3.00	25	TTh 10:30-11:45AM
AS.214.479	01	H	W	**Dante Visits the Afterlife: The Divine Comedy** *Stephens, Walter E*	3.00	12	TTh 10:30-11:45AM

History

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Dante's Divina commedia is the greatest long poem of the Middle Ages; some say the greatest poem of all time. We will study the Commedia critically to find: (1) What it reveals about the worldview of late-medieval Europe; (2) how it works as poetry; (3) its relation to the intellectual cultures of pagan antiquity and Latin (Catholic) Christianity; (4) its presentation of political and social issues; (5) its influence on intellectual history, in Italy and elsewhere; (6) the challenges it presents to modern readers and translators; (7) what it reveals about Dante's understanding of cosmology, world history and culture. We will read and discuss the Commedia in English, but students will be expected to familiarize themselves with key Italian terms and concepts. Students taking section 02 (for 4 credits) will spend an additional hour working in Italian at a time to be mutually decided upon by students and professor.			
AS.214.479	02	H	W	**Dante Visits the Afterlife: The Divine Comedy**	4.00		TTh 10:30-11:45AM
AS.215.452	01	H		**Che Guevara and Magical Realism** *Gonzalez, Eduardo* His detractors often compare him to Hitler while many of his admirers see in him a saint and a martyr like Jesus Christ. Cuban school children are taught to be like him. Che was killed in 1967, the same year in which Gabriel García Márquez published Cien años de soledad (One Hundred Years of Solitute). We will study Guevara's life as a militant revolutionary through his own writings and the exorbitant style known as realismo mágico, crafted by García Márquez, one of Che's great admirers. Four movies will anchor our visual take on the myth and the man: Los diarios de motocicleta (Walter Salles, 2004), Che I and Che II (Steven Soderbergh, 2008), and Wall Street (Oliver Stone, 1987). The nineteen-eighties narcotraffic boom in Colombia and the cocaine-driven financial high times during the late Reagan years will frame our study. Taught in Spanish	3.00	30	TTh 10:30-11:45AM
AS.300.365	01	H	W	**Desire in the Fin de siècle** *Eakin Moss, Anne* This course examines the obsession with desire at the turn of the 20th century in literature, drama, philosophy and social thought and its implications for notions of self and community in modernity. We will read comparatively across European, Russian and American cultures, including Stoker's Dracula, Hamsun's Hunger, plays by Chekhov, Strindberg, Ibsen, Wilde, and stories by Tolstoy, Gorky, Chopin and Larsen.	3.00	20	TTh 10:30-11:45AM
AS.310.103	01	HS		**Modern Japan - 1800 to the Present** *Bronson, Adam* An introduction to the history of Japan from the 18th century to the present. In lectures and discussion we will draw upon a combination of primary source materials (political documents, memoirs, oral histories, journalism, fiction, film) and scholarly writings in order to gain insight into the complex and tumultuous process by which Japan became an industrialized society, a modern nation-state, and a world power.	3.00	50	MWF 1:30-2:20PM

History

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.361.130	01	HS	W	**Introduction to Latin American Studies** *Gonzalez, Eduardo* Our basic premise will be the need to understand the workings of various political regimes in Latin America by countries and regional zones. Hence the broad expanse of South American histories and geographies will be surveyed from the perspective of current political, social, economic, and global conflicts: regional alliances, the geopolitical impact of The United States, China, and Russia; neoliberalism, populism, and social movements on behalf of popular sovereignty, often pitched against or in uneasy alliance with self-styled modes of democratic rule.	3.00		W 1:30-4:00PM
AS.389.275	01	HS		**Interpreting Sites & Collections: An Introduction to Museum Education** *Maloney, Elizabeth* Part public history, part introduction to museum practices, this hands-on course explores how heritage areas and museums serve communities through interpretation. Each year, students partner with a community to develop research-based, visitor-centered interpretive material, in the 2015 Baltimore National Heritage Area. Field trips and community meetings will be a significant part of the course. Cross-listed with History and History of Science. M&S practicum course. Class usually meets 1:30 - 3:50 except for days with field trips.	3.00	12	W 1:30-5:00PM

History of Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.102	01	H	W	**Introduction to History of European Art II** *Campbell, Stephen* A survey of painting, sculpture, and architecture from the Renaissance to the present. Recommended Course Background: AS.010.101 or instructor permission.	4.00	25	F 10:00-10:50AM; MW 12:00-1:15PM
AS.010.102	02	H	W	**Introduction to History of European Art II**	4.00	25	F 11:00-11:50AM; MW 12:00-1:15PM
AS.010.102	03	H	W	**Introduction to History of European Art II**	4.00	25	MW 12:00-1:15PM; F 12:00-12:50PM
AS.010.102	04	H	W	**Introduction to History of European Art II**	4.00	25	F 12:00-12:50PM; MW 12:00-1:15PM
AS.010.162	01	H		**Freshman Seminar: From Found Object to Junk Art** *Watson, Jennifer Lynn* The course explores the recurring strategy of using junk materials for artistic creation in the twentieth century, in both Europe and the United States, and considers the different ways this strategy has been employed by artists and experienced by viewers at different historical moments.	3.00	15	TTh 4:30-5:45PM
AS.010.205	01	H	W	**The Painted Worlds of Early Greece: Fantasy, Form and Action** *Anderson, Emily S.K.* This course explores the creation and role of early Aegean wall painting. Found primarily in palaces, villas and ritual spaces, these paintings interacted with architecture to create micro-worlds for social activities taking place in their midst. Their subjects range—from mythological to documentary, from ornamental to instructive. They depict dance and battle, fantastical beasts and daily life. We examine their complex relationship to lived reality as well as the activities that surrounded them, from their crafting, to performance of rituals, to their role in “international” relations.	3.00	15	M 1:30-4:00PM
AS.010.206	01	H	W	**Art and the Sacred in Colonial Latin America** *Lumbreras Corujo, Maria* This course explores the role of the image in the so-called "spiritual colonization" of the Americas. Drawing on art historical and anthropological perspectives, we will consider a wide range of artistic practices from the viceroyalties of New Spain and Peru. Special emphasis will be placed on questions of cross-cultural exchange and (mis)understanding. Topics include idolatry, demonic visions, relics, wonder-working images, and sacred matter.	3.00	20	TTh 12:00-1:15PM
AS.010.214	01	H		**Ancient Americas in Motion** *Deleonardis, Lisa* This course critically examines the visual arts and their makers as portrayed in documentary, historical, and Hollywood films.	3.00	60	T 1:30-4:00PM
AS.010.215	01	H		**Transformations of an Empire: Power, Religion, and the Arts in Medieval Rome** *Zchomelidse, Nino*	3.00	25	MW 12:00-1:15PM

History of Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course investigates the impact of political, religious, and social change for the making of art and architecture in the city of Rome from Constantine the Great (ca. 274-337 CE) until 1308, when the papal court moved to Avignon. From being a thriving metropolis and the political center of an empire in a pagan, multi-ethnical society, Rome became a small town of a few thousand inhabitants dwelling in the ancient ruins under the spiritual leadership of a powerless Christian bishop and unprotected from the invasions of the migrating peoples from Eastern Europe and Central Asia. Later transformations concern the rise to political power of the popes, achieved by the military alliance with the Frankish dynasty of Charlemagne around 800, and the controversy over the superiority of power between the German emperors and the Roman popes. How did the transformation from worldly to religious power affect the architecture of public buildings in the city? What strategies were developed to visually promote the new religious leaders of the city, the popes, and the new Christian God? How did the new status of Rome as one of the most important Christian pilgrim sites with its countless bodies of Early Christian martyrs in the catacombs outside the city influence urban development? And finally, what impact did the economical ups and downs in these periods of transition have for the arts? As we try to reconstruct the 'image' and the appearance of medieval Rome, this course discusses ideas and concepts behind different forms of leadership, both political and religious, as they intersect with the power of the arts and the self-referential character of a city that is obsessed with its own past.			
AS.010.302	01	H		**The World as Image: Art and Knowledge in the Middle Ages** *Hauknes, Marius* This class will explore the relationship between art and knowledge in the Middle Ages (600-1400 CE). In particular, we will examine the ways in which medieval painters, sculptors, and architects engaged with the cultural phenomenon of "encyclopedism" by creating artworks that sought to capture all the world's knowledge in a single visual program. In our exploration of this topic we will consider a wide range of works, from medieval maps and scientific manuscripts to large-scale tapestries and the architectural programs of the great Gothic cathedrals. Central themes include text-image relationships and the role of pictorial techniques, such as allegory, personification, and analogy for visualizing complex ideas. We will also examine the representation of knowledge in medieval poetry and see how medieval authors employed ekphrasis to create visual artworks within their texts to serve as placeholders for encyclopedic learning.	3.00	15	TTh 12:00-1:15PM
AS.010.307	01	H		**Diplomats, Dealers, and Diggers: The Birth of Archaeology and the Rise of Collecting from the 19th c. to Today** *Feldman, Marian*	3.00	20	TTh 10:30-11:45AM

History of Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The development of archaeology in the Middle East – its history of explorers, diplomats, missionaries and gentlemen-scholars – profoundly shaped the modern world, from the creation of new museums and the antiquities market to international relations and terrorism.			
AS.010.308	01	H		**Art and Architecture in Republican Rome** *Tucci, Pier Luigi* The course investigates the influence of the Hellenistic world on Roman artists, architects and patrons during the Republican age (509-31 BC).	3.00	20	TTh 12:00-1:15PM
AS.010.310	01	H		**The 'Long Sixties' in Europe** *Warnock, Molly* Emphasis will be on advanced artistic practice primarily in France, Italy, the Benelux, and German-speaking countries; students will curate an exhibition of avant-garde journals from the Sheridan Libraries.	3.00	12	MW 3:00-4:15PM
AS.010.314	01	H	W	**The Great Debate on Images: from Zurich to Guadalupe** *Pereda, Felipe* This seminar examines the notion of the authentic in conjunction with medieval images. It investigates the construction, reception, and theoretical grounding of authenticity in regard to reliquaries, icons, and imprints on cloth or seals. These objects elucidate the shift from mimesis towards other artistic strategies (stylization, abstraction, bricolage) in the medieval period. Rather than studying different modes of representation, we will focus on the very validity of representation in the Middle Ages.	3.00	25	MW 1:30-2:45PM
AS.010.398	01	H		**Tombs for the Living** *Deleonardis, Lisa* Centering on the tomb as the unit of analysis, this course examines the cultural and material aspects of death and funerary ritual. Draws on case studies from North America, Mesoamerica, and the Andes. Collections study in museums.	3.00	25	TTh 10:30-11:45AM
AS.130.420	01	H	W	**Seminar in Research Methods in Near Eastern Studies: Investigating Gender and Sexuality in Mesopotamian Art** *Feldman, Marian* This writing intensive seminar examines how artistic products expressed and constructed gender identities and notions of sexuality in ancient Mesopotamia from the 4th millennium to the Hellenistic period. Using a variety of case studies, students will develop skills in specific research skills such as critical reading, analysis, and interpretation. AS.130.420 is required of NES Majors, but is also open to non-majors who have taken at least one 100-level and one 300 -level Near Eastern Civilization course, or with the consent of the instructor. Cross-listed with History of Art.	3.00	10	T 1:30-4:00PM
AS.389.105	01	H	W	**Freshman Seminar: Art in the Museum** *Kingsley, Jennifer P*	3.00	15	Th 1:30-3:50PM

History of Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Limited to Freshman. Explore fundamental concepts and social issues particular to the collection and display of art objects in museum contexts in the past and today. Includes fieldwork in Baltimore and DC art museums. Cross-listed with History of Art.			

History of Science & Technology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.302	01	H		**The World as Image: Art and Knowledge in the Middle Ages** *Hauknes, Marius* This class will explore the relationship between art and knowledge in the Middle Ages (600-1400 CE). In particular, we will examine the ways in which medieval painters, sculptors, and architects engaged with the cultural phenomenon of “encyclopedism” by creating artworks that sought to capture all the world’s knowledge in a single visual program. In our exploration of this topic we will consider a wide range of works, from medieval maps and scientific manuscripts to large-scale tapestries and the architectural programs of the great Gothic cathedrals. Central themes include text-image relationships and the role of pictorial techniques, such as allegory, personification, and analogy for visualizing complex ideas. We will also examine the representation of knowledge in medieval poetry and see how medieval authors employed ekphrasis to create visual artworks within their texts to serve as placeholders for encyclopedic learning.	3.00	15	TTh 12:00-1:15PM
AS.140.106	01	HS		**History of Modern Medicine** *Greene, Jeremy* The history of Western medicine from the Enlightenment to the present, with emphasis on ideas, science, practices, practitioners, and institutions, and the relationship of these to the broad social context.	3.00	17	MW 10:00-10:50AM; F 10:00-10:50AM
AS.140.106	02	HS		**History of Modern Medicine**	3.00	17	MW 10:00-10:50AM; F 11:00-11:50AM
AS.140.106	03	HS		**History of Modern Medicine**	3.00	17	MW 10:00-10:50AM; F 10:00-10:50AM
AS.140.106	04	HS		**History of Modern Medicine**	3.00	17	MW 10:00-10:50AM; F 11:00-11:50AM
AS.140.129	01	HS	W	**Freshman Seminar: Johns Hopkins Medicine** *Leslie, Stuart W* Johns Hopkins medicine has set the standards since the late 19th c. Learn how Hopkins reinvented medical education, public health, and hospital care and meet the people behind the famous names.	3.00	15	MW 12:00-1:15PM
AS.140.144	01	HS		**Freshmen Seminar: Culture, Communication and Technology** *Kargon, Robert H* This seminar traces the evolution and impact of oral transmission, writing, print, photography, film, and electric and electronic media.	3.00	15	T 1:30-3:50PM
AS.140.302	01	HS		**Rise of Modern Science** *Kingsland, Sharon E* Survey of major scientific advances from 18th to 20th century, from Newtonian science to the age of Big Science.	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.140.302	02	HS		**Rise of Modern Science**	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM

History of Science & Technology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.140.305	01	HS		**From the Compass to Androids: History of Science, Technology, and Medicine in Asia** *Frumer, Yulia* The course explores the history and cultural context of science, medicine, and technology in East Asia, from the ancient Chinese science to the latest scientific and technological developments in Japan.	3.00	20	MW 12:00-1:15PM
AS.140.331	01	HS		**Mind, Body and Society: The History of Psychology** *Todes, Daniel P* We will explore various modern approaches to the relationship of mind, body and society; to the nature of scientific psychology and its realtionship to human values.	3.00	15	T 1:30-3:50PM
AS.140.344	01	HS		**Rejected Knowledge? Alchemy and Astrology in Early Modern European Science and Medicine** *Rivest, Justin Kyle* This course surveys the rise and fall of alchemy and astrology in early modern Europe. Topics include chemical and astrological medicine, prognostication, and the quest for the Philosopher's Stone.	3.00	16	MW 4:30-5:45PM
AS.140.350	01	HS	W	**Disability in 20th century America: Rights, Restrictions, Reproduction** *Schmidt, Marion Andrea* Is disability a biological fact or determined by culture? This class discusses different ideas of difference in the context of disability rights, professional power, reproductive technology and bioethics. Cross-listed with Studies of Women, Gender, and Sexuality	3.00	15	TTh 10:30-11:45AM
AS.140.353	01	HS		**Women, Health, and Medicine in Modern America** *Stillwell, Devon Elise* This course explores women's interactions with science, medicine, and health in the late-19th and 20th century United States. It is framed by an interest in medicialization, sex/gender, and feminism. Cross-listed with Studies of Women, Gender, and Sexuality.	3.00	20	M 3:00-5:20PM
AS.140.355	01	HS		**History of Modern Astronomy: Expanding Universes and Space Telescopes** *DeVorkin, David* Astronomy today, in its tools, techniques, practices and tempers, bears little resemblance to astronomy in 1900. This course will cover how scientists expanded the universe in the past century and how the universe of astronomical practice expanded as well: as a profession, as an avocation, and as a cultural resource.	3.00	40	W 1:30-3:50PM
AS.140.362	01	HS		**The Communications Revolution** *Morris, Susan W* Investigates the nature and impact of phenomenal changes in transportation and communication since the 19th-century, including iconic developments such as the Panama Canal, Brooklyn Bridge, airplanes, automobiles, television, wireless communication and the internet.	3.00	30	TTh 10:30-11:45AM

History of Science & Technology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.140.379	01	HS		**Health and the City: Urban Public Health In Historical Perspective** *Anders, Eli Osterweil* This course examines the history of cities as spaces of public health concern since the nineteenth century, and seeks to understand how social, political, and economic contexts have shaped urban public health interventions.	3.00	16	TTh 10:30-11:45AM
AS.140.398	01	HS	W	**Godzilla and Fukushima: Japanese Environment in History and Films** *Frumer, Yulia* Juxtaposing Japanese environmental history and its reflection in popular media, the course will explore the intersection between technology, environment, and culture. The course will be accompanied by relevant movie screenings.	3.00	18	W 3:00-5:20PM
AS.140.412	01	HS	W	**Research Seminar** *Portuondo, Maria M* Departmental Majors Writing a Senior Thesis Only	2.00	10	TBA
AS.310.303	01	HS		**A World Upturned: Cultures of Catastrophe in Japan** *Sayre, Ryan J* Focusing on earthquake science and earthquake lore, radioactive mutation and nuclear decimation, this course will consider the relationship between technological culture and large-scale cataclysm. In addition to treating a broad array of written, graphic, and filmic representations of Japan's past and potential catastrophes, we will also be keeping a close and careful eye on present developments in Japan's 2011 earthquake/tsunami/nuclear disaster.	3.00	25	TTh 12:00-1:15PM
AS.389.275	01	HS		**Interpreting Sites & Collections: An Introduction to Museum Education** *Maloney, Elizabeth* Part public history, part introduction to museum practices, this hands-on course explores how heritage areas and museums serve communities through interpretation. Each year, students partner with a community to develop research-based, visitor-centered interpretive material, in the 2015 Baltimore National Heritage Area. Field trips and community meetings will be a significant part of the course. Cross-listed with History and History of Science. M&S practicum course. Class usually meets 1:30 - 3:50 except for days with field trips.	3.00	12	W 1:30-5:00PM

Humanities Center

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.310	01	H		**The 'Long Sixties' in Europe** *Warnock, Molly* Emphasis will be on advanced artistic practice primarily in France, Italy, the Benelux, and German-speaking countries; students will curate an exhibition of avant-garde journals from the Sheridan Libraries.	3.00	12	MW 3:00-4:15PM
AS.300.102	01	H		**Great Minds** *de Vries, Hent* Introductory survey of foundational texts of modern Western literature and thought. This semester will include works by Leopardi, Kierkegaard, Nietzsche, W. James, Bergson, Benjamin, Borges, Adorno, Celan, Deleuze, Derrida, and Cavell. The course is taught in lectures and seminar discussions led by the course faculty.	3.00	15	TTh 10:30-11:45AM
AS.300.102	02	H		**Great Minds** *Lisi, Leonardo*	3.00	20	TTh 10:30-11:45AM
AS.300.102	03	H		**Great Minds** *Marrati, Paola*	3.00	15	TTh 10:30-11:45AM
AS.300.228	01	H		**Brain and Society** *McGrath, Larry Sommer* On April 2, 2013, President Obama unveiled the Brain Activity Map Project, a 100 million dollar investment to map the single-celled neurons composing the human brain. Scientific in its aim, the project is culturally significant as well. Popular websites lumosity.com and neuronetlearning.com offer brain-exercises to boost intelligence, while the emergent academic fields neurophilosophy, neuroethics, and neurohistory borrow from the brain sciences. The interaction between the brain and society, however, is by no means new. In this course, we will investigate the origins of brain maps and trace their reception in nineteenth-century European and American literature, philosophy, and politics. Topics include phrenology, the nervous system, psychopathology, and brain localization, and these fields' resonance in German Idealism, Victorian literature, French anthropology, and American fiction. The course is reading intensive.	3.00	30	TTh 1:30-2:45PM
AS.300.291	01	H	W	**Freshman Seminar: Home and Exile** *Eakin Moss, Anne* This interdisciplinary seminar examines the concept of home and the condition of exile in 20th century Russian and Soviet culture from a variety of theoretical and methodological perspectives. Students will be introduced to classics of Soviet dissident, exilic, and official literature (Akhmatova, Brodsky, Nabokov, Bulgakov, Zamyatin), Soviet films (including Tarkovsky's Solaris), as well as key theoretical texts about what it means to be "at home." Open to freshmen and sophomores with approval of professor.	3.00	15	Th 1:30-3:50PM
AS.300.310	01	H		**Introduction to Psychoanalysis** *Ophir, Orna*	3.00	12	Th 6:00-8:30PM

Humanities Center

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				One of the most controversial intellectual endeavors of the 20th century, psychoanalysis is a theory about human nature, motivation, behavior, development and experience, as well as a clinical method of treatment for psychological disorders. We will read texts by Freud, Jung, Ferenczi, Rank, Horney, Klein, Anna Freud, Lacan, and others.			
AS.300.338	01	H	W	**Comic Evolution: Stages in Development of Comedy** *Macksey, Richard A* An eclectic tour of comic forms and theories from classical antiquity to contemporary practice. Although the textual focus will be on stage comedy, we'll also consider the comic in other forms and media—film [Keaton], comic strip [Herriman], and contemporary satire. Some of the familiar questions on the agenda: topical vs. 'perennial' material, the social functions of comedy, the 'shelf life' of humor, butts & scapegoats, symmetries & asymmetries between comedy and tragedy, verbal and non-verbal comic devices, the general rhetoric of comedy, and the possibility of a Grand Unified Theory. (Final paper.)	3.00	12	Th 5:00-7:30PM
AS.300.363	01	H	W	**Reading Judith Shakespeare** *Patton, Elizabeth* Virginia Woolf's account of the thwarted career of Shakespeare's hypothetical sister, Judith, frames our reading of plays and poetry by Shakespeare and contemporary women writers, including Isabella Whitney, Elizabeth Cary, Mary Sidney, Aemelia Lanyer, Mary Wroth, and others. Students will create fictional biographies of "Judith Shakespeare" and her literary accomplishments. Open to all students.	3.00	12	W 1:30-4:00PM
AS.300.365	01	H	W	**Desire in the Fin de siècle** *Eakin Moss, Anne* This course examines the obsession with desire at the turn of the 20th century in literature, drama, philosophy and social thought and its implications for notions of self and community in modernity. We will read comparatively across European, Russian and American cultures, including Stoker's Dracula, Hamsun's Hunger, plays by Chekhov, Strindberg, Ibsen, Wilde, and stories by Tolstoy, Gorky, Chopin and Larsen.	3.00	20	TTh 10:30-11:45AM
AS.300.410	01	H		**Introduction to Nihilism: Nietzsche and Leopardi** *Lisi, Leonardo* Open to graduate and advanced undergraduate students. Nihilism has frequently been described as a specifically modern phenomenon and problem. In this course we take a close look at two of its most important nineteenth century figures, Giacomo Leopardi and Friedrich Nietzsche. Texts and discussion in English; reading knowledge of Italian and German recommended.	3.00	20	F 1:30-4:00PM
AS.360.134	01	H	W	**Great Books at Hopkins II: The Sciences** *Patton, Elizabeth*	3.00	15	TTh 3:00-4:15PM

Humanities Center

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Greart Books at Hopkins II: The Sciences will combine readings from philosophy and literature with foundational texts from several scientific disciplines. Readings for this spring will explore links between traditional theories of economics and genetics in the context of literary developments, and will include: Xenophon's Oeconimicus, Mendel's "Experiments on Plant Hybridization," Marx's Communist Manifesto, Darwin's Voyage of the Beagle, Swift's A Modest Proposal, Wharton's House of Mirth, and Joyce's Finnegan's Wake.			
AS.360.134	02	H	W	**Great Books at Hopkins II: The Sciences** *Roller, Matthew*	3.00	15	TTh 3:00-4:15PM
AS.363.417	01	HS		**Internship/Practicum: Critical Theory & the Possibility of Social Justice** *Krauss, Amy Beth* Students will examine concepts of experience, social justice and transformation, governance and critical thought in connection with 4 hours of internship work in a Baltimore City organization per week.	4.00	15	Th 4:00-6:30PM
AS.371.140	01	H		**Cartooning** *Chalkley, Thomas* Not open to Freshmen. A history-and-practice overview for students of the liberal arts. The conceptual basis and historical development of cartooning is examined in both artistic and social contexts. Class sessions consist of lecture (slides/handouts), exercises, and ongoing assignments. Topics include visual/narrative analysis, symbol & satire, editorial/political cartoons, character development, animation. Basic drawing skills are preferred but not required.	3.00	15	M 10:00AM-12:50PM
AS.371.151	01	H		**Photoshop/Dig Darkroom** *Ehrenfeld, Howard* Photoshop is not only the digital darkroom for processing images created with digital cameras; it is also a creative application for making original artwork. In this course, students use Photoshop software as a tool to produce images from a fine art perspective, working on projects that demand creative thinking while gaining technical expertise. Students will make archival prints, have regular critiques, and attend lectures on the history of the manipulated image and its place in culture. We will look at art movements which inspire digital artists, including 19th century collage, dada, surrealism, and the zeitgeist of Hollywood films. Students must have a digital camera. Prior knowledge of Photoshop is not required. Attendance at first class is mandatory.	3.00	10	M 10:00AM-12:50PM
AS.371.152	01	H		**Introduction to Digital Photography** *Ehrenfeld, Howard*	3.00	10	T 10:00AM-12:50PM

Humanities Center

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Introduction to Digital Photography Students learn to use their digital cameras through a variety of projects, which will help them develop technical and creative skills. Students explore documentary, landscape and portrait photography. Critiques and slide lectures of historic photographs, which range from postmortem daguerreotypes to postmodern digital imagery, help students develop a personal vision. Students gain camera proficiency with one-on-one instruction in the field. Basics for print adjustment and output will be covered. Attendance at first class is mandatory.			
AS.371.162	01	H		**Black and White: Digital Darkroom** *Berger, Phyllis A* In this digital course, students explore the black-and-white aesthetic. They develop camera skills on numerous field trips, including an urban mural walk, Ladew Topiary Gardens and an optional weekend trip to Cape Henlopen State Park in Delaware. Students meet frequently for critiques and discussions based on historic and contemporary imagery. They will learn to use Photoshop and Nik software for image adjustment. Techniques such as high dynamic range and infrared are covered. Students work on a final project of their choice and produce a portfolio of ten prints. Digital SLR cameras are provided. Attendance at first class is mandatory.	3.00	10	W 10:00AM-12:50PM
AS.371.162	02	H		**Black and White: Digital Darkroom**	3.00	10	W 2:00-4:50PM

Interdepartmental

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.360.331	01	S		**Methods for Policy Research** *Morgan, Barbara Anne* This course will introduce students to quantitative methods for studying social policy problems. Topics to be covered include descriptive statistics and sampling, correlation and causation, simple and multiple regression, experimental methods, and an introduction to cost-benefit analysis. The emphasis will be on the selection, interpretation and practical application of these methodologies in specific policy settings, rather than with formal proofs. Skills will be reinforced by hands-on exercises using statistical software. Over the course of the semester, students will critically analyze policy reports and empirical research in a range of policy areas and learn how to present this research to a non-specialist audience. Finally, we will discuss the pros and cons of quantitative vs. qualitative methodologies. The course will conclude with group presentations that draw on all these skills. Enrollment restricted to Social Policy minors only.	3.00	15	TBA
AS.360.357	01	S	W	**Baltimore as an Urban Laboratory** *Deluca, Stefanie* This course uses the city of Baltimore as a lens through which to explore issues of urban inequality. We will focus on Baltimore's history of racial segregation and concentrated poverty, and its effect on the social and economic well-being of the city and its residents, with attention to education, employment, health and crime. Students will learn how to employ Census data, GIS approaches, and sociological research to inform questions about population change, inequality and the distribution of resources across the city and metropolitan region. Students will also work on one or more policy relevant studies based in Baltimore, including: a project on abandoned and vacant housing, a desegregation intervention, and a longitudinal study of inner city youth. Finally, students will become familiar with Baltimore City's programs and policy approaches to addressing the city's most pressing problems, and will design innovative and effective and innovative solutions as part of their course assignments. Enrollment restricted to Social Policy minors only.	3.00	15	TBA
AS.360.366	01	S	W	**Public Policy Writing Workshop** *Longman, Phillip*	3.00	15	TBA

Interdepartmental

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This workshop is designed to hone the analytical and communications skills necessary for effective formulation and advocacy of public policy. Topics include how to develop op-ed pieces and other forms of advocacy journalism, memoranda, position papers, and grant proposals. The workshop puts special stress on how to make a clear and persuasive exposition of complex or counter-intuitive policy arguments in the market place of ideas, including the challenges of writing for popular journals and communicating to specific audiences both in and out of government. Students receive intensive individual instruction, including close editing of their work and advice on how to publish or promote it in the public sphere. Enrollment restricted to Social Policy minors only.			
AS.360.372	01	S	W	**Poverty and Public Policy** *Edin, Kathryn* This course examines the causes and consequences of U.S. urban poverty, it's implications for health and wellbeing, and explores strategies for addressing it. We cover the major theoretical explanations scholars have advanced to explain the persistence of urban poverty including labor markets, residential segregation, welfare policy, family structure, and the criminal justice system. Within each topic area, students are introduced to a range of interventions aimed at alleviating urban poverty. Students will conduct a formal policy analysis of 20 pages and participate in a mock congressional hearing. Permission required for Social Policy minors.	3.00	15	TBA
AS.360.380	01	S	W	**Making America Social Policy** *Schlozman, Daniel* This course analyzes the distinctive US welfare state in historical and comparative perspective. We begin with a survey of the policy context, an historical overview from the poorhouses through the Great Society, and a tour of welfare states across the rich democracies. We then survey developments – and explain the actual workings of policy – across jobs, education, welfare, pensions, and health care. We explore the institutional and political factors behind their divergent trajectories through conservative revival and the age of Obama. Students will write a seminar paper exploring policy development over time in a program or area of their choosing. Enrollment restricted to Social Policy minors only.	3.00	15	TBA
EN.570.428	01	S	W	**Problems in Applied Economics** *Hanke, Steve H*	3.00	25	TBA

Interdepartmental

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course brings the principles of economic theory to bear upon particular problems in the fields of economics, finance and public policy. Micro, macro and international problems, from both the private and public sectors, are addressed. A heavy emphasis is placed on research and writing. Students learn how to properly conduct substantive economic research, utilizing statistical techniques and lessons from economic history. Findings are presented in the form of either memoranda or working papers. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.			
EN.570.470	01	QS	W	**Applied Econ & Finance** *Hanke, Steve H* This course focuses on company valuations, using the proprietary Hanke-Guttridge Discounted Free Cash Flow Model. Students use the model and data from financial statements filed with the Securities and Exchange Commission to calculate the value of publicaly-traded companies. Using Monte Carlo simulations, students also generate forecast scenarios, project likely share-price ranges and assess potential gains/losses. Stress is placed on using these simulations to diagnose the subjective market expectations contained in current objective market prices, and the robustness of these expectations. During the weekly seminar, students' company valuations are reviewed and critiqued.	3.00	20	F 1:30-4:30PM
EN.570.487	01	S	W	**Financial Market Research** *Hanke, Steve H* This course investigates the workings of financial, foreign exchange, and commodity futures markets. Research is focused on price behavior, speculation, and hedging in these markets. Extensive research and writing is required. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.	3.00	20	TBA

International Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.230.150	01	S		**Issues in International Development** *Levien, Michael* Why do billions of people continue to suffer from poverty? Who is most likely to change this situation, what strategies should they follow, what kinds of institutions should they put into place, and what kinds of obstacles stand in the way? This course will introduce the main theoretical perspectives, debates, and themes in the field of international development since the mid-20th century. It has three sections. The first section focuses on debates about the optimal conditions and strategies for generating economic growth and on the relationship between growth, inequality, and human welfare. The second section presents micro-level assessments of various development interventions. The third section considers the role of civil society and political movements in shaping development and social change in the 21st century. Fulfills Economics (ECON) requirement for IS GSCD students only. Freshmen and sophomores only.	3.00	30	TTh 10:30-11:45AM
AS.230.265	01	QS		**Research Tools and Technologies for the Social Sciences** *Upadhyay, Smriti* This course will introduce students to a range of digital technologies that are critical for conducting social scientific research in the 21st century. Students will develop competency in the use of computer programs for statistical analysis, database management, the creation of maps and timelines, and the presentation of research reports. The research tools and technologies will be taught using examples from ongoing social science faculty research projects at Johns Hopkins on global inequality and international development. Required for GSCD track students.	3.00	15	MW 1:30-2:45PM
AS.230.346	01	S		**Economic Sociology of Latin America** *von der Heydt-Coca, Magda Zonia* This course will offer an overview of Latin America's economic reality as an intertwined process of economic and political domestic factors within the constraints of the world economy. Latin American development will be analyzed from a historical perspective. The first half of the semester the course will focus on the analysis of the economic developmental patterns starting in the middle of the 19thcentury to the populist era in the middle of the 20thcentury. In the second half of the semester, we will analyze in depth the contemporary neoliberal approach to development. Globalization is the force that drives economic, social and political processes in Latin America. The course will include case studies as well the social conflicts generated by the increasing polarization of the society. Students will be exposed to important sociological theories. Fulfills Economics for GSCD students.	3.00	25	TTh 10:30-11:45AM
AS.230.364	01	S		**Ethnic Violence in Comparative and Global Perspective** *Kumral, Sefika*	3.00	15	TTh 1:30-2:45PM

International Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course provides a framework for understanding and analyzing different forms of ethnic violence including ethnic riots, ethnic wars, and genocides around the world. Beginning with foundational texts on defining ethnic groups, we will examine causes and dynamics of ethnic mobilization and violence from different disciplines and perspectives. Throughout the course, we will explore texts that treat key themes in studies of ethnic violence including globalization, economic development, inequality, dismantling of the developmental state, migration, state formation and failure, conflict resolution, and democratization; focusing on various cases of ethnic violence in different regions including Eastern Europe, Basque Region, Turkey, Sudan, India, Sri Lanka, China, and historical cases like Northern Ireland. Fulfills Non-Western History (NWHIST) requirement for IS GSCD students only.			
AS.310.103	01	HS		**Modern Japan - 1800 to the Present** *Bronson, Adam* An introduction to the history of Japan from the 18th century to the present. In lectures and discussion we will draw upon a combination of primary source materials (political documents, memoirs, oral histories, journalism, fiction, film) and scholarly writings in order to gain insight into the complex and tumultuous process by which Japan became an industrialized society, a modern nation-state, and a world power.	3.00	50	MWF 1:30-2:20PM

Jewish Studies Program

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.100.129	01	HS		**Introduction to Modern Jewish History** *Moss, Kenneth* An examination of the history of Jews over the past three hundred years. Explores the dramatic encounter at the close of the 18th century between rapidly changing European societies caught up in intellectual, political, and economic revolution and a 2000-year old traditional civilization living in their midst; the kaleidoscopic array of Jewish political, religious, cultural and social responses to this encounter; the new forms of Jewish communal and individual life and consciousness which emerged in the course of the 19th and 20th centuries; the extension of this new modern framework to the Jews of the Middle East in the context of European imperialism and colonialism; the key roles played by the Jews as agents and symbols of political, economic, and cultural modernity; the phenomenon of anti-Semitism and whether it is a pathology or integral part of modern European civilization; the extreme shifts in Jewish life from the mid-20th century in light of the Holocaust, the creation of the state of Israel, and integration into American society.	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.100.129	02	HS		**Introduction to Modern Jewish History**	3.00	20	MW 11:00-11:50AM; F 10:00-10:50AM
AS.100.344	01	HS	W	**The Holocaust** *Braun, Linda* This course expands the knowledge of the Holocaust by including experiences of Eastern European Jewry and by discussing recent historiographic debates in the field such as 'ordinary men,' perpetrators, and collaboration.	3.00	19	TTh 9:00-10:15AM
AS.100.412	01	HS	W	**Jewish History in British Mandatory Palestine 1917-1947** *Moss, Kenneth* Recent historical writing on Jewish politics, culture, and society in British Mandatory Palestine, 1917-1947. Significant attention will also be paid to work on Palestinian Arab society and politics and to Jewish-Arab-British relations.	3.00	15	T 1:30-3:50PM
AS.130.202	01	H		**Ancient Mythology** *Delnero, Paul* This course explores the mythology of the ancient Near East from the invention of writing in Sumer in 3000 B.C. until the conquest of Alexander the Great near the end of the first millennium B.C. Mythological texts from Mesopotamia, Egypt, Anatolia, the Levant, and the Bible will be read from a comparative perspective. Special attention is paid to the origin and development of the epic, culminating in the great Epic of Gilgamesh, but considerable time is also given to the vast mythological and historical literature, and such diverse genres as love poetry, proverbs, humorous dialogues, Omens, and legal and medical texts. All readings are in English translation.	3.00	30	MW 3:00-4:15PM
AS.130.341	01	H		**Traditionalism vs. Orthodoxy in the Modern Era: The Case of Judaism** *Katz, David*	3.00	30	TTh 9:00-10:15AM

Jewish Studies Program

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				During the Modern Era in European history, the Traditionalist Jewish civilization of Europe that had evolved over many centuries went into deep crisis. The new political, social, and intellectual realities which characterized Modernity seriously challenged, overwhelmed, and indeed threatened to destroy the Jewish Traditionalist culture and society. In response, different Traditionalist thinkers and communities evolved a number of strategies for surviving in a modern environment, strategies that unexpectedly transformed Traditionalism into something different, which came to be called Orthodox Judaism. This course explores this process of transformation, which has had an important impact on Jewish life in the modern and post-modern eras. Cross-listed with Jewish Studies.			
AS.130.346	01	H		**Introduction to the History of Rabbinic Literature** *Katz, David* Broadly surveying classic rabbinic literature, including the Talmud and its commentaries, the legal codes and the response, this seminar explores the immanent as well as the external factors that shaped the development of this literature, the seminal role of this literature in Jewish self-definition and self-perception, and the role of this literature in pre-modern and modern Jewish culture.	3.00	30	TTh 10:30-11:45AM
AS.150.483	01			**Topics in Jewish Philosophy: Hassidism** *Melamed, Yitzhak Yohanan* Hassidism is the ecstatic religious movement that emerged in East European Jewry in the mid eighteenth century. In this research seminar we will concentrate on the teachings and activities of the circle of Dov Ber of Mezrich between 1760 and 1772. We will study both internal and external sources (such as Salomon Maimon's report in his Lebensgeschichte). All materials will be available in English translation, though reading knowledge of Hebrew would be an asset.	3.00	20	W 1:30-4:00PM
AS.190.344	01	S		**Seminar In Anti-Semitism** *Ginsberg, Benjamin*	3.00	20	M 1:30-3:50PM

Jewish Studies Program

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Jews exercise a good deal of power in contemporary America.. They are prominent in a number of key industries, play important roles in the political process, and hold many major national offices. For example, though Jews constitute barely two percent of America's citizens, about one-third of the nation's wealthiest 400 individuals are Jewish and more than ten percent of the seats in the U.S. Congress are held by Jews. One recent book declared that, "From the Vatican to the Kremlin, from the White House to Capitol Hill, the world's movers and shakers view American Jewry as a force to be reckoned with." Of course, Jews have risen to power in many times and places ranging from the medieval Muslim world and early modern Spain through Germany and the Soviet Union in the 20th century. In nearly every prior instance, though, Jewish power proved to be evanescent. No sooner had the Jews become "a force to be reckoned with" than they found themselves banished to the political ma rgins, forced into exile or worse. Though it may rise to a great height, the power of the Jews seems ultimately to rest on a rather insecure foundation. Cross-listed with Jewish Studies.			
AS.193.100	01			**Yiddish Bibliography: a seminar for intermediate and advanced Yiddish students** *Niborski, Eliezer* Yiddish Bibliography: a seminar for intermediate and advanced Yiddish students. The seminar's aim is to introduce the students to a large set of Yiddish resources, along various topics and research areas, while improving their Yiddish reading and expression skills.	3.00	15	TTh 12:00-1:15PM
AS.193.201	01	S	W	**Early Modern Jewry in Europe and the Mediterranean** *Horowitz, Elliott* The course examines the transition from medievalism to modernity among the Jews of Europe and the Mediterranean between the sixteenth and eighteenth centuries, paying attention to both material and intellectual life, and to women and children side by side with merchants and rabbis.	3.00	30	TTh 10:30-11:45AM
AS.193.202	01			**Everyday Voices of the Holocaust: Popular Jewish Poetic Expression in the Ghettos and Camps** *Trinh, Miriam* The course aims to encourage knowledge of a relatively unknown mass phenomenon - poetic creativity by Jews under Nazi Rule, in the Ghettos and Camps. The study of mostly unpublished, multilingual texts, written by non-professional writers, will enable to better understand the complexity of immediate Jewish reaction to Holocaust reality, in its multicultural contexts. Texts from selected ghettos and camps, originally written in Yiddish, Polish, German and Hebrew will be read in English translation and analyzed - also with emphasis on the differences and similarities between East and West European Jewry.	3.00	15	W 5:30-7:50PM

Jewish Studies Program

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.193.301	01	S	W	**Reading the Bible and Encountering its World** *Horowitz, Elliott* The course examines the interactions between travel and biblical interpretation between the seventeenth and twentieth centuries, paying particular attention to the ways in which travelers to the Middle East and then scholars saw its residents as relics of an unchanging biblical world, whose practices could be used to interpret scriptural texts from both the Old and New Testaments.	3.00	15	T 3:00-5:50PM
AS.193.304	01	S		**Everyday Voices of the Holocaust: Popular Jewish Poetic Expression in the Ghettos and Camps** *Trinh, Miriam* The course aims to encourage knowledge of a relatively unknown mass phenomenon - poetic creativity by Jews under Nazi Rule, in the Ghettos and Camps. The study of multi-lingual texts, written by non-professional writers, will enable to better understand the complexity of immediate Jewish reaction to Holocaust reality, in its multi-cultural contexts. Texts from selected ghettos and camps, originally written in Yiddish, Polish, German and Hebrew will be read in English translation and analyzed. Emphasis will be put on the differences and similarities between Eastern and Western European Jewry.	3.00	15	TTh 10:30-11:45AM
AS.210.164	01	H		**Elementary Yiddish II** *Caplan, Beatrice* Year-long course that includes the four language skills--reading, writing, listening, and speaking--and introduces students to Yiddish culture through text, song, and film. Emphasis is placed both on the acquisition of Yiddish as a tool for the study of Yiddish literature and Ashkenazic history and culture, and on the active use of the language in oral and written communication. Both semesters must be taken with a passing grade to receive credit. Recommended Course Background: AS.210.163 or instructor permission.	3.00	12	TTh 10:30-11:45AM
AS.210.370	01	H		**Yiddish Texts II** *Caplan, Beatrice* Continuation of Yiddish Texts I. This course will give students who have completed Advanced Yiddish the chance to improve their proficiency. The curriculum will be determined according to the research interests of the students with an emphasis placed on reading primary texts fluently. Since the course is taught in Yiddish, students will also have ample opportunity to practice the other language skills (listening, speaking, writing).	3.00	12	TTh 12:00-1:15PM
AS.213.322	01	H		**Museums and Jews, Jews in Museums** *Spinner, Samuel Jacob*	3.00	30	TTh 12:00-1:15PM

Jewish Studies Program

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will examine the presence of Jews in museums. We will consider the history of the exhibition and collection of Jewish material culture in museums from the 19th century to the present day. Our main task will be to identify the various museological traditions that engage Jewish identity, including the collection of art and antiquities, ethnographic exhibitions, history museums, and Holocaust museums. Some of the questions we will ask include: how do museums shape identity? what is the relationship between the scholarly premises of many museums and their popular reception? and, centrally, what is the relationship between Jewish museums and museums of the Holocaust?			
AS.216.370	01	H	W	**Israel Through Prose** *Stahl, Neta* This course examines representations of various aspects of Israeli society and culture in contemporary Israeli prose. The course will follow both a thematic and chronological path in order to study the ways in which Israeli prose reflects political, ideological, social and cultural aspects of contemporary Israel. In this context, we will read works by several major authors such as: Agnon, Shabtai, Kahanah-Carmon, Oz, Kenaz, Yehoshua, Grossman, Castel-Bloom, Matalon, Laor, Kashua and Hoffmann.	3.00	16	TTh 10:30-11:45AM
AS.216.370	02	H	W	**Israel Through Prose**	4.00	4	TTh 10:30-11:45AM
AS.216.444	01	H	W	**Apocolaypse Now: Apocalpype in Literature and Cinema** *Stahl, Neta* This course studies literary and cinematic representations of the apocalypse. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and seek to trace the narrative dynamics as well as literary and cinematic means of apocalyptic representations. We will discuss works from various periods, languages, cultures and religions. Among the issues to be discussed: what is the apocalypse, war and the apocalypse, the Holocaust as apocalypse, Biblical apocalypse, post-apocalyptic works, the apocalypse in popular culture, realism, anti-realism and the apocalypse.	3.00	15	T 1:30-4:00PM
AS.384.116	01			**First Year Modern Hebrew II** *Cohen, Zvi* Designed to provide reading and writing mastery, to provide a foundation in Hebrew grammar and to provide basic conversational skills. Cross-listed with Jewish Studies.	4.00	15	TThF 12:00-1:15PM; M 2:50-3:40PM
AS.384.216	01	H		**Second Year Modern Hebrew II** *Cohen, Zvi* Designed to enrich vocabulary and provide intensive grammatical review, and enhance fluency in reading, writing and comprehension. Recommended Course Background: AS.384.215 or permission required.	4.00	10	MWF 10:00-10:50AM; T 9:00-9:50AM
AS.384.316	01	H		**Third Year Modern Hebrew II** *Cohen, Zvi*	4.00	10	TTh 10:30-11:45AM; W 2:25-3:15PM

Jewish Studies Program

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Designed to: maximize comprehension and the spoken language through literary and newspaper excerpts providing the student with the language of an educated Israeli. Recommended Course Background: AS.384.315 or permission required. Cross-listed with Jewish Studies.			

Mathematics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.110.106	01	Q		**Calculus I** *Li, Zhan* Differential and integral calculus. Includes analytic geometry, functions, limits, integrals and derivatives, introduction to differential equations, functions of several variables, linear systems, and applications for systems of linear differential equations, probability distributions. For Biological and Social Sciences Majors.	4.00	30	MWF 10:00-10:50AM; T 4:30-5:20PM
AS.110.106	02	Q		**Calculus I**	4.00	30	MWF 10:00-10:50AM; Th 3:00-3:50PM
AS.110.106	03	Q		**Calculus I**	4.00	30	MWF 10:00-10:50AM; Th 4:30-5:20PM
AS.110.107	01	Q		**Calculus II (For Biological and Social Science)** *Merling, Mona* Includes analytic geometry, functions, limits, integrals and derivatives, introduction to differential equations, functions of several variables, linear systems, applications for systems of linear differential equations, probability distributions. For Biological and Social Sciences Majors. Prerequisite: AS.110.107.	4.00	30	MWF 10:00-10:50AM; T 1:30-2:20PM
AS.110.107	02	Q		**Calculus II (For Biological and Social Science)**	4.00	30	MWF 10:00-10:50AM; T 3:00-3:50PM
AS.110.107	03	Q		**Calculus II (For Biological and Social Science)**	4.00	30	MWF 10:00-10:50AM; Th 3:00-3:50PM
AS.110.107	04	Q		**Calculus II (For Biological and Social Science)**	4.00	30	MWF 10:00-10:50AM; Th 4:30-5:20PM
AS.110.107	05	Q		**Calculus II (For Biological and Social Science)**	4.00	30	MWF 11:00-11:50AM; Th 3:00-3:50PM
AS.110.107	06	Q		**Calculus II (For Biological and Social Science)**	4.00	30	MWF 11:00-11:50AM; T 4:30-5:20PM
AS.110.107	07	Q		**Calculus II (For Biological and Social Science)**	4.00	30	MWF 11:00-11:50AM; T 3:00-3:50PM
AS.110.107	08	Q		**Calculus II (For Biological and Social Science)**	4.00	30	MWF 11:00-11:50AM; Th 1:30-2:20PM
AS.110.109	01	Q		**Calculus II (For Physical Sciences and Engineering)** *Gudapati, Nishanth* Includes analytic geometry, functions, limits, integrals and derivatives, polar coordinates, parametric equations, Taylor's theorem and applications, infinite sequences and series. For Physical Sciences and Engineering Majors. Prerequisite: AS.110.106.	4.00	30	MWF 10:00-10:50AM; T 3:00-3:50PM
AS.110.109	02	Q		**Calculus II (For Physical Sciences and Engineering)**	4.00	30	MWF 10:00-10:50AM; T 4:30-5:20PM
AS.110.109	03	Q		**Calculus II (For Physical Sciences and Engineering)**	4.00	30	MWF 10:00-10:50AM; Th 1:30-2:20PM
AS.110.109	04	Q		**Calculus II (For Physical Sciences and Engineering)**	4.00	30	MWF 10:00-10:50AM; Th 3:00-3:50PM
AS.110.109	05	Q		**Calculus II (For Physical Sciences and Engineering)**	4.00	30	MWF 10:00-10:50AM; T 3:00-3:50PM

Mathematics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.110.201	01	Q		**Linear Algebra** *Gell-redman, Jesse* Vector spaces, matrices, and linear transformations. Solutions of systems of linear equations. Eigenvalues, eigenvectors, and diagonalization of matrices. Applications to differential equations.	4.00	30	MWF 10:00-10:50AM; T 1:30-2:20PM
AS.110.201	02	Q		**Linear Algebra**	4.00	30	MWF 10:00-10:50AM; T 3:00-3:50PM
AS.110.201	03	Q		**Linear Algebra**	4.00	30	MWF 10:00-10:50AM; T 4:30-5:20PM
AS.110.201	04	Q		**Linear Algebra**	4.00	30	MWF 10:00-10:50AM; Th 1:30-2:20PM
AS.110.201	05	Q		**Linear Algebra**	4.00	30	MWF 10:00-10:50AM; Th 3:00-3:50PM
AS.110.201	06	Q		**Linear Algebra**	4.00	30	MWF 11:00-11:50AM; T 1:30-2:20PM
AS.110.201	07	Q		**Linear Algebra**	4.00	30	MWF 11:00-11:50AM; T 3:00-3:50PM
AS.110.201	08	Q		**Linear Algebra**	4.00	30	MWF 11:00-11:50AM; Th 1:30-2:20PM
AS.110.201	09	Q		**Linear Algebra**	4.00	30	MWF 11:00-11:50AM; Th 3:00-3:50PM
AS.110.202	01	Q		**Calculus III** *Zhang, Yingying* Calculus of functions of more than one variable: partial derivatives, and applications; multiple integrals, line and surface integrals; Green's Theorem, Stokes' Theorem, and Gauss' Divergence Theorem.	4.00	30	MWF 11:00-11:50AM; T 1:30-2:20PM
AS.110.202	02	Q		**Calculus III**	4.00	30	MWF 11:00-11:50AM; T 3:00-3:50PM
AS.110.202	03	Q		**Calculus III**	4.00	30	MWF 11:00-11:50AM; Th 4:30-5:20PM
AS.110.202	04	Q		**Calculus III**	4.00	30	MWF 11:00-11:50AM; Th 1:30-2:20PM
AS.110.202	05	Q		**Calculus III**	4.00	30	MWF 11:00-11:50AM; T 1:30-2:20PM
AS.110.202	06	Q		**Calculus III**	4.00	30	MWF 12:00-12:50PM; T 4:30-5:20PM
AS.110.202	07	Q		**Calculus III**	4.00	30	MWF 12:00-12:50PM; Th 1:30-2:20PM
AS.110.202	08	Q		**Calculus III**	4.00	30	MWF 12:00-12:50PM; Th 3:00-3:50PM
AS.110.202	09	Q		**Calculus III**	4.00	30	MWF 12:00-12:50PM; Th 4:30-5:20PM
AS.110.211	01	Q		**Honors Multivariable Calculus** *McTague, Carl* This course includes the material in AS.110.202 with some additional applications and theory. Recommended for mathematically able students majoring in physical science, engineering, or especially mathematics. AS.110.211 -AS.110.212 used to be an integrated yearlong course, but now the two are independent courses and can be taken in either order. Prerequisite: AS.110.109 or 5 on the Calculus BC AP Exam, or AS.110.113. If Linear Algebra is being used as the prerequisite a grade of B+ or better is required. Linear Algebra can also be taken as a corequisite.	4.00	35	MW 12:00-1:15PM; F 12:00-12:50PM
AS.110.212	01	Q		**Honors Linear Algebra** *Di Matteo, Giovanni* This course includes the material in AS.110.201 with some additional applications and theory. Recommended for mathematically able students majoring in physical science, engineering, or mathematics. AS.110.211-AS.110.212 used to be an integrated yearlong course, but now the two are independent courses and can be taken in either order. This course satisfies a requirement for the math major that its non-honors sibling does not.	4.00	45	MW 1:30-2:45PM; F 1:30-2:20PM
AS.110.302	01	Q		**Diff Equations/Applic**	4.00	30	MWF 12:00-12:50PM; T 1:30-2:20PM

Mathematics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Zhu, Jiuyi This is an applied course in ordinary differential equations, which is primarily for students in the biological, physical and social sciences, and engineering. The purpose of the course is to familiarize the student with the techniques of solving ordinary differential equations.			
AS.110.302	02	Q		**Diff Equations/Applic**	4.00	30	MWF 12:00-12:50PM; T 3:00-3:50PM
AS.110.302	03	Q		**Diff Equations/Applic**	4.00	30	MWF 12:00-12:50PM; Th 3:00-3:50PM
AS.110.302	04	Q		**Diff Equations/Applic**	4.00	30	MWF 12:00-12:50PM; Th 4:30-5:20PM
AS.110.302	05	Q		**Diff Equations/Applic**	4.00	30	MWF 1:30-2:20PM; T 4:30-5:20PM
AS.110.302	06	Q		**Diff Equations/Applic**	4.00	30	MWF 1:30-2:20PM; Th 1:30-2:20PM
AS.110.302	07	Q		**Diff Equations/Applic**	4.00	30	MWF 1:30-2:20PM; Th 3:00-3:50PM
AS.110.304	01	Q		**Elementary Number Theory** *Kong, Jian* The student is provided with many historical examples of topics, each of which serves as an illustration of and provides a background for many years of current research in number theory. Primes and prime factorization, congruences, Euler's function, quadratic reciprocity, primitive roots, solutions to polynomial congruences (Chevalley's theorem), Diophantine equations including the Pythagorean and Pell equations, Gaussian integers, Dirichlet's theorem on primes. Prerequisite: AS.110.109.	4.00	40	TTh 9:00-10:15AM
AS.110.311	01	Q		**Complex Analysis** *Pingali, Vamsi* This course is an introduction to the theory of functions of one complex variable. Its emphasis is on techniques and applications, and it serves as a basis for more advanced courses. Functions of a complex variable and their derivatives; power series and Laurent expansions; Cauchy integral theorem and formula; calculus of residues and contour integrals; harmonic functions.	4.00	40	TTh 12:00-1:15PM
AS.110.401	01	Q		**Advanced Algebra I** *Zucker, Steven* An introduction to the basic notions of modern algebra. Elements of group theory: groups, subgroups, normal subgroups, quotients, homomorphisms. Generators and relations, free groups, products, commutative (Abelian) groups, finite groups. Groups acting on sets, the Sylow theorems. Definition and examples of rings and ideals. Introduction to field theory. Linear algebra over a field. Field extensions, constructible polygons, non-trisectability.	4.00	30	MW 12:00-1:15PM; F 12:00-12:50PM
AS.110.402	01	Q		**Advanced Algebra II** *Wilson, W Stephen* Splitting field of a polynomial, algebraic closure of a field. Galois theory: correspondence between subgroups and subfields. Solvability of polynomial equations by radicals.	4.00	30	F 12:00-12:50PM; MW 12:00-1:15PM
AS.110.405	01	Q		**Analysis I** *Bernstein, Jacob*	4.00	30	MW 1:30-2:45PM; F 1:30-2:20PM

Mathematics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is designed to give a firm grounding in the basic tools of analysis. It is recommended as preparation (but may not be a prerequisite) for other advanced analysis courses. Real and complex number systems, topology of metric spaces, limits, continuity, infinite sequences and series, differentiation, Riemann-Stieltjes integration.			
AS.110.413	01	Q		**Introduction to Topology** *Wilson, W Stephen* Topological spaces, connectedness, compactness, quotient spaces, metric spaces, function spaces. An introduction to algebraic topology: covering spaces, the fundamental group, and other topics as time permits.	4.00	30	TTh 10:30-11:45AM
AS.110.416	01	Q		**Honors Analysis II** *Pingali, Vamsi* Lebesgue integration and differentiation. Elementary Hilbert and Banach space theory. Baire category theorem. Continuation of AS.110.415, introduction to real analysis.	4.00	30	MW 1:30-2:45PM; F 1:30-2:20PM
AS.110.417	01	Q		**Partial Diff Equations** *Spruck, Joel* Characteristics. classification of second order equations, well-posed problems. separation of variables and expansions of solutions. The wave equation: Cauchy problem, Poisson's solution, energy inequalities, domains of influence and dependence. Laplace's equation: Poisson's formula, maximum principles, Green's functions, potential theory Dirichlet and Neumann problems, eigenvalue problems. The heat equation: fundamental solutions, maximum principles. Recommended Course Background: AS.110.405 or AS.110.415	4.00	35	TTh 12:00-1:15PM
AS.110.421	01	Q		**Dynamical Systems** *Brown, Richard* This is a course in the modern theory of Dynamical Systems. Topic include existence and uniqueness of general ODEs, nonlinear analysis and stability, including bifurcation theory and stable and center manifolds, smooth flows, limit sets, Hamiltonian mechanics, perturbation theory and structural stability.	4.00	35	TTh 3:00-4:15PM
AS.110.423	01	Q		**Lie Groups for Undergraduates** *Zucker, Steven* This course is an introduction to Lie Groups and their representations at the upper undergraduate level. It will cover basic Lie Groups such as SU (2), U(n) , the Euclidean Motion Group and Lorentz Group. This course is useful for students who want a working knowledge of group representations. Some aspects of the role of symmetry groups in particle physics such as some of the formal aspects of the electroweak and the strong interactions will also be discussed. Recommended Course Background: AS.110.202; prior knowledge of group theory (AS.110.401) would be helpful.	4.00	30	MW 12:00-1:15PM
AS.110.431	01	Q		**Knot Theory** *McTague, Carl*	4.00		MW 3:00-4:15PM

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The theory of knots and links is a facet of modern topology. The course will be mostly self-contained, but a good working knowledge of groups will be helpful. Topics include braids, knots and links, the fundamental group of a knot or link complement, spanning surfaces, and low dimensional homology groups.			
AS.110.439	01	Q		**Introduction To Differential Geometry** *Martinez Garcia, Jesus* Theory of curves and surfaces in Euclidean space: Frenet equations, fundamental forms, curvatures of a surface, theorems of Gauss and Mainardi-Codazzi, curves on a surface; introduction to tensor analysis and Riemannian geometry; theorema egregium; elementary global theorems	4.00	30	TTh 1:30-2:45PM

Military Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.374.102	01			**Introduction to Leadership II** *Graves, Rodney* Establishes a foundation of basic leadership fundamentals such as: problem solving, communications, effective writing, goal setting, improving speaking and listening skills, and an introduction to counseling. Freshmen only.	2.00	30	W 1:30-3:20PM
AS.374.102	02			**Introduction to Leadership II**	2.00	30	Th 1:30-3:20PM
AS.374.120	01			**Basic Leadership Laboratory II** *Graves, Rodney* Students learn and apply team echelon leadership at an entry level. They continue development of military courtesy, discipline, communication and basic Soldier skills. Ultimately, students understand how to operate in and lead 4-5 persons through a program of training opportunities in a variety of conditions. Freshmen only.	1.00	50	Th 4:00-5:50PM
AS.374.202	01			**Leadership & Teamwork II** *ONeil, Timothy* Class examines how to build effective teams, various methods for influencing action, effective communication in setting and achieving goals, decision-making, creativity in problem solving, and providing feedback. Recommended Course Background: AS.374.201 or permission required.	2.00	30	Th 1:30-3:20PM
AS.374.202	02			**Leadership & Teamwork II**	2.00	25	TBA
AS.374.220	01			**Advanced Team Leadership** *ONeil, Timothy* Students perform duties of and develop their leadership, as team leaders during a variety of induced training opportunities. Continued emphasis is placed on troop-leading-procedures and simple problem solving. Students lead physical fitness training and mentor subordinates in military, academic and extra-curricular activities. Successful completion of advanced team leadership allows students to progress into ROTC Advanced Courses. Sophomores only.	1.00	50	Th 4:00-5:50PM
AS.374.302	01		W	**Leadership and Tactics** *Normand, David* Examines the role communications, values, and ethics play in effective leadership through application of principles in tactical scenarios. Emphasis is on improving written and oral communications skills and military tactics proficiency. ROTC cadets only. Corequisite: AS.374.320.	2.00	25	T 2:00-3:50PM
AS.374.302	02		W	**Leadership and Tactics**	2.00		TBA
AS.374.307	01		W	**Leadership in Military History** *Normand, David*	2.00	20	Th 7:00-8:50AM

Military Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course provides students with a historical perspective to decisions made by American military leaders: battlefield complexity, resource limitations, and teamwork deficiencies. Students cover major military engagements from the colonial period through the current operating environment. Students examine how leaders motivated their men, devised battle strategies, implemented rules of engagement, and managed supplies, transportation, and logistics for their troops. Requires permission of the Director of Military Science. Registration restricted to contracted ROTC cadets only.			
AS.374.320	01			**Advanced Tactical Leadership** *Normand, David* Students further develop their leadership skills by directing and coordinating the efforts of 9-60 personnel on offensive, defensive and civil-support tactical-tasks. Develop written plans for garrison and field environments while supervising its execution. Ultimately, prepares students to excel at the four-week National Leadership Development and Assessment Course at Fort Lewis, WA. Permission required. Juniors only.	1.00	50	Th 3:00-5:50PM
AS.374.402	01			**Adaptive Leadership/Professionalism** *Carroll, Paul* Study includes practical exercises on establishing an ethical command climate and developing values required of a professional officer. Students apply their leadership skills in the ROTC battalion and prepare for commissioning. Corequisite: AS.374.002. ROTC cadets only.	2.00	20	T 5:00-6:50PM
AS.374.407	01			**Being a Platoon Leader** *Carroll, Paul* This course prepares Cadets for actual challenges not necessarily described in text books that junior officers may face in today's Army. Topics include: serving during war, conflict management, ethical dilemmas, time-constrained planning, and change management. This course also serves as prerequisite for the Basic Officer Leadership Course "B" phase by providing students with reinforced development on: deployment preparation, the military style of writing, supply management, human resources management, family support and operations management. Students will also learn how the Army's organizational structure and administration affects Soldiers across ranks and over time. Finally, students will learn ways to leverage automation to improve their efficiency and effectiveness of records management and developing presentations for superiors.	1.00	20	T 6:00-10:00PM
AS.374.420	01			**Advanced Organizational Planning** *Carroll, Paul*	1.00	50	Th 3:00-5:50PM

Military Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Students develop a semester-long progression of training activates that support completion of the unit's Mission Essential Task List. The laboratory builds on the first semester's achievements through advanced problem solving, resource synchronization and executive decision making. Students evaluate and develop subordinate leaders as part of the Leadership Development Program and FM 6-22, Army Leadership. The course serves as the final evaluation and determination on a student's ability to lead Soldier's as a Second Lieutenant in the US Army. Permission required. Seniors only.			

Music

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.214.333	01	H	W	**Shakespeare on the Opera Stage** *Refini, Eugenio* From Rossini's Otello to Cole Porter's Kiss me Kate, from Verdi's Macbeth to Leonard Bernstein's West Side Story, the works of William Shakespeare have been an extraordinary source of inspiration for musical theatre. By exploring operatic adaptations of Shakespeare in different periods and contexts, this course will examine the ways in which composers and librettists have interpreted and reshaped the plays. The course, primarily focused on the 19th century Italian reception of Shakespeare and, in particular, on operas by Rossini and Verdi, will also consider the phenomenon within a broad transnational perspective up to include contemporary opera and musical.	3.00	15	T 1:30-4:00PM
AS.376.111	01			**Rudiments-Music Theory** *Chiao, Faye* This course introduces written and aural music fundamentals including notation, scales, intervals, chords, rhythm, meter and sight-singing. Students will compose melodies and short pieces and complete listening projects. Course does not count towards the completion of the minor.	3.00	15	MWF 10:00-10:50AM
AS.376.111	02			**Rudiments-Music Theory**	3.00	15	MWF 11:00-11:50AM
AS.376.111	03			**Rudiments-Music Theory** *Staff*	3.00	15	TTh 9:00-10:20AM
AS.376.211	01			**Theory & Musicianship I** *Staff* Introduction to basic principles of tonal music through listening, analysis and music making. Students study melody, harmony, voice leading, figured bass and dissonance treatment, and will also undertake short composition projects. Must have taken the qualifying examination or AS.376.111.	3.00	15	MWF 11:00-11:50AM
AS.376.211	02			**Theory & Musicianship I** *Chiao, Faye*	3.00	15	MWF 12:00-12:50PM
AS.376.212	01			**Theory/Musicianship II** *Hardaway, Travis* This course continues the written and aural work of the previous course but focuses on chromatic harmony while continuing the study of melody, counterpoint and figured bass. Prerequsite: Music Theory and Musicianship I (AS.376.211).	3.00	15	TTh 10:30-11:45AM
AS.376.216	01			**Theory III - Counterpoint** *Stone, Stephen C* A study of contrapuntal music, emphasizing composition in both the sixteenth- and eighteenth-century styles as epitomized by Palestrina and Bach.	3.00	15	MWF 3:00-3:50PM
AS.376.221	01			**Musicianship I** *Wile, Kip Douglas* Study in the basic skills of reading and hearing music. To be taken concurrently with AS.376.211, Music Theory I.	2.00	15	TTh 1:30-2:20PM
AS.376.221	02			**Musicianship I**	2.00	15	TTh 3:00-3:50PM
AS.376.222	01			**Musicianship II**	2.00	15	TTh 4:30-5:20PM

Music

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Wile, Kip Douglas Further studies in the basic skills of reading and hearing music. To be taken concurrently with AS.376.212, Music Theory II.			
AS.376.231	01	H		**Western Classical Music** *Giarusso, Richard J* Students will learn aural strategies to focus their listening, as well as vocabulary, cultural and historical context for music of the Baroque, Classical, Romantic and 20th century periods. Composers studied will include Bach, Handel, Haydn, Mozart, Beethoven, Schubert, Chopin, Brahms, Debussy, Schoenberg, and Stravinsky.	3.00	20	MW 3:00-3:50PM; F 12:00-12:50PM
AS.376.231	02	H		**Western Classical Music**	3.00	20	MW 3:00-3:50PM; F 1:30-2:20PM
AS.376.231	03	H		**Western Classical Music**	3.00	20	MW 3:00-3:50PM; F 3:00-3:50PM
AS.376.245	01			**Introduction to Sound, Audio, and Recording Arts** *Stella, Andrew Robert* In this course we will undertake a comprehensive survey of sound, audio and the related technology. While covering sound recording from an historical perspective, we'll touch on related material in physics, music, psychology and acoustics. In lab exercises and assignments, students will have the opportunity to learn in a hands-on environment as practical applications of the lecture material are explored. Assignments will include critical listening, in addition to basic recording, editing and mixing of audio. The course will culminate in a comprehensive final project.	3.00		MWF 6:00-6:50PM
AS.376.258	01			**Jazz Improvisation and Theory** *Sims, Ian Kristopher* Study of the theory and practice of Jazz Improvisation. Basic knowledge of music notation skills is required.	3.00	15	MW 1:30-2:50PM
AS.376.308	01	H	W	**Meet the Musician: Today's Classical Musician** *Wertheimer, Melissa Eve* "Classical music in America is dead," Slate Magazine declared online in January 2014. In this seminar, students will learn that this art form is indeed alive and well. Peabody graduate students will perform solo and small ensemble works, present original research, and participate in open discussions about musical research, performance, professional challenges, and more. Homewood students will read articles on a weekly basis prior to the lecture-recitals. In response to each lecture-recital, students will write weekly reaction papers and prepare questions for the group discussion.	3.00	20	WF 1:30-2:50PM
AS.376.428	01	H	W	**6 Mozart Operas** *Walden, Joshua M*	3.00	6	TTh 10:30-11:45AM

Music

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Lotharios and lovers, Turkish pashas and harem girls, churlish masters and wily servants, enraged women, bird-catchers, Italian soldiers disguised as Albanians, a Cretan King, and the Queen of the Night. These characters and many others occupy the worlds created in the operas of Wolfgang Amadeus Mozart. This course focuses on six of Mozart's most enduring operatic works: Idomeneo, The Abduction from the Seraglio, The Magic Flute, The Marriage of Figaro, Don Giovanni, and Così fan tutte. It explores the origins of the stories and characters of these operas, and the musical structures Mozart developed to convey these narratives in music, in the genres of opera seria, Singspiel, and opera buffa. In examining these operas, students will investigate Mozart's collaborations with librettists, the singers and theatrical venues for which he composed, and the patrons and audiences he hoped to appeal to with these works. Discussions of each opera will also turn to their performance, considering documentation of their premieres and nineteenth-century revivals, and more recent stage and cinematic productions available on DVD and online by directors including Joseph Losey, Ingmar Bergman, Peter Sellars, Jonathan Miller, Robert Wilson, and Julie Taymor, as well as in the movie Amadeus, to compare how interpretations of the opera have differed over time and between directors.			

Near Eastern Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.307	01	H		**Diplomats, Dealers, and Diggers: The Birth of Archaeology and the Rise of Collecting from the 19th c. to Today** *Feldman, Marian* The development of archaeology in the Middle East – its history of explorers, diplomats, missionaries and gentlemen-scholars – profoundly shaped the modern world, from the creation of new museums and the antiquities market to international relations and terrorism.	3.00	20	TTh 10:30-11:45AM
AS.010.398	01	H		**Tombs for the Living** *Deleonardis, Lisa* Centering on the tomb as the unit of analysis, this course examines the cultural and material aspects of death and funerary ritual. Draws on case studies from North America, Mesoamerica, and the Andes. Collections study in museums.	3.00	25	TTh 10:30-11:45AM
AS.130.116	01	H		**Freshman Seminar: Ritual and Magic in Ancient Egypt** *Fraser, Meredith Anne* This course will serve to introduce students to the study of religion, ritual and magic through the lens of a specific culture: ancient Egypt. Throughout the course students will be introduced to ancient Egyptian culture and will interact with Egyptian texts and artifacts, including those found in the collections of the Johns Hopkins Archaeological Museum, in order to illustrate key concepts.	3.00	20	MW 3:00-4:15PM
AS.130.170	01	H		**Diplomacy and Conflict in the Ancient Middle East** *Lauinger, Jacob* The Middle East is home to the invention of agriculture, cities, and writing. It is also in the Middle East that we find evidence of humanity's earliest diplomatic activity in, for instance, the actual letters sent by ancient kings to one another, the treaties drawn up after their conflicts, and the inscriptions that commemorate their conquests. In this course, we examine texts such as these to explore questions such as: How do we characterize the international system of the ancient Middle East? Does this system change over the approximately two millennia for which we have documentation? Is it better to approach ancient diplomacy through present-day eyes or in the context of ancient world-views? Is an understanding of diplomacy in the ancient Middle East relevant to our understanding of modern international relations? All texts read in translation.	3.00	100	MW 12:00-1:15PM
AS.130.202	01	H		**Ancient Mythology** *Delnero, Paul*	3.00	30	MW 3:00-4:15PM

Near Eastern Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course explores the mythology of the ancient Near East from the invention of writing in Sumer in 3000 B.C. until the conquest of Alexander the Great near the end of the first millennium B.C. Mythological texts from Mesopotamia, Egypt, Anatolia, the Levant, and the Bible will be read from a comparative perspective. Special attention is paid to the origin and development of the epic, culminating in the great Epic of Gilgamesh, but considerable time is also given to the vast mythological and historical literature, and such diverse genres as love poetry, proverbs, humorous dialogues, Omens, and legal and medical texts. All readings are in English translation.			
AS.130.313	01	H	W	**History of Egypt from ca. 1200-30 BCE** *Jasnow, Richard* In this class we will study selected historical topics from the end of the New Kingdom (ca. 1200 BCE) to the death of Cleopatra VII (30 BCE).	3.00	15	T 1:30-4:30PM
AS.130.341	01	H		**Traditionalism vs. Orthodoxy in the Modern Era: The Case of Judaism** *Katz, David* During the Modern Era in European history, the Traditionalist Jewish civilization of Europe that had evolved over many centuries went into deep crisis. The new political, social, and intellectual realities which characterized Modernity seriously challenged, overwhelmed, and indeed threatened to destroy the Jewish Traditionalist culture and society. In response, different Traditionalist thinkers and communities evolved a number of strategies for surviving in a modern environment, strategies that unexpectedly transformed Traditionalism into something different, which came to be called Orthodox Judaism. This course explores this process of transformation, which has had an important impact on Jewish life in the modern and post-modern eras. Cross-listed with Jewish Studies.	3.00	30	TTh 9:00-10:15AM
AS.130.346	01	H		**Introduction to the History of Rabbinic Literature** *Katz, David* Broadly surveying classic rabbinic literature, including the Talmud and its commentaries, the legal codes and the response, this seminar explores the immanent as well as the external factors that shaped the development of this literature, the seminal role of this literature in Jewish self-definition and self-perception, and the role of this literature in pre-modern and modern Jewish culture.	3.00	30	TTh 10:30-11:45AM
AS.130.354	01	HS		**Archaeological Method and Theory** *Harrower, Michael James*	3.00	20	TTh 9:00-10:15AM

Near Eastern Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				What questions do archaeologists ask about the ancient past, how do they collect relevant evidence, and how do they arrive at satisfying answers to their questions? This course will review approaches to method and theory including evolutionary archaeology, culture-historical archaeology, processualist and post-processualist archaeologies, and explores the future of archaeology as a scientific and humanistic discipline. Previous coursework in archaeology or Permission of instructor required. Meets with AS.131.654.			
AS.130.357	01	HN		**Geographic Information Systems in Archaeology** *Harrower, Michael James* Applications of GIS in archaeology have recently expanded dramatically and GIS has now become an indispensible tool for archaeological research worldwide. This course will introduce the major applications of Geographic Information Systems (GIS) in archaeology. These include the history of GIS in archaeology, air photography and satellite imagery, predictive modeling, hydrological modeling, viewsheds, and least-cost routes. It will grapple with theoretical issues manifest in archaeological GIS including conflicts between environment and social understandings of the ancient past, and will foster discussion of issues that affect outcomes of analyses including spatial scale and boundary delineation choices that can dramatically influence results. Students will learn the basics of ESRI's ArcGIS software. Taught with AS.131.657.	3.00	20	TTh 12:00-1:15PM
AS.130.401	01	H		**Introduction To Middle Egyptian** *Davis, Katherine Eastwick* Introduction to the grammar and writing system of the classical language of the Egyptian Middle Kingdom (ca. 2011- 1700 B.C.). Co-listed with AS.133.601.	3.00	16	MW 12:00-1:15PM
AS.130.420	01	H	W	**Seminar in Research Methods in Near Eastern Studies: Investigating Gender and Sexuality in Mesopotamian Art** *Feldman, Marian* This writing intensive seminar examines how artistic products expressed and constructed gender identities and notions of sexuality in ancient Mesopotamia from the 4th millennium to the Hellenistic period. Using a variety of case studies, students will develop skills in specific research skills such as critical reading, analysis, and interpretation. AS.130.420 is required of NES Majors, but is also open to non-majors who have taken at least one 100-level and one 300 -level Near Eastern Civilization course, or with the consent of the instructor. Cross-listed with History of Art.	3.00	10	T 1:30-4:00PM
AS.130.440	01	H		**Elementary Biblical Hebrew** *Reed, William Justin* Introduction to the grammar, vocabulary, and writing system of biblical Hebrew.	3.00	15	TBA
AS.193.301	01	S	W	**Reading the Bible and Encountering its World**	3.00	15	T 3:00-5:50PM

Near Eastern Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Horowitz, Elliott The course examines the interactions between travel and biblical interpretation between the seventeenth and twentieth centuries, paying particular attention to the ways in which travelers to the Middle East and then scholars saw its residents as relics of an unchanging biblical world, whose practices could be used to interpret scriptural texts from both the Old and New Testaments.			

Neuroscience

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.020.370	01	N		**Emerging Strategies and Applications in Biomedical Research** *Hattar, Samer* Up-to-date primary literature manuscripts related to new discoveries and new strategies that are allowing scientists to make amazing progress in biomedical research will be presented. Examples include: labeling neurons with up to 90 different colors to trace their circuitry, evolution studies in glowing bacteria, detecting several viruses on a single chip and using fiber optics and channel rhodopsin to induce sleep. Students should be interested in reading primary literature research papers and discussing them in class. Recommended Course Background: AS.020.305 or AS.020.306 or AS.080.305 or AS.080.306. Juniors and Seniors only.	3.00	50	TTh 10:30-11:45AM
AS.050.315	01	NS		**Cognitive Neuropsychology of Visual Perception: The Malfunctioning Visual Brain** *McCloskey, Michael E* When we think about our ability to see, we tend to think about our eyes, but in fact vision happens mostly in the brain. This course explores the remarkable perceptual deficits that occur when the visual regions of the brain are damaged or fail to develop normally, focusing on what these perceptual malfunctions tell us about normal visual perception. Topics include visual system anatomy and physiology; functional specialization in the lower visual system as revealed by cerebral achromatopsia (color blindness resulting from brain damage) and akinetopsia (impaired motion perception); cortical plasticity in the visual system; spatial deficits in perception and action; and the implications of high-level visual deficits, including prosopagnosia (impaired face recognition), Charles Bonnet syndrome (complex visual hallucinations in blind areas of the visual field), blindsight (accurate responding to visual stimuli despite apparent inability to see them), and Anton's syndrome (denial of blindness). Cross-listed with Neuroscience. One or more of the following recommended: AS.050.105, AS.050.203, AS.080.203, AS.050.101, OR AS.200.110.	3.00	75	TTh 12:00-1:15PM
AS.050.339	01	NS		**Cognitive Development** *Yarmolinskaya, Julia S*	3.00	25	T 3:00-5:30PM

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This is a survey course in developmental psychology, designed for individuals with some basic background in psychology or cognitive science, but little or none in development. The course is strongly theoretically oriented, with emphasis on issues of nature, nurture, and development. We will consider theoretical issues in developmental psychology as well as relevant empirical evidence. The principle focus will be early development, i.e., from conception through middle childhood. The course is organized topically, covering biological and prenatal development, perceptual and cognitive development, the nature and development of intelligence, and language learning. Cross-listed with Neuroscience. One or more of the following recommended: AS.050.105, AS.050.203, AS.080.203, AS.050.101, OR AS.200.110. Graduate students wishing to enroll in this course should register for AS.050.639.			
AS.080.250	01	NS		**Neuroscience Laboratory** *Gorman, Linda K* This course will give students the "hands-on" experience of the inter-disciplinary nature of neuroscience. Students will use anatomical and neuro-physiological techniques to understand the basic underlying principles of neuroscience.	3.00	20	T 1:30-4:20PM
AS.080.250	02	NS		**Neuroscience Laboratory**	3.00	20	W 1:30-4:20PM
AS.080.250	03	NS		**Neuroscience Laboratory**	3.00	20	Th 1:30-4:20PM
AS.080.250	04	NS		**Neuroscience Laboratory**	3.00	20	F 1:30-4:20PM
AS.080.303	01	N		**Structure of the Nervous System** *Hendry, Stewart H* This course takes a structural biological approach to studying the nervous system. In using a systems approach it provides students of cellular-molecular and computational neuroscience with a thorough introduction to functional, microscopic and submicroscopic organization of the brain, spinal cord and peripheral nervous system.	3.00	50	TTh 10:30-11:45AM
AS.080.306	01	N		**The Nervous System II** *Hendry, Stewart H* The course uses the functional organization of the somatosensory system as a means to examine mechanisms of neutral development. Generation and maturation of neurons, guidance of axons, formation of synapses and the regressive events that shape the adult nervous system will be examined. At the same time we will explore the structure and function of brain regions that allow us to feel pain and temperature, detect vibration, recognize shape and perceive where we are in space. Finally, the single-neuron events that lead to adaptive changes in function will be explored in the context of central nervous system control of movement and of higher order functions of speech and memory.	3.00	200	TTh 1:30-2:45PM
AS.080.320	01	N		**The Auditory System** *Boatman, Dana F*	3.00	30	WF 1:30-2:45PM

Neuroscience

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will cover the neuroanatomy and neurophysiology of the human auditory system from the ear to the brain. Behavioral, electrophysiological, and neuroimaging methods for assessing peripheral and central auditory function will be discussed. Acquired and developmental disorders of auditory function will be reviewed using clinical case studies.			
AS.080.322	01	N		**Cellular and Molecular Biology of Sensation** *Fuchs, Paul Albert* Leading scientists in sensory biology from the Johns Hopkins community will present the most current knowledge in the cellular and molecular biology of sensation. A lecture and a student presentation of an exemplar manuscript will be presented each week on a different topic of sensory systems.	3.00	30	TTh 4:00-5:15PM
AS.080.333	01	NS	W	**Writing About the Nervous System** *Hendry, Stewart H* To write clearly and cogently about the nervous system demands two things in equal measure. One is serious understanding and the other is skill. Neither is a gift since both must be acquired. We will strive to do both in this course by taking an extant document – either a slim text on a restricted subject in neuroscience or a set of class notes – and, through revision and addition of recently published findings, substantially improve that document. Students will be required to read, write and revise extensively – at least two assignments each week.	3.00	12	MW 1:30-2:45PM
AS.080.357	01			**Developmental Neuroscience** *Farah, Mohamed H* The developmental neuroscience course will cover principles of neural development. The course will focus on major events in neural development: patterning and growth of the nervous system, neuronal determination, axonal navigation and targeting, neuron survival and death, synapse function, developmental plasticity, and behavioral and cognitive development.	3.00	30	TTh 3:00-4:15PM

Neuroscience

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.080.370	01	NS		**The Cerebellum: Is it just for motor control?** *Desmond, John* The cerebellum is traditionally thought to be involved in movement and motor control, and observations of patients with cerebellar damage do in fact show motor deficits. However, since the proliferation of functional MRI, cerebellar activations have been observed in a surprising number of brain activation studies that were designed to investigate the neural correlates of cognitive function. Over the past 2 decades, an increasing number of investigators have tried to characterize the role of the cerebellum in cognitive function. Through lectures and reading discussions this course will survey cerebellar circuitry, neuroimaging and neuromodulatory methods for investigating the cerebellum, and traditional and non-traditional functions of the cerebellum, including cerebellar involvement in cognitive functions such as language, working memory, and executive control.	3.00	30	TTh 10:30-11:45AM
AS.080.400	01	NS		**Research Practicum: Language Disorders-Community Based Learning** *Rapp, Brenda C* This course provide the opportunity to learn about adult aphasias; language disorders which are one of the most common consequence of stroke. You will receive training in Supportive Communication Techniques and work as a communication partner with an individual with aphasia for two hours per week. Three class meetings for orientation and reading assignments will be held on campus; training and practicum will be conducted at a local aphasia support center. Transportation required. A valid driver's license for zip car; use of public transportation or van certification for student van driver. Contact Allie DiGioia at adigioi2@jhu.edu	2.00	2	TBA
AS.080.401	01			**Research Practicum: KEEN (Kids Enjoying Exercise Now)-Community Based Learning** *Gorman, Linda K* VAN CERTIIFICATION SUGGESTED KEEN (Kids Enjoying Exercise Now) This is a one (1) credit S/U course, organized by the Undergraduate Neuroscience Program Committee. This course provides the opportunity to learn and interact with children who have neurological disabilities, including autism, cerebral palsy and Down syndrome in weekend exercise and recreational activities. You will receive a profile for the KEEN athlete that you will be paired with during a session. You will receive initial training and then volunteer three (3) hours per week for 3 weeks on consecutive Sundays during the first or second half of the semester. One class meeting for orientation will be held on campus; one exit meeting will be held on campus; practicum will take place at KEEN centers in Maryland. Transportation will be either a zip car (you will need a driver’s license), OR JHU van. Neuroscience and Behavioral Biology Majors ONLY.	1.00	10	TBA

Neuroscience

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.080.401	02			**Research Practicum: KEEN (Kids Enjoying Exercise Now)-Community Based Learning**	1.00	10	TBA
AS.080.401	03			**Research Practicum: KEEN (Kids Enjoying Exercise Now)-Community Based Learning**	1.00	10	TBA
AS.080.402	01			**Teaching Practicum: Making Neuroscience Fun (MNF)** *Gorman, Linda K* ZIP CAR CERTIFICATION SUGGESTED; All visits are Monday - Friday either 7am-11am OR 11am-3pm. Making Neuroscience Fun (MNF) is a community outreach program which brings age-appropriate interactive presentations about the brain and nervous system to Baltimore City and County elementary school students. MNF is an effort aimed at fostering appreciation for science in general, emphasizing the importance of the brain and the nervous system in everyday life, and enhancing the science curriculum in Baltimore's City and County schools. You will receive initial training and then volunteer four (4) hours per week for four (4) weeks. One class meeting for orientation will be held on campus; one exit meeting will be held on campus; the practicum will take place at Baltimore City and County Schools. Students willing to drive are encouraged to register. Zip Cars will be provided.	1.00	19	TBA
AS.080.403	01			**Teaching Practicum: HOP Kids** *Gorman, Linda K* This course provides the opportunity to learn and interact with children recovering from brain, spinal, and musculoskeletal injuries. You will travel to the Kennedy Krieger Institute to volunteer in the Child Life Department where you will participate in a variety of therapeutic activities including playing with the children and helping them achieve goals. Students will gain valuable clinical experience while learning patient empathy. You must attend (3) three sessions per semester either from 2-4 on Fridays, or 2-4 on the first Saturday of each month.	1.00	19	TBA
AS.080.404	01			**Teaching Practicum: HopKids-Children's Center** *Gorman, Linda K* This practicum provides students the opportunity to learn, play and interact with children receiving treatment in over 20 different specialties including dermatology, endocrine, GI, immunology, urology, plastics, hematology among others. Students will travel to an outpatient building at the John's Hopkins Children's center where they will participate in a variety of therapeutic activities including doing art projects and making the children feel comfortable. Students will gain valuable clinical experience and be exposed to a wide range of children with a variety of diseases/illnesses. You must attend (3) three sessions per semester either from 10-12 on Tuesdays or 10-12 on Thursdays of each month. Transportation is provided by the JHU shuttle.	1.00	50	TBA
AS.080.411	01	N		**Advanced Seminar: Neuroscience I**	3.00	10	TBA

Neuroscience

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Baraban, Jay M For students in the first semester of the BA/MS Program. Instructor permission required.			
AS.080.412	01	N		**Advanced Seminar: Neuroscience II** *Baraban, Jay M* For students in the 2nd semester of the BA/MS Program. Permission Required.	3.00	10	TBA
AS.080.413	01	N		**Advanced Seminar III : Neuroscience** *Baraban, Jay M* For students in the 3rd semester of the BA/MS Program. Permission Required.	3.00	10	TBA
AS.200.141	01	NS		**Foundations of Brain, Behavior and Cognition** *Gorman, Linda K* Formerly listed as Introduction to Physiopsychology. A survey of neuropsychology relating the organization of behavior to the integrative action of the nervous system. Cross-listed with Behavioral Biology and Neuroscience.	3.00	250	TTh 9:00-10:15AM
AS.200.304	01	N		**Neuroscience of Decision Making** *Stuphorn, Veit* This course will survey the neural mechanisms of decision-making. Current experimental research and theory concerning selection, control, and evaluation of actions are examined in humans and animals. Topics will range from simple perceptual judgements to complex social behavior. The course involves a weekly lecture about a specific topic followed by a student presentation of a current research paper. Cross-listed with Neuroscience.	3.00	19	TTh 9:00-10:15AM

Neuroscience

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.200.368	01	NS		**Altered States of Consciousness** *Allen, Richard* Sleep, dreaming, resting and arousal to waking represent very different states of consciousness which differ dramatically both psychologically and physiologically. This course focuses on cognitive, psychological, physiological, biological and genetic aspects characterizing each of these states with some reference to other altered states. The course includes a focus on the major pathologies affecting sleep-wake states. Clinical cases will be considered. These inform about both psychological and biological aspects of these states. The relative biological functions of each state will be evaluated with particular attention to the mystery of why we have and apparently need REM and NREM sleep. Actual physiological recordings of sleep states will be reviewed and the student will learn how these are obtained and how to evaluate these. The circadian rhythms, ontogeny and evolution of these sleep-wake states will also be covered. This will include a review of information learned from non-human animal sleep. The change from sleep to full awakening reflects change toward increasing brain organization supporting consciousness. Understanding of the neurobiology of these states will be used to explore some of the more modern and scientific concepts of human self-awareness or consciousness.	3.00	60	TTh 4:00-5:15PM
AS.200.370	01	NS		**Functional Human Neuroanatomy** *Courtney-Faruqee, Susan* This course examines the general organizing principles of the anatomy of the human central nervous system and how this anatomical organization relates to function, from the level of neural circuits, to systems, to behavior. Students will learn to identify neuroanatomical structures and pathways in dissections and MRI images through computerized exercises. Readings and lectures will emphasize general structure-function relationships and an understanding of the functional roles of particular structures in sensory, motor, and cognitive systems.	3.00	50	MWF 11:00-11:50AM
AS.200.376	01	NS		**Psychopharmacology** *Gorman, Linda K* Designed to provide information about how drugs affect the brain and behavior. The course focuses on the interaction of various classes of drugs with the individual neurotransmitter systems in the brain. A brief historic review is followed by a discussion of clinical relevance. Cross-listed with Behavioral Biology and Neuroscience.	3.00	75	WF 12:00-1:15PM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.150.118	01	HQ		**Introduction to Formal Logic** *Bledin, Justin* This course is an introduction to symbolic logic. Our primary goal is to determine when an argument is logically valid---that is, to determine when the conclusion of an argument follows from its premises by virtue of their logical form. In pursuit of this goal, we will learn a new formal language, the language of first-order logic, in stages. At each stage, we will define logical validity and related logical concepts in terms of the truth values of sentences in the language. In addition, we will learn a useful method for demonstrating that an argument is logically valid: natural deduction proofs in a Fitch-style system.	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.150.118	02	HQ		**Introduction to Formal Logic**	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.150.118	03	HQ		**Introduction to Formal Logic**	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.150.118	04	HQ		**Introduction to Formal Logic**	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.150.118	05	HQ		**Introduction to Formal Logic**	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.150.205	01	H		**Introduction to the History of Modern Philosophy** *Williams, Michael* An overview of philosophical thought in the seventeenth and eighteenth centuries. We shall focus on fundamental questions in epistemology (knowledge, how we acquire it, its scope and limits), metaphysics (the ultimate nature of reality, the relation of mind and body, free will), and theology (the existence and nature of God, God's relation to the world, whether knowledge of such things is possible): all questions that arose in dramatic ways as a result of the rise of modern science. The principal philosophers to be discussed are Descartes, Locke, Hume and Kant, though we shall also make the acquaintance of Spinoza, Leibniz and Berkeley.	3.00	20	MW 10:00-10:50AM; F 12:00-12:50PM
AS.150.205	02	H		**Intro Hist of Mod Philos**	3.00	20	F 12:00-12:50PM; MW 10:00-10:50AM
AS.150.205	03	H		**Intro Hist of Mod Philos**	3.00	20	F 10:00-10:50AM; MW 10:00-10:50AM
AS.150.205	04	H		**Intro Hist of Mod Philos**	3.00	20	MW 10:00-10:50AM; F 1:30-2:20PM
AS.150.220	01	H		**Introduction to Moral Philosophy** *Theunissen, L Nandi* The class serves as an introduction to ethics. We consider select topics in meta-ethics (on the nature of reason and value), and we survey three prominent theories within normative ethics (utilitarianism, Kant's moral theory, and virtue theory). We will read classic works from the history of philosophy, and important contemporary papers.	3.00	20	MW 12:00-12:50PM; F 1:30-2:20PM
AS.150.220	02	H		**Introduction to Moral Philosophy**	3.00	20	MW 12:00-12:50PM; W 3:00-3:50PM
AS.150.220	03	H		**Introduction to Moral Philosophy**	3.00	20	MW 12:00-12:50PM; W 4:00-4:50PM
AS.150.220	04	H		**Introduction to Moral Philosophy**	3.00	20	MW 12:00-12:50PM; F 1:30-2:20PM
AS.150.220	05	H		**Introduction to Moral Philosophy**	3.00	20	MW 12:00-12:50PM; F 1:30-2:20PM
AS.150.220	06	H		**Introduction to Moral Philosophy**	3.00	20	MW 12:00-12:50PM; W 3:00-3:50PM
AS.150.220	07	H		**Introduction to Moral Philosophy**	3.00	15	MW 12:00-12:50PM; W 4:00-4:50PM
AS.150.237	01	H		**Foundations of Modern Political Philosophy** *Moyar, Dean*	3.00	20	MW 12:00-12:50PM; F 12:00-12:50PM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is an introduction to modern political philosophy through an intensive study of the classic texts. The focus will be on the nature and limits of political authority under modern social conditions. Authors included are Machiavelli, Hobbes, Locke, Rousseau and Mill.			
AS.150.237	02	H		**Foundations of Modern Political Philosophy**	3.00	20	MW 12:00-12:50PM; F 12:00-12:50PM
AS.150.237	03	H		**Foundations of Modern Political Philosophy**	3.00	20	MW 12:00-12:50PM; F 1:00-1:50PM
AS.150.237	04	H		**Foundations of Modern Political Philosophy**	3.00	20	MW 12:00-12:50PM; F 2:00-2:50PM
AS.150.248	01	H		**Introduction to Metaphysics** *Melamed, Yitzhak Yohanan* The class is an introduction to contemporary, analytic, metaphysics. Topics to be discussed include: what is metaphysics, the nature of existence, time and temporality, modality and possible worlds, identity and personal identity, persistence, mereology, causation, and universals and abstract entities.	3.00	20	MW 10:00-10:50AM; F 11:00-11:50AM
AS.150.248	02	H		**Introduction to Metaphysics**	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.150.300	01	H		**Prometheus Editorial Workshop** *Powell, Kevin Matthew* Prometheus is an international undergraduate philosophy journal published by students at Johns Hopkins University. The purpose of the journal is to promote philosophic discourse of the highest standard by offering students an opportunity to engage in open discussion, participate in the production and publication of an academic journal, and establish a community of aspiring philosophers. Students enrolled in this workshop will act as the staff readers for the journal. For more information, please visit www.prometheus-journal.com.	1.00	20	W 7:00-8:00PM
AS.150.317	01	H		**Undergraduate Seminar for Philosophy Majors: Recent Works in Skepticism** *Williams, Michael*	3.00	15	T 1:30-4:00PM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				We all take it for granted that perceptual experience yields knowledge of the world around us. But in the first of his Meditations on First Philosophy, Descartes invents a new and puzzling thought experiment. He imagines an Evil Demon with the power to manipulate the total course of his (Descartes's) experience, so that what he naturally takes to be experience of the world around him is really a kind of perpetual dream: a simulation or virtual reality, as we might way today. Descartes's problem, which has made its way into popular culture through films like those in the "Matrix" series, remains a source of philosophical puzzlement. While no one believes that skeptical hypotheses like Demon or computer deception are true, it is not easy to say how we can exclude them. Given that the deception is systematic, it seems that any "evidence" I cite could itself be part of the simulation. So how do I (or could I) know (for sure) that I'm not the victim of the Deceiver or the Matrix? We shall examine some of the latest attempts to respond to Descartes's challenge. Does the "How could I know?" question admit of a theoretical answer, or is the question itself somehow ill-posed? Can we answer it without making significant concessions to skepticism? Exploring such questions should teach us some interesting lessons about knowledge (or the concept of knowledge). Readings from Descartes, Barry Stroud, G. E. Moore, Robert Nozick, David Lewis, Keith De Rose, James Pryor, and others.			
AS.150.322	02	H	W	**Emotion, Mind & Morality** *Bergamaschi Ganapini, Marianna* In this course, we will investigate a number of important philosophical questions about the normative structure of emotions and their role in moral cognition by surveying some of the classic works in philosophy. We will also read a number of contemporary papers. Finally, we will look at recent work in psychology and cognitive neuroscience on the impact of emotion on reason.	3.00	19	TTh 4:30-5:45PM
AS.150.403	01	H	W	**Hellenistic Philosophy** *Bett, Richard* A study of later Greek philosophy, stretching roughly from the death of Aristotle to the Roman imperial period. Epicureans, Stoics, and Skeptics will be the main philosophical schools examined.	3.00	20	TTh 10:30-11:45AM
AS.150.414	01	H		**Topics in Political Philosophy: Justice and Pluralism** *Moyar, Dean* In a society in which individuals subscribe to radically different moral views, is a common understanding of justice still possible? This course will look at various recent answers to this question, including Stuart Hampshire's claim that only a thin procedural conception of justice is still viable, and the claims of John Rawls and his followers that a more substantive conception of justice should remain our goal even in light of the fact of reasonable pluralism.	3.00	20	M 2:00-4:30PM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.150.432	01	H		**Hegel's Phenomenology of Spirit, Part 2** *Forster, Eckart* This course is a continuation of Hegel's Phenomenology of Spirit, Part One, taught last Spring. We will closely study the second half of the book, compare its methodology with that of the first half, and end with an examination of Hegel's systematic reflections in the "Preface".	3.00	20	TTh 9:00-10:15AM
AS.150.443	01	H		**Wittgenstein's Philosophy of Mind** *Williams, Meredith* The seminar will begin with a careful examination of the private language argument in the Philosophical Investigations. Among the additional themes we will examine are his analogy between philosophy of mathematics and his philosophy of psychology, implicit criticisms of the representational theory of mind, the problem of other minds and the role of deception, and the “grammar” of psychological concepts. There are numerous manuscripts concerned with mental and psychological concepts. Two volumes of the Remarks on the Philosophy of Psychology will be ordered for the seminar, though we will not be “working through” them in a systematic way. The Philosophical Investigations and Zettel are essential. Recommended Course Background: Familiarity with Wittgenstein’s work.	3.00	12	M 1:30-4:00PM
AS.150.467	01	H		**Philosophic Logic** *Bledin, Justin* This course is a survey of various topics in philosophical logic. We begin with a review of the model theory of classical first-order logic. In our first unit, we will then move beyond the standard existential and universal quantifiers and consider generalized quantifiers, substitutional quantifiers, and plural quantification. In our second unit, we will investigate the theory of propositional modal logic, considering its syntax, semantics, and proof theory, and some of its applications. In our third unit, we will investigate various formal approaches to defining truth. In our fourth unit, we will get more philosophical and ask: what is logical consequence? In the course of answering this question, we will consider intuitionistic, normative, and informational conceptions of logic.	3.00	20	MW 4:30-5:45PM
AS.150.468	01	H		**Global Food Ethics** *Staff* This course is an introduction to ethical issues that arise within the contemporary global agrifood system. The overarching goal of the class is to give you the opportunity to think critically about a variety of conflicting views as to how we should produce, distribute, and consume food to achieve food security for over 9.6 billion people by 2050. We will borrow tools from practical ethics and theories of justice to shed light on these pressing issues that determine our common future and the way we personally relate to the food we eat.	3.00	20	T 2:30-4:50PM
AS.150.476	01	HNS		**Philosophy and Cognitive Science** *Gross, Steven*	3.00	15	TTh 10:30-11:45AM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This semester's topic is: Philosophical, Foundational, and Methodological Issues Connected to Bayesian Approaches in Cognitive Science. Some relevant background required. Co-listed with AS.150.658.			
AS.150.479	01	H		**The Ethics of Making Babies** *Staff* In this class, we will investigate many aspects of the ethics of making babies, asking not only which children we should create and how we should create them, but whether we should make any more people at all. Investigating these questions will take us through large chunks of moral theory, bioethics, and public health ethics. For more information, or to request permission of the instructor (for those who do not meet the prerequisite requirements), email Travis Rieder at trieder@jhu.edu. Recommended Course Background: One course in ethics or bioethics, or permission of the instructor.	3.00	20	W 1:30-4:00PM
AS.150.483	01			**Topics in Jewish Philosophy: Hassidism** *Melamed, Yitzhak Yohanan* Hassidism is the ecstatic religious movement that emerged in East European Jewry in the mid eighteenth century. In this research seminar we will concentrate on the teachings and activities of the circle of Dov Ber of Mezrich between 1760 and 1772. We will study both internal and external sources (such as Salomon Maimon's report in his Lebensgeschichte). All materials will be available in English translation, though reading knowledge of Hebrew would be an asset.	3.00	20	W 1:30-4:00PM
AS.213.313	01	H		**Heidegger's "Being and Time" and "Rectify"** *Tobias, Rochelle* This course will introduce students to Heidegger's seminal work as seen through the lens of the TV series Rectify, which considers what it means to be "thrown" into the world and how we construct a meaningful horizon for our experiences. We will explore some of the fundamental concepts in Being and Time, including care, projection, fallenness, affect and time, and being-unto-death, and consider how these same issues are taken up in Rectify, which as a TV show has to develop its own visual vocabulary to explore the structure and nature of being in the world. Taught in English	3.00	20	W 1:30-4:00PM
AS.214.479	01	H	W	**Dante Visits the Afterlife: The Divine Comedy** *Stephens, Walter E*	3.00	12	TTh 10:30-11:45AM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Dante's Divina commedia is the greatest long poem of the Middle Ages; some say the greatest poem of all time. We will study the Commedia critically to find: (1) What it reveals about the worldview of late-medieval Europe; (2) how it works as poetry; (3) its relation to the intellectual cultures of pagan antiquity and Latin (Catholic) Christianity; (4) its presentation of political and social issues; (5) its influence on intellectual history, in Italy and elsewhere; (6) the challenges it presents to modern readers and translators; (7) what it reveals about Dante's understanding of cosmology, world history and culture. We will read and discuss the Commedia in English, but students will be expected to familiarize themselves with key Italian terms and concepts. Students taking section 02 (for 4 credits) will spend an additional hour working in Italian at a time to be mutually decided upon by students and professor.			
AS.214.479	02	H	W	**Dante Visits the Afterlife: The Divine Comedy**	4.00		TTh 10:30-11:45AM
AS.225.328	01	H	W	**The Existential Drama: Philosophy and Theatre of the Absurd** *Martin, Joseph H* Existentialism, a powerful movement in modern drama and theatre, has had a profound influence on contemporary political thought, ethics, and psychology, and has transformed our very notion of how to stage a play. Selected readings and lectures on the philosophy of Kierkegaard, Nietszche, Camus and Sartre -- and discussion of works for the stage by Sartre, Ionesco, Genet, Beckett, Albee, Pinter, Athol Fugard (with Nkani & Nshone), Heiner Müller and the late plays of Caryl Churchill. Opportunities for projects on Dürrenmatt, Frisch, Havel, Witkiewicz, and Mrozek.	3.00	15	M 3:00-5:30PM

Physics & Astronomy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.171.101	01	EN		**General Physics:Physical Science Major I** *Gritsan, Andrei* This two-semester sequence in general physics covers mechanics, heat, sound, electricity and magnetism, optics, and atomic physics.Midterm exams for every section are given during the 8 AM section time! Accordingly, students registering for sections at times other than 8 AM must retain availability for 8 AM sections as needed. Corequisite: AS.110.108-AS.110.109, AS.173.111-AS.173.112.	4.00	24	MWF 11:00-11:50AM; Th 8:00-8:50AM
AS.171.101	02	EN		**General Physics:Physical Science Major I**	4.00	24	MWF 11:00-11:50AM; Th 9:00-9:50AM
AS.171.101	03	EN		**General Physics:Physical Science Major I**	4.00	24	MWF 11:00-11:50AM; Th 10:30-11:20AM
AS.171.101	04	EN		**General Physics:Physical Science Major I**	4.00	24	MWF 11:00-11:50AM; Th 10:30-11:20AM
AS.171.101	05	EN		**General Physics:Physical Science Major I**	4.00	24	MWF 11:00-11:50AM; Th 12:00-12:50PM
AS.171.101	06	EN		**General Physics:Physical Science Major I**	4.00	24	MWF 11:00-11:50AM; Th 12:00-12:50PM
AS.171.102	01	EN		**General Physics: Physical Science Majors II** *Broholm, Collin* One-year course in general physics covering mechanics, heat, sound, electricity and magnetism, optics, and modern physics.Midterm exams for every section are given during the 8 AM section time! Accordingly, students registering for sections at times other than 8 AM must retain availability for 8 AM sections as needed. Recommended Course Background: C- or better in AS.171.101 or AS.171.103; Corequisite: AS.110.109, AS.173.112.	4.00	24	F 8:00-8:50AM; TTh 10:30-11:45AM
AS.171.102	02	EN		**General Physics: Physical Science Majors II**	4.00	24	F 8:00-8:50AM; TTh 10:30-11:45AM
AS.171.102	03	EN		**General Physics: Physical Science Majors II**	4.00	24	F 9:00-9:50AM; TTh 10:30-11:45AM
AS.171.102	04	EN		**General Physics: Physical Science Majors II**	4.00	24	F 9:00-9:50AM; TTh 10:30-11:45AM
AS.171.102	05	EN		**General Physics: Physical Science Majors II**	4.00	24	F 10:00-10:50AM; TTh 10:30-11:45AM
AS.171.102	06	EN		**General Physics: Physical Science Majors II**	4.00	24	F 10:00-10:50AM; TTh 10:30-11:45AM
AS.171.102	07	EN		**General Physics: Physical Science Majors II**	4.00	24	F 11:00-11:50AM; TTh 10:30-11:45AM
AS.171.102	08	EN		**General Physics: Physical Science Majors II**	4.00	24	F 11:00-11:50AM; TTh 10:30-11:45AM
AS.171.102	09	EN		**General Physics: Physical Science Majors II**	4.00	24	F 12:00-12:50PM; TTh 10:30-11:45AM
AS.171.102	10	EN		**General Physics: Physical Science Majors II**	4.00	24	F 12:00-12:50PM; TTh 10:30-11:45AM
AS.171.104	01	EN		**General Physics/Biology Majors II** *Armitage, Norman* This two-semester sequence is designed to present a standard calculus-based physics preparation tailored to students majoring in one of the biological sciences. Topics in electricity & magnetism, optics, and modern physics will be covered in this semester. Midterm exams for every section are given during the 8 AM section time! Accordingly, students registering for sections at times other than 8 AM must retain availability for 8 AM sections as needed. Recommended Course Background: C- or better in AS.171.101 or AS.171.103; Corequisite: AS.110.109, AS 173.112.	4.00	24	MWF 9:00-9:50AM; T 8:00-8:50AM
AS.171.104	02	EN		**General Physics/Biology Majors II**	4.00	24	MWF 9:00-9:50AM; T 9:00-9:50AM
AS.171.104	03	EN		**General Physics/Biology Majors II**	4.00	24	MWF 9:00-9:50AM; T 9:00-9:50AM

Physics & Astronomy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.171.104	04	EN		**General Physics/Biology Majors II**	4.00	24	MWF 9:00-9:50AM; T 10:30-11:20AM
AS.171.104	05	EN		**General Physics/Biology Majors II**	4.00	24	MWF 9:00-9:50AM; T 10:30-11:20AM
AS.171.104	06	EN		**General Physics/Biology Majors II**	4.00	24	MWF 9:00-9:50AM; T 10:30-11:20AM
AS.171.104	07	EN		**General Physics/Biology Majors II**	4.00	24	MWF 9:00-9:50AM; T 12:00-12:50PM
AS.171.104	08	EN		**General Physics/Biology Majors II**	4.00	24	MWF 9:00-9:50AM; T 12:00-12:50PM
AS.171.104	09	EN		**General Physics/Biology Majors II**	4.00	24	MWF 9:00-9:50AM; T 12:00-12:50PM
AS.171.104	10	EN		**General Physics/Biology Majors II**	4.00	24	MWF 9:00-9:50AM; T 4:30-5:20PM
AS.171.106	01	EN		**Electricity and Magnetism I** *Robbins, Mark O* Classical electricity and magnetism with fewer topics than 171.101-103, but with greater mathematical sophistication. Particularly recommended for students who plan to take AS.171.201-AS.171.202. Recommended Course Background: C- or better in AS.171.105; Corequisite: AS.173.116, AS.110.109	4.00	20	MWF 11:00-11:50AM; Th 10:30-11:20AM
AS.171.106	02	EN		**Electricity and Magnetism I**	4.00	20	MWF 11:00-11:50AM; Th 10:30-11:20AM
AS.171.108	01	EN		**General Physics for Physical Science Majors (AL)** *Maksimovic, Petar* This two-semester sequence in general physics is identical in subject matter to AS.171.101 -AS.171.102, covering mechanics, heat, sound, electricity and magnetism, optics, and modern physics, but differs in instructional format. Rather than being presented via lectures and discussion sections, it is instead taught in an "active learning" style with most class time given to small group problem-solving guided by instructors. Priority in registration will be given to freshmen.	4.00	20	TTh 9:00-10:15AM; F 8:00-8:50AM
AS.171.108	02	EN		**General Physics for Physical Science Majors (AL)**	4.00	20	TTh 9:00-10:15AM; F 9:00-9:50AM
AS.171.108	03	EN		**General Physics for Physical Science Majors (AL)**	4.00	19	TTh 9:00-10:15AM; F 10:00-10:50AM
AS.171.108	04	EN		**General Physics for Physical Science Majors (AL)**	4.00	19	TTh 9:00-10:15AM; F 11:00-11:50AM
AS.171.118	01	N		**Stars and the Universe: Cosmic Evolution** *Riess, Adam* Great discoveries in Space: the lives and deaths of stars, the cosmic origins of the elements, Black Holes, the Big Bang, the expansion of space, Dark Matter, Dark Energy, the search for life beyond Earth and more.	3.00	300	MW 1:30-2:45PM
AS.171.202	01	N		**Modern Physics** *Chien, Chia Ling* Course completes four-semester introductory sequence that includes AS.171.105-AS.171.106 and AS.171.201. Planck's hypothesis, de Broglie waves, Bohr atom, Schrodinger equation in one dimension, hydrogen atom, Pauli exclusion principle, conductors and semiconductors, nuclear physics, particle physics.	4.00	35	MWF 11:00-11:50AM; T 1:30-2:20PM
AS.171.204	01	N		**Classical Mechanics II** *Krolik, Julian H*	4.00	35	MWF 9:00-9:50AM; Th 1:30-2:20PM

Physics & Astronomy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Principles of Newtonian and Lagrangian mechanics; application to central-force motion, rigid body motion, and the theory of small oscillations. Recommended Course Background: AS.110.108-AS.110.109, AS.110.202, AS.171.201, or AS.171.309			
AS.171.304	01	N		**Quantum Mechanics II** *Tchernyshyov, Oleg V* Fundamental aspects of quantum mechanics. Uncertainty relations, Schrodinger equation in one and three dimensions, tunneling, harmonic oscillator, angular momentum, hydrogen atom, spin, Pauli principle, perturbation theory, transition probabilities and selection rules, atomic structure, scattering theory. Recommended Course Background: AS.171.303, AS.171.202, AS.171.204, AS.110.202.	4.00	30	MWF 9:00-9:50AM; T 1:30-2:20PM
AS.171.410	01	N		**Physical Cosmology** *Bennett, Charles L* Course provides an overview into modern physical cosmology. The contents of the universe will be studied and the physical principles governing the expansion of the universe, will be studied quantatatively.	3.00	28	TTh 10:30-11:45AM
AS.171.411	01	E		**Light and Optics** *Menard, Brice* What is light? How does it propagate and interact with matter? How can we use it to transmit information? This course is designed for majors in physics as well as other science and engineering departments.	3.00	25	TTh 1:30-2:45PM
AS.171.411	01	N		**Light and Optics**	3.00	25	TTh 1:30-2:45PM
AS.171.416	01	NQ		**Numerical Methods for Physicists** *Norman, Colin*	4.00	10	TTh 9:00-10:15AM
AS.171.472	01	N		**Introduction to Plasma Physics & Atomic Processes in Hot Plasmas** *Finkenthal, Michael* Course will be a combination between an introduction to plasma physics and an overview of the basic atomic processes which determine the properties of hot, laboratory and astrophysical plasmas. Undergraduate students may register online for this course and will be assigned 3 credits during the add/drop period. Co-taught with AS.171.672	3.00	20	WF 1:30-2:45PM
AS.173.111	01	N		**General Physics Laboratory I** *Swartz, Morris* Experiments are chosen from both physical and biological sciences and are designed to give students background in experimental techniques as well as to reinforce physical principles. Corequisite: AS.171.101, AS.171.103, or AS.171.105.	1.00	24	T 1:30-4:20PM
AS.173.111	02	N		**General Physics Laboratory I**	1.00	24	W 1:30-4:20PM
AS.173.111	03	N		**General Physics Laboratory I**	1.00	24	Th 1:30-4:20PM
AS.173.111	04	N		**General Physics Laboratory I**	1.00	24	T 6:00-8:50PM
AS.173.111	05	N		**General Physics Laboratory I**	1.00	24	W 6:00-8:50PM
AS.173.111	06	N		**General Physics Laboratory I**	1.00	24	M 6:00-8:50PM
AS.173.112	01	N		**General Physics Laboratory II**	1.00	24	M 1:30-4:20PM

Physics & Astronomy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Swartz, Morris Experiments are chosen from both physical and biological sciences and are designed to give students background in experimental techniques as well as to reinforce physical principles. Recommended Course Background: AS.173.111; Corequisite: AS.171.102 or AS.171.104 or AS.171.106			
AS.173.112	02	N		**General Physics Laboratory II**	1.00	24	M 1:30-4:20PM
AS.173.112	03	N		**General Physics Laboratory II**	1.00	24	M 1:30-4:20PM
AS.173.112	04	N		**General Physics Laboratory II**	1.00	24	T 1:30-4:20PM
AS.173.112	05	N		**General Physics Laboratory II**	1.00	24	T 1:30-4:20PM
AS.173.112	06	N		**General Physics Laboratory II**	1.00	24	T 1:30-4:20PM
AS.173.112	07	N		**General Physics Laboratory II**	1.00	24	W 1:30-4:20PM
AS.173.112	08	N		**General Physics Laboratory II**	1.00	24	W 1:30-4:20PM
AS.173.112	09	N		**General Physics Laboratory II**	1.00	24	W 1:30-4:20PM
AS.173.112	10	N		**General Physics Laboratory II**	1.00	24	Th 1:30-4:20PM
AS.173.112	11	N		**General Physics Laboratory II**	1.00	24	Th 1:30-4:20PM
AS.173.112	12	N		**General Physics Laboratory II**	1.00	24	Th 1:30-4:20PM
AS.173.112	13	N		**General Physics Laboratory II**	1.00	24	Th 9:00-11:50AM
AS.173.112	14	N		**General Physics Laboratory II**	1.00	24	M 6:00-8:50PM
AS.173.112	15	N		**General Physics Laboratory II**	1.00	24	M 6:00-8:50PM
AS.173.112	16	N		**General Physics Laboratory II**	1.00	24	T 6:00-8:50PM
AS.173.112	17	N		**General Physics Laboratory II**	1.00	24	T 6:00-8:50PM
AS.173.112	18	N		**General Physics Laboratory II**	1.00	24	T 6:00-8:50PM
AS.173.112	19	N		**General Physics Laboratory II**	1.00	24	W 6:00-8:50PM
AS.173.112	20	N		**General Physics Laboratory II**	1.00	24	W 6:00-8:50PM
AS.173.112	21	N		**General Physics Laboratory II**	1.00	24	W 6:00-8:50PM
AS.173.112	22	N		**General Physics Laboratory II**	1.00	24	Th 6:00-8:50PM
AS.173.112	23	N		**General Physics Laboratory II**	1.00	24	Th 6:00-8:50PM
AS.173.116	01	N		**Electricity and Magnetism Laboratory** *Swartz, Morris* Experiments chosen to complement Electricity and Magnetism AS.171.106 and introduce students to experimental techniques and statistical analysis.	1.00	36	M 6:00-8:50PM
AS.173.308	01	N	W	**Advanced Physics Laboratory** *Marriage, Tobias* A broad exposure to modern laboratory procedures such as holography, chaos, and atomic, molecular, and particle physics.	3.00	20	M 1:30-4:20PM
AS.173.308	02	N	W	**Advanced Physics Laboratory**	3.00	20	M 10:00AM-12:50PM
AS.173.312	01	N		**Mentoring in General Physics Laboratory** *Swartz, Morris*	1.00	15	TBA

Physics & Astronomy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course provides students who have to take General Physics I and II and General Physics Laboratory I and II with the opportunity to mentor new students in General Physics Laboratory I and II. Mentors collaborate General Physics laboratory Teaching Assistants to interact with students to help them to complete laboratory assignments and to master the concepts of General Physics. Mentors must have a strong background in Physics. They are expected to interact with students during one three-hour laboratory section per week and to attend the associated TA training once per week. Permission of the instructor required. S/U only.			
EN.550.415	01	NQ		**Practical Scientific Analysis of Big Data** *Budavari, Tamas* This course explores common issues around computational analysis of massive data. We will learn about numerical inaccuracies in calculations, work with databases, and venture out into parallel computing (multi-threading and CUDA). Students will be introduced to streaming algorithms and elements of robust statistics.	3.00	15	TTh 9:00-10:15AM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.190.102	01	S		**Introduction To Comparative Politics** *Jabko, Nicolas* To understand politics, the sound bites of the modern media take us only so far. In this course, we will take a step back and implement an intellectually rigorous method. Scholars of comparative politics use the method of comparison in order to illuminate important political phenomena of our times. Following this method, we will embark on a scholarly tour of the world and compare the politics of various countries. We will also trace these politics back to their historical sources. We will work from the assumption that there is something to be gained from such comparisons across space and time.	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.190.102	02	S		**Introduction To Comparative Politics**	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.190.102	03	S		**Introduction To Comparative Politics**	3.00	20	F 11:00-11:50AM; MW 11:00-11:50AM
AS.190.102	04	S		**Introduction To Comparative Politics**	3.00	20	F 11:00-11:50AM; MW 11:00-11:50AM
AS.190.102	05	S		**Introduction To Comparative Politics**	3.00	20	MW 11:00-11:50AM; Th 3:00-3:50PM
AS.190.102	06	S		**Introduction To Comparative Politics**	3.00	20	MW 11:00-11:50AM; Th 3:00-3:50PM
AS.190.102	07	S		**Introduction To Comparative Politics**	3.00	20	W 3:00-3:50PM; MW 11:00-11:50AM
AS.190.102	08	S		**Introduction To Comparative Politics**	3.00	20	W 3:00-3:50PM; MW 11:00-11:50AM
AS.190.108	01	S	W	**Freshmen Seminar: The Human Condition** *Culbert, Jennifer* This freshman seminar will focus on reading just one book, The Human Condition, by Hannah Arendt. Such a narrow focus is justified by the breadth of topics the book itself discusses and the influence these various discussions have had on modern political thought. Among the various topics that will be studied and talked about are the meaning of the distinctions Arendt makes between “public,” “private,” and “social,” as well as between “labor,” “work,” and “action.” In the course of their studies, students will be challenged to think about the relation of philosophy to politics, the significance of the scientific revolution for public life, the character of contemporary society, and what it means to be “free.” Also, by focusing on just one book, students will have the opportunity to learn how to do the kind of close reading and textual analysis success in college requires. In addition to reading assignments, students will be required to write four short papers.	3.00	15	T 1:30-3:50PM
AS.190.220	01	S		**Global Security Politics** *Deudney, Daniel Horace* Contemporary and emerging technologies of nuclear (weapons, terrorism, energy) outer space (missiles, missile defense, asteroids), biosecurity (bioweapons, pandemics, terrorism) and cyber (war, spying, surveillance) and implications for security, international politics, arms control, and political freedom.	3.00	20	MW 1:30-2:20PM; F 1:30-2:20PM
AS.190.220	02	S		**Global Security Politics**	3.00	20	MW 1:30-2:20PM; F 1:30-2:20PM
AS.190.220	03	S		**Global Security Politics**	3.00	20	MW 1:30-2:20PM; W 4:30-5:20PM
AS.190.220	04	S		**Global Security Politics**	3.00	20	MW 1:30-2:20PM; W 3:00-3:50PM
AS.190.220	05	S		**Global Security Politics**	3.00	20	MW 1:30-2:50PM; Th 3:00-3:50PM
AS.190.220	06	S		**Global Security Politics**	3.00	20	MW 1:30-2:20PM; Th 4:30-5:20PM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.190.281	01	S		**Virtue, Labor, and Power (Classics of Political Thought II)** *Chambers, Samuel Allen* This is not a class in the history of political thought. Instead, it is an opportunity for a selective, circumscribed, but very focused engagement with some of the most powerful and provocative texts in that history. We will read selections from six thinkers (Socrates, Machiavelli, Locke, Marx, Nietzsche, and Foucault), focusing on three themes (Virtue, Labor, and Power). These texts have all profoundly shaped the way we think about politics, and they are texts that resonate with our own political problematics today.	3.00	20	MW 3:00-3:50PM; F 1:30-2:20PM
AS.190.281	02	S		**Virtue, Labor, and Power (Classics of Political Thought II)**	3.00	20	MW 3:00-3:50PM; F 1:30-2:20PM
AS.190.281	03	S		**Virtue, Labor, and Power (Classics of Political Thought II)**	3.00	20	MW 3:00-3:50PM; F 3:00-3:50PM
AS.190.281	04	S		**Virtue, Labor, and Power (Classics of Political Thought II)**	3.00	20	MW 3:00-3:50PM; F 3:00-3:50PM
AS.190.301	01	S	W	**Global Political Economy** *Marlin-Bennett, Renee* Examines the intersection of politics and economics in global affairs. Focuses on theoretical approaches to global political economy; institutions of governance of the global political economy; flows of goods, services, capital, and information; and transborder problems. Recommended Course Background: AS.190.209	3.00	20	MW 10:00-10:50AM; F 11:00-11:50AM
AS.190.301	02	S	W	**Global Political Economy**	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.190.308	01	S		**Comparative Political Regimes** *Staff* The course will cover three topics: 1) The conceptualization of political regime, democracy and authoritarianism. We will also consider neighboring concepts of other macro-political structures—government, state, and administration—in order to be able to demarcate what is distinctive about the study of political regimes. 2) The characterization of political regimes in most Western and some non-Western countries, in history and today. We will centrally focus on the so called “Waves of Democratization,” but we will also consider stories with less happy outcomes, that is, processes that led to the breakdown of democracies and the installation of repressive dictatorships. 3) The explanation(s) of the stability and change of political regimes around the world. Theoretical accounts of regime change come in many flavors—emphasis on economic versus political causes, focus on agents and choices versus structures and constraints, international versus domestic factors, among others. We will consider most of them.	3.00	25	W 3:00-5:50PM
AS.190.310	01	S		**The Political Economy of Order and Prosperity** *Staff*	3.00	25	TTh 3:00-4:15PM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The course offers an introduction to the relation between politics and economics in the long run by focusing on the interaction between order and prosperity. A central topic is the effects of macro-political institutions, like types of regime and state, on the capacity of societies to generate wealth and redistribute it. The course will also examine the political impact of economic performance across countries, for instance: how do economic booms and recessions affect democratic governance? The course provides the essential conceptual and theoretical tools for the analysis of political economy processes and outcomes.			
AS.190.311	01	S		**Disposable People: Race, Immigration and Biopolitics** *Brendese, Philip Joseph, III.* This course will explore theories and practices of race and immigration in order to illuminate the proliferation of populations regarded as disposable in contemporary politics. We will pay special attention to the contestable criteria used to determine eligibility for membership in the human race. We shall also examine how political power influences the relays between citizenship status and those whose lives are worthy of protection, and those who should be allowed to die.	3.00	20	Th 1:30-3:50PM
AS.190.320	01	S		**Politics Of East Asia** *Chung, Erin* Examines some of the central ideas and institutions that have transformed politics in the contemporary world through the lens of East Asia, focusing on Japan, South Korea, Taiwan, and China. Topics include state-society relations, late development, nationalism, democratization, political culture, social movements, and globalization.	3.00	20	MW 1:30-2:20PM; F 1:30-2:20PM
AS.190.320	02	S		**Politics Of East Asia**	3.00	20	MW 1:30-2:20PM; F 3:00-3:50PM
AS.190.334	01	S		**Constitutional Law** *Zackin, Emily* The second semester of a two semester course. Topics include executive and emergency power, racial and gender equality, and selected free speech and religious freedom issues.	3.00	40	MW 10:30-11:45AM
AS.190.339	01	S	W	**American Racial Politics** *Spence, Lester* Recommended Course Background: AS.190.214	3.00	40	T 1:30-3:50PM
AS.190.342	01	S	W	**Black Politics II** *Spence, Lester*	3.00	40	M 1:30-3:50PM
AS.190.344	01	S		**Seminar In Anti-Semitism** *Ginsberg, Benjamin*	3.00	20	M 1:30-3:50PM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Jews exercise a good deal of power in contemporary America.. They are prominent in a number of key industries, play important roles in the political process, and hold many major national offices. For example, though Jews constitute barely two percent of America's citizens, about one-third of the nation's wealthiest 400 individuals are Jewish and more than ten percent of the seats in the U.S. Congress are held by Jews. One recent book declared that, "From the Vatican to the Kremlin, from the White House to Capitol Hill, the world's movers and shakers view American Jewry as a force to be reckoned with." Of course, Jews have risen to power in many times and places ranging from the medieval Muslim world and early modern Spain through Germany and the Soviet Union in the 20th century. In nearly every prior instance, though, Jewish power proved to be evanescent. No sooner had the Jews become "a force to be reckoned with" than they found themselves banished to the political ma rgins, forced into exile or worse. Though it may rise to a great height, the power of the Jews seems ultimately to rest on a rather insecure foundation. Cross-listed with Jewish Studies.			
AS.190.398	01	S	W	**Politics Of Good & Evil** *Connolly, William E* The politics of good and evil places classic myths into conversation with recent philosophical work on good and evil. The classic myths include the Book of Job, Genesis (J version) two dramas by Sophocles, a reading from Augustine, and Voltaire's Candide. Texts by Nietzsche, William James and an essay by me are then placed into conversation with each other and with the classic texts. This class is organized around "elemental theory" in which diverse existential stories are placed into dissonant conjunctions. Previous work in theory is recommended. A class presentation, two 12 page papers, extensive class discussion.	3.00	15	M 1:30-3:50PM
AS.190.405	01	S		**Food Politics** *Sheingate, Adam* This course examines the politics of food at the local, national, and global level. Topics include the politics of agricultural subsidies, struggles over genetically modified foods, government efforts at improving food safety, and issues surrounding obesity and nutrition policy. Juniors, seniors, and graduate students only. Cross-listed with Public Health Studies.	3.00	15	MW 1:30-2:45PM
AS.190.438	01	S		**Violence and Politics** *Ginsberg, Benjamin*	3.00	20	W 1:30-3:50PM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This seminar will address the role of violence–both domestic and international–in political life. Though most claim to abhor violence, since the advent of recorded history, violence and politics have been intimately related. States practice violence against internal and external foes. Political dissidents engage in violence against states. Competing political forces inflict violence upon one another. Writing in 1924, Winston Churchill declared–and not without reason–that, "The story of the human race is war." Indeed, violence and the threat of violence are the most potent forces in political life. It is, to be sure, often averred that problems can never truly be solved by the use of force. Violence, the saying goes, is not the answer. This adage certainly appeals to our moral sensibilities. But whether or not violence is the answer presumably depends upon the question being asked. For better or worse, it is violence that usually provides the most definitive answers to three of the major questions of political life--statehood, territoriality and power. Violent struggle, in the form of war, revolution, civil war, terrorism and the like, more than any other immediate factor, determines what states will exist and their relative power, what territories they will occupy, and which groups will and will not exercise power within them.			
AS.190.441	01	S		**Comparative European Politics** *Jabko, Nicolas* In comparison with other regions of the world, Europe can easily appear as a pacified and somewhat boring place. This course will question this stereotype through an examination of European politics in historical and cross-national perspective. From a historical perspective, Europe has been the crucible of modern politics. And to this day, Europe remains a locus of intense conflict as well as remarkably diverse experimentation. We will read seminal scholarly works as well as recent comparative politics literature on European politics. The goal is to understand and discuss central concepts that comparative politics scholars mobilize in the study of European politics across time and space. Topics will include: political, legal, and economic governance; the evolution of democracy, the welfare state, partisan politics, immigration, race, and religion; European integration and globalization.	3.00	15	Th 1:30-3:50PM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.190.499	01	S	W	**Senior Thesis:International Relations/Political Science** *Staff* Seniors also have the opportunity to write a senior research thesis. To be eligible to write this thesis, students must identify a faculty sponsor who will supervise the project. Once a faculty sponsor has approved a topic, students must enroll in a three credit independent study during the fall semester of their senior year. At the end of the fall semester, if the faculty sponsor determines that adequate progress has been made and the project warrants further work, the student may enroll in the senior thesis (AS.190.499) which will be worth 6 credits.	6.00	40	TBA
AS.191.324	01	S		**International Relations of Security and Development** *McNeill, Casey* This course examines how the politics of security and development shape relations between “global North” and "global South”, engaging both historical and contemporary debates around intervention, humanitarianism and development.	3.00	19	TTh 4:30-5:45PM
AS.191.359	01	S		**Size Matters: Small, medium and large states in global politics** *Wang, Jiamin Karyn* Do large states dictate the terms in global politics? Are small states doomed to vulnerability in an anarchic world? And are medium states stuck in-between, incapable of exerting any real influence? This course explores whether size is a determinant of foreign policy, security calculus, democratic or authoritarian proclivity, and success in global political economy.	3.00	19	TTh 3:00-4:15PM
AS.191.373	01	S	W	**Greek and Christian Political Theory** *Gray, Stuart* This seminar will carefully examine some of the most important and influential texts and thinkers in the early Greek and Christian traditions. We will read works by Homer, Hesiod, Thucydides, Sophocles, Plato, Aristotle, Augustine, and Aquinas.	3.00	15	T 1:30-3:50PM
AS.191.416	01	S		**International Human Rights** *Ross, Andrew Austin* Develops an understanding of what human rights are and how they work at the international level. Also examines critical accounts of human rights as vehicles of power.	3.00	20	TTh 12:00-1:15PM
AS.191.417	01	S		**Global Governance in A Diverse World** *Staff* Studies how and why international organizations wield authority in a world of sovereign states. Also considers non-state actors and the globalized context of communication in which global governance is practiced.	3.00	20	TTh 9:00-10:15AM
AS.211.341	01	H		**Power and Resistance: Approaches to French Political Thought.** *Russo, Elena*	3.00	10	MW 12:00-1:15PM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Even as a coherent, rational conception of state power emerged in France in as early as the Renaissance, French thinkers never stopped challenging the ways by which power justified itself in order to foster obedience and consensus. In so doing, they focused critically as much on the claims of sovereignty issuing from the top as on the willingness of the governed to submit to them. The course will examine the dialectic between the legitimation and delegitimation of power, from the Renaissance wars of religion to the Revolution and beyond: the haunting fear of the corruption and death of the political body; the notion of permanent crisis; the right to revoke the social contract; the reach of power in shaping minds and bodies. Readings may include works by La Boétie, Bodin, Bayle, Rousseau, Sade, Saint-Just, Constant, Maistre, Tocqueville, Foucault, Lefort and Rancière. Readings and discussion in English.			
AS.211.394	01	H	W	**Brazilian Cult & Civ** *De Azeredo Cerqueira, Flavia Christina* This course is intended as an introduction to the culture and civilization of Brazil. It is designed to provide students with basic information about Brazilian history, art, literature, popular culture, theater, cinema, and music. The course will focus on how indigenous Asian, African, and European cultural influences have interacted to create the new and unique civilization that is Brazil today. The course is taught in English, but ONE extra credit will be given to students who wish to do the course work in Portuguese. Those wishing to do the course work in English for 3 credits should register for section 01. Those wishing to earn 4 credits by doing the course work in Portuguese should register for section 02. The sections will be taught simultaneously. Section 01: 3 credits Section 02: 4 credits (instructor's permission required)	3.00	26	M 1:30-4:30PM
AS.211.394	02	H	W	**Brazilian Cult & Civ**	4.00	4	M 1:30-4:00PM
AS.212.341	01	H		**Power and Resistance: Approaches to French Political Thought.** *Russo, Elena*	3.00	10	MW 12:00-1:15PM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Even as a coherent, rational conception of state power emerged in France in as early as the Renaissance, French thinkers never stopped challenging the ways by which power justified itself in order to foster obedience and consensus. In so doing, they focused critically as much on the claims of sovereignty issuing from the top as on the willingness of the governed to submit to them. The course will examine the dialectic between the legitimation and delegitimation of power, from the Renaissance wars of religion to the Revolution and beyond: the haunting fear of the corruption and death of the political body; the notion of permanent crisis; the right to revoke the social contract; the reach of power in shaping minds and bodies. Readings may include works by La Boétie, Bodin, Bayle, Rousseau, Sade, Saint-Just, Constant, Maistre, Tocqueville, Foucault, Lefort and Rancière. Readings and discussion in English.			
AS.230.275	01	S	W	**Revolution, Reform and Social Inequality in China** *Andreas, Joel* This course explores various aspects of social inequality in China during the Mao Zedong and the post-Mao reform eras. We will examine inequality within villages, the rural/urban divide, urban inequality, education and health policies, and gender and ethnic inequality. Each of these issue areas will be tackled analytically, but the aim is also to understand what it was/is like to live in China during and after the Mao era. Formerly offered as AS.230.321.	3.00	28	TTh 1:30-2:45PM
AS.310.306	01	HS	W	**Domestic Politics of Contemporary China** *Yang, Yi* This course introduces students to China's contemporary political history and current political system. It helps students develop a critical understanding of China's governance institutions and processes, political economy, and state-society relations. The course focuses primarily on China's domestic politics but also covers China's changing role in Asia and the world.	3.00	40	TTh 1:30-4:00PM
AS.360.331	01	S		**Methods for Policy Research** *Morgan, Barbara Anne*	3.00	15	TBA

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will introduce students to quantitative methods for studying social policy problems. Topics to be covered include descriptive statistics and sampling, correlation and causation, simple and multiple regression, experimental methods, and an introduction to cost-benefit analysis. The emphasis will be on the selection, interpretation and practical application of these methodologies in specific policy settings, rather than with formal proofs. Skills will be reinforced by hands-on exercises using statistical software. Over the course of the semester, students will critically analyze policy reports and empirical research in a range of policy areas and learn how to present this research to a non-specialist audience. Finally, we will discuss the pros and cons of quantitative vs. qualitative methodologies. The course will conclude with group presentations that draw on all these skills. Enrollment restricted to Social Policy minors only.			
AS.360.357	01	S	W	**Baltimore as an Urban Laboratory** *Deluca, Stefanie* This course uses the city of Baltimore as a lens through which to explore issues of urban inequality. We will focus on Baltimore's history of racial segregation and concentrated poverty, and its effect on the social and economic well-being of the city and its residents, with attention to education, employment, health and crime. Students will learn how to employ Census data, GIS approaches, and sociological research to inform questions about population change, inequality and the distribution of resources across the city and metropolitan region. Students will also work on one or more policy relevant studies based in Baltimore, including: a project on abandoned and vacant housing, a desegregation intervention, and a longitudinal study of inner city youth. Finally, students will become familiar with Baltimore City's programs and policy approaches to addressing the city's most pressing problems, and will design innovative and effective and innovative solutions as part of their course assignments. Enrollment restricted to Social Policy minors only.	3.00	15	TBA

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.360.366	01	S	W	**Public Policy Writing Workshop** *Longman, Phillip* This workshop is designed to hone the analytical and communications skills necessary for effective formulation and advocacy of public policy. Topics include how to develop op-ed pieces and other forms of advocacy journalism, memoranda, position papers, and grant proposals. The workshop puts special stress on how to make a clear and persuasive exposition of complex or counter-intuitive policy arguments in the market place of ideas, including the challenges of writing for popular journals and communicating to specific audiences both in and out of government. Students receive intensive individual instruction, including close editing of their work and advice on how to publish or promote it in the public sphere. Enrollment restricted to Social Policy minors only.	3.00	15	TBA
AS.360.372	01	S	W	**Poverty and Public Policy** *Edin, Kathryn* This course examines the causes and consequences of U.S. urban poverty, it's implications for health and wellbeing, and explores strategies for addressing it. We cover the major theoretical explanations scholars have advanced to explain the persistence of urban poverty including labor markets, residential segregation, welfare policy, family structure, and the criminal justice system. Within each topic area, students are introduced to a range of interventions aimed at alleviating urban poverty. Students will conduct a formal policy analysis of 20 pages and participate in a mock congressional hearing. Permission required for Social Policy minors.	3.00	15	TBA
AS.360.380	01	S	W	**Making America Social Policy** *Schlozman, Daniel* This course analyzes the distinctive US welfare state in historical and comparative perspective. We begin with a survey of the policy context, an historical overview from the poorhouses through the Great Society, and a tour of welfare states across the rich democracies. We then survey developments – and explain the actual workings of policy – across jobs, education, welfare, pensions, and health care. We explore the institutional and political factors behind their divergent trajectories through conservative revival and the age of Obama. Students will write a seminar paper exploring policy development over time in a program or area of their choosing. Enrollment restricted to Social Policy minors only.	3.00	15	TBA

Program in Latin American Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.206	01	H	W	**Art and the Sacred in Colonial Latin America** *Lumbreras Corujo, Maria* This course explores the role of the image in the so-called "spiritual colonization" of the Americas. Drawing on art historical and anthropological perspectives, we will consider a wide range of artistic practices from the viceroyalties of New Spain and Peru. Special emphasis will be placed on questions of cross-cultural exchange and (mis)understanding. Topics include idolatry, demonic visions, relics, wonder-working images, and sacred matter.	3.00	20	TTh 12:00-1:15PM
AS.010.214	01	H		**Ancient Americas in Motion** *Deleonardis, Lisa* This course critically examines the visual arts and their makers as portrayed in documentary, historical, and Hollywood films.	3.00	60	T 1:30-4:00PM
AS.010.398	01	H		**Tombs for the Living** *Deleonardis, Lisa* Centering on the tomb as the unit of analysis, this course examines the cultural and material aspects of death and funerary ritual. Draws on case studies from North America, Mesoamerica, and the Andes. Collections study in museums.	3.00	25	TTh 10:30-11:45AM
AS.070.277	01	HS	W	**Contested Indigeneity** *Cervone, Emma* This course will introduce students to the diversity of indigenous peoples and their situations globally, as well as to their agency and innovation in grappling with challenges across a range of social systems, political contexts, and ecological conditions. Cross-list: PLAS	3.00	25	TTh 10:30-11:45AM
AS.100.117	01	HS		**History of Brazil** *Paquette, Gabriel* An introductory survey of Brazilian History c. 1500-2000.	3.00	20	MW 12:00-12:50PM; F 11:00-11:50AM
AS.100.117	02	HS		**History of Brazil**	3.00	20	MW 12:00-12:50PM; F 12:00-12:50PM
AS.100.117	03	HS		**History of Brazil**	3.00	20	MW 12:00-12:50PM; F 12:00-12:50PM
AS.100.117	04	HS		**History of Brazil**	3.00	20	MW 12:00-12:50PM; F 1:30-2:20PM
AS.210.392	01	H	W	**Advanced Portuguese: Language and Literature II** *De Azeredo Cerqueira, Flavia Christina* This course focuses on reading, writing, and oral expression. Under the supervision of the instructor, students will read several works by major Brazilian, Portuguese, and/or Afro-Portuguese writers, followed by intensive writing and oral discussion on the topics covered. Grammar will be reviewed as necessary. The course is conducted entirely in Portuguese. No satisfactory/unsatisfactory.	3.00	15	MWF 9:00-9:50AM
AS.211.380	01	H		**Modern Latin American Culture** *Staff*	3.00	17	MW 12:00-1:15PM

Program in Latin American Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Taught in Spanish. This course will explore the fundamental aspects of Latin- America culture from the formation of independent states through the present—in light of the social, political, and economic histories of the region. The course will offer a general survey of history of Latin- America, and will discuss texts, movies, songs, pictures, and paintings, in relation to their social, political, and cultural contexts. May not be taken satisfactory/unsatisfactory.			
AS.211.380	02	H		**Modern Latin American Culture**	3.00	17	TTh 12:00-1:15PM
AS.211.394	01	H	W	**Brazilian Cult & Civ** *De Azeredo Cerqueira, Flavia Christina* This course is intended as an introduction to the culture and civilization of Brazil. It is designed to provide students with basic information about Brazilian history, art, literature, popular culture, theater, cinema, and music. The course will focus on how indigenous Asian, African, and European cultural influences have interacted to create the new and unique civilization that is Brazil today. The course is taught in English, but ONE extra credit will be given to students who wish to do the course work in Portuguese. Those wishing to do the course work in English for 3 credits should register for section 01. Those wishing to earn 4 credits by doing the course work in Portuguese should register for section 02. The sections will be taught simultaneously. Section 01: 3 credits Section 02: 4 credits (instructor's permission required)	3.00	26	M 1:30-4:30PM
AS.211.394	02	H	W	**Brazilian Cult & Civ**	4.00	4	M 1:30-4:00PM
AS.215.353	01	H	W	**Women Writing in Latin America: Prose and Poetry by Sor Juana, Mistral, Lisoba, Pizarnik, Castellanos, and other poets** *Castro-Klaren, Sara* The first objective of the course is to train students in close reading and analysis of literary texts. The second objective is to read prose and poetry by some of the canonical texts in the Latin American tradition written by women. Taught in English.	3.00	15	W 1:30-4:00PM

Program in Latin American Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.215.452	01	H		**Che Guevara and Magical Realism** *Gonzalez, Eduardo* His detractors often compare him to Hitler while many of his admirers see in him a saint and a martyr like Jesus Christ. Cuban school children are taught to be like him. Che was killed in 1967, the same year in which Gabriel García Márquez published Cien años de soledad (One Hundred Years of Solitute). We will study Guevara's life as a militant revolutionary through his own writings and the exorbitant style known as realismo mágico, crafted by García Márquez, one of Che's great admirers. Four movies will anchor our visual take on the myth and the man: Los diarios de motocicleta (Walter Salles, 2004), Che I and Che II (Steven Soderbergh, 2008), and Wall Street (Oliver Stone, 1987). The nineteen-eighties narcotraffic boom in Colombia and the cocaine-driven financial high times during the late Reagan years will frame our study. Taught in Spanish	3.00	30	TTh 10:30-11:45AM
AS.230.346	01	S		**Economic Sociology of Latin America** *von der Heydt-Coca, Magda Zonia* This course will offer an overview of Latin America's economic reality as an intertwined process of economic and political domestic factors within the constraints of the world economy. Latin American development will be analyzed from a historical perspective. The first half of the semester the course will focus on the analysis of the economic developmental patterns starting in the middle of the 19thcentury to the populist era in the middle of the 20thcentury. In the second half of the semester, we will analyze in depth the contemporary neoliberal approach to development. Globalization is the force that drives economic, social and political processes in Latin America. The course will include case studies as well the social conflicts generated by the increasing polarization of the society. Students will be exposed to important sociological theories. Fulfills Economics for GSCD students.	3.00	25	TTh 10:30-11:45AM
AS.361.130	01	HS	W	**Introduction to Latin American Studies** *Gonzalez, Eduardo* Our basic premise will be the need to understand the workings of various political regimes in Latin America by countries and regional zones. Hence the broad expanse of South American histories and geographies will be surveyed from the perspective of current political, social, economic, and global conflicts: regional alliances, the geopolitical impact of The United States, China, and Russia; neoliberalism, populism, and social movements on behalf of popular sovereignty, often pitched against or in uneasy alliance with self-styled modes of democratic rule.	3.00		W 1:30-4:00PM
AS.361.147	01	H		**Introduction to Latin American Cinema** *Busó-García, Roberto*	3.00	8	W 1:30-3:50PM; T 7:30-10:00PM

Program in Latin American Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				An introductory overview of the evolution of narrative feature filmmaking in Latin America, with an emphasis on comparing and contrasting myriad technical approaches to visual storytelling in different countries and eras. We address form and content, issues of identity, politics and aesthetics as well as the influence, effect and dialogue between the films, their historical contexts and among each other. Filmmakers discussed include Cuarón, Martel, Silva, Alonso, Del Toro, Gutiérrez Alea, Reygadas, Salles, Subiela, Babenco, Sorín and Buñuel, among others. Co-listed with AS.061.147			

Program in Museums and Society

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.307	01	H		**Diplomats, Dealers, and Diggers: The Birth of Archaeology and the Rise of Collecting from the 19th c. to Today** *Feldman, Marian* The development of archaeology in the Middle East – its history of explorers, diplomats, missionaries and gentlemen-scholars – profoundly shaped the modern world, from the creation of new museums and the antiquities market to international relations and terrorism.	3.00	20	TTh 10:30-11:45AM
AS.010.310	01	H		**The 'Long Sixties' in Europe** *Warnock, Molly* Emphasis will be on advanced artistic practice primarily in France, Italy, the Benelux, and German-speaking countries; students will curate an exhibition of avant-garde journals from the Sheridan Libraries.	3.00	12	MW 3:00-4:15PM
AS.010.398	01	H		**Tombs for the Living** *Deleonardis, Lisa* Centering on the tomb as the unit of analysis, this course examines the cultural and material aspects of death and funerary ritual. Draws on case studies from North America, Mesoamerica, and the Andes. Collections study in museums.	3.00	25	TTh 10:30-11:45AM
AS.100.372	01	HS	W	**The Victorians** *Walkowitz, Judith* This course focuses on the politics of everyday life, consumption, intimate relations, and concepts of the self in Victorian Britain (1837-1901). Particular attention will be devoted to Victorian visual culture, including exhibitions, built environment, decorative arts and leisure culture. Other themes include popular nationalism, class cultures, feminism and body politics, Empire and racial thought. Cross-listed with WGS and Program in Museums and Society	3.00	20	W 1:30-3:50PM
AS.213.322	01	H		**Museums and Jews, Jews in Museums** *Spinner, Samuel Jacob* This course will examine the presence of Jews in museums. We will consider the history of the exhibition and collection of Jewish material culture in museums from the 19th century to the present day. Our main task will be to identify the various museological traditions that engage Jewish identity, including the collection of art and antiquities, ethnographic exhibitions, history museums, and Holocaust museums. Some of the questions we will ask include: how do museums shape identity? what is the relationship between the scholarly premises of many museums and their popular reception? and, centrally, what is the relationship between Jewish museums and museums of the Holocaust?	3.00	30	TTh 12:00-1:15PM
AS.389.105	01	H	W	**Freshman Seminar: Art in the Museum** *Kingsley, Jennifer P* Limited to Freshman. Explore fundamental concepts and social issues particular to the collection and display of art objects in museum contexts in the past and today. Includes fieldwork in Baltimore and DC art museums. Cross-listed with History of Art.	3.00	15	Th 1:30-3:50PM

Program in Museums and Society

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.389.202	01	HS		**Introduction to the Museum: Issues and Ideas** *Kingsley, Jennifer P* This course considers the practical, political, and ethical challenges facing museums today, including the impact of technology and globalization, economic pressures, and debates over the ownership and interpretation of culture.	3.00	15	MW 1:30-2:45PM
AS.389.250	01	H		**Conservation of Material Culture: Art, Artifacts and Heritage Sites** *Rodini, Elizabeth* Alongside specialists in area museums, we explore the conservation of material culture in various media. Topics include manufacturing methods and material degradation as well as conservation treatments, science, and ethics.	3.00	10	W 2:00-4:30PM
AS.389.275	01	HS		**Interpreting Sites & Collections: An Introduction to Museum Education** *Maloney, Elizabeth* Part public history, part introduction to museum practices, this hands-on course explores how heritage areas and museums serve communities through interpretation. Each year, students partner with a community to develop research-based, visitor-centered interpretive material, in the 2015 Baltimore National Heritage Area. Field trips and community meetings will be a significant part of the course. Cross-listed with History and History of Science. M&S practicum course. Class usually meets 1:30 - 3:50 except for days with field trips.	3.00	12	W 1:30-5:00PM
AS.389.335	01	H		**Recreating Ancient Greek Ceramics** *Balachandran, Sanchita* This hands-on course in experimental archaeology brings together undergraduate and graduate students across disciplines to study the making of Athenian vases. Students work closely with expert ceramic artists, and in consultation with art historians, archaeologists, art conservators, and materials scientists to recreate Greek manufacturing processes.	4.00	14	Th 1:30-5:00PM
AS.389.359	01	H	W	**Literary Archive** *Dean, Gabrielle* This course invites students to grapple with the theory and practice of building literary archives in 19th- and 20th-century American culture. For the final project students will work collaboratively to build a digital archive and exhibit of selected materials from the JHU rare book and manuscript collections. Meets in Special Collections. Coss-listed with English. M&S practicum course.	3.00	15	TTh 4:30-5:45PM

Psychological & Brain Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.050.339	01	NS		**Cognitive Development** *Yarmolinskaya, Julia S* This is a survey course in developmental psychology, designed for individuals with some basic background in psychology or cognitive science, but little or none in development. The course is strongly theoretically oriented, with emphasis on issues of nature, nurture, and development. We will consider theoretical issues in developmental psychology as well as relevant empirical evidence. The principle focus will be early development, i.e., from conception through middle childhood. The course is organized topically, covering biological and prenatal development, perceptual and cognitive development, the nature and development of intelligence, and language learning. Cross-listed with Neuroscience. One or more of the following recommended: AS.050.105, AS.050.203, AS.080.203, AS.050.101, OR AS.200.110. Graduate students wishing to enroll in this course should register for AS.050.639.	3.00	25	T 3:00-5:30PM
AS.200.132	01	S		**Introduction to Developmental Psychology** *Feigenson, Lisa* An introductory survey of human development from the prenatal period through adolescence. The developing child is examined in terms of cognitive, social, emotional, motor, and language development.	3.00	100	MWF 10:00-10:50AM
AS.200.133	01	S		**Introduction to Social Psychology** *Drigotas, Stephen M* An introductory survey of social psychology. Topics include social perception, social cognition, attitudes, prejudice, attraction, social influence, altruism, aggression, and group behavior.	3.00	450	MWF 11:00-11:50AM
AS.200.141	01	NS		**Foundations of Brain, Behavior and Cognition** *Gorman, Linda K* Formerly listed as Introduction to Physiopsychology. A survey of neuropsychology relating the organization of behavior to the integrative action of the nervous system. Cross-listed with Behavioral Biology and Neuroscience.	3.00	250	TTh 9:00-10:15AM
AS.200.159	01	S		**Freshmen Seminar: Evolutionary Psychology** *Egeth, Howard E* In this course we discuss evolutionary psychology, which is the idea that the mind can be understood as an adaptation to our ancestral environment by means of natural selection. Freshmen only.	1.00	13	T 2:00-2:50PM
AS.200.204	01	S	W	**Human Sexuality** *Kraft, Chris S*	3.00	25	T 12:00-2:30PM

Psychological & Brain Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Course focuses on sexual development, sexuality across the lifespan, gender identity, sexual attraction and arousal, sexually transmitted disease, and the history of commercial sex workers and pornography. Juniors and seniors only within the following majors/minors: Behavioral Biology, Biology, Neuroscience, Psychological & Brain Sciences, Public Health, and the Study of Women, Gender, & Sexuality. All registration will be done during the normal registration period and you must meet all requirements to register. Formerly taught as AS.200.302.			
AS.200.204	02	S	W	**Human Sexuality**	3.00	25	T 9:00-11:30AM
AS.200.208	01	NS		**Animal Behavior** *Madison, Farrah* Examines basic principles of animal behavior (orientation, migration, communication, reproduction, parent-offspring relations, ontogeny of behavior and social organization). Evolution and adaptive significance of behavior will be emphasized.	3.00	180	TTh 9:00-10:15AM
AS.200.211	01	NS		**Sensation & Perception** *Hendry, Stewart H* A survey of the psychological and neurophysiological basis of seeing, hearing, touching, tasting, and smelling.	3.00	70	MWF 9:00-9:50AM
AS.200.212	01	S		**Abnormal Psychology** *Papadakis, Alison Moog Aubrecht* A survey of the major syndromes of psychological disorders. Research and theory about the mechanisms, development, and diagnosis of psychopathology are emphasized.	3.00	200	TTh 10:30-11:45AM
AS.200.222	01	S		**Positive Psychology** *Halberda, Justin* The course will review the growing field of positive psychology and will review the research on positive human attributes such as optimism, happiness, hope, resiliency, self-esteem, altruism, empathy, and forgiveness. This course will explore the research on how such positive attributes are developed and how they relate to psychological and physical well-being.	3.00	60	MWF 3:00-3:50PM
AS.200.304	01	N		**Neuroscience of Decision Making** *Stuphorn, Veit* This course will survey the neural mechanisms of decision-making. Current experimental research and theory concerning selection, control, and evaluation of actions are examined in humans and animals. Topics will range from simple perceptual judgements to complex social behavior. The course involves a weekly lecture about a specific topic followed by a student presentation of a current research paper. Cross-listed with Neuroscience.	3.00	19	TTh 9:00-10:15AM

Psychological & Brain Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.200.306	01	S		**Psychology in the Workplace** *Roberts Fox, Heather* Industrial-organizational (I-O) psychology is the scientific study of the workplace. Rigor and methods of psychology are applied to issues of critical relevance to business, including talent management, coaching, assessment, selection, training, organizational development, performance, and work-life balance.	3.00	19	TTh 1:30-2:45PM
AS.200.317	01	S		**Interpersonal Relations** *Drigotas, Stephen M* This course will investigate interpersonal processes ranging from attraction and courtship to relationship functioning and distress. Open to Psychology and Behavioral Biology majors only.	3.00	30	MW 1:30-2:45PM
AS.200.318	01	Q		**Quantitative Methods for Brain Sciences** *Mysore, Shreesh Pranesh* Focus on frequently-used quantitative methods used in the study of brain sciences, including gaining conceptual understanding of techniques, analysis and summarization of data, extracting the process underlying a data set, explaining data as a function of variables, data visualization, etc. Recommended Course Background: Probability & Statistics	3.00	25	TTh 1:30-2:45PM
AS.200.325	01	S		**Law Psychology:Clinical Application** *Raifman, Lawrence J* Introduction to legal standards governing criminal forensic psychology assessments, e.g., competence to stand trial, criminal responsibility, mitigation of death penalty, negation of mens rea, and other criminal law forensic applications. Cross-listed with Behavioral Biology.	3.00	100	T 3:00-5:30PM
AS.200.326	01	S	W	**Law, Psychology and Public Policy** *Hofer, Paul Jeffrey* An introduction to applications of psychological research in policy analysis. Special emphasis is given to the use and misuse of psychology in Supreme Court advocacy and decision making in the areas of children's rights, adult sexuality, and educational and employment opportunity. Recommended Course Background: Statistics & Regression Analysis	3.00	19	Th 4:30-6:50PM
AS.200.328	01	S	W	**Theory & Methods in Clinical Psychology** *Edwin, David H* A critical examination of the methods of observation, description, reasoning, inference, measurement and intervention that underlie the clinical practice of psychology and psychiatry.	3.00	25	M 6:00-8:20PM
AS.200.361	01	S		**Tests & Measurements** *Roberts Fox, Heather* This course will consider the methodological, theoretical, legal, and ethical problems involved in test construction, the evaluation of instruments, and the uses of psychological tests in various settings and for different purposes.	3.00	25	TTh 12:00-1:15PM
AS.200.368	01	NS		**Altered States of Consciousness** *Allen, Richard*	3.00	60	TTh 4:00-5:15PM

Psychological & Brain Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Sleep, dreaming, resting and arousal to waking represent very different states of consciousness which differ dramatically both psychologically and physiologically. This course focuses on cognitive, psychological, physiological, biological and genetic aspects characterizing each of these states with some reference to other altered states. The course includes a focus on the major pathologies affecting sleep-wake states. Clinical cases will be considered. These inform about both psychological and biological aspects of these states. The relative biological functions of each state will be evaluated with particular attention to the mystery of why we have and apparently need REM and NREM sleep. Actual physiological recordings of sleep states will be reviewed and the student will learn how these are obtained and how to evaluate these. The circadian rhythms, ontogeny and evolution of these sleep-wake states will also be covered. This will include a review of information learned from non-human animal sleep. The change from sleep to full awakening reflects change toward increasing brain organization supporting consciousness. Understanding of the neurobiology of these states will be used to explore some of the more modern and scientific concepts of human self-awareness or consciousness.			
AS.200.369	01	N		**Psychobiology of Motivation & Reward** *Janak, Patricia* This course will explore the neurobiological bases of motivated behavior, including eating, drinking, and reproduction, tracing the history of our understanding from early neuroscientific studies to the modern day, with a focus on mammalian model systems. We will discuss innate motivated behaviors, and well as how learning can guide the expression of these behaviors. Neural mediation of processes such as reward and aversion will be considered in depth, as will applications of these findings to the understanding of addiction and other behavioral disorders. The course will be a mixed lecture/seminar format; we will read original research articles and scholarly reviews.	3.00	19	TTh 12:00-1:15PM
AS.200.370	01	NS		**Functional Human Neuroanatomy** *Courtney-Faruqee, Susan* This course examines the general organizing principles of the anatomy of the human central nervous system and how this anatomical organization relates to function, from the level of neural circuits, to systems, to behavior. Students will learn to identify neuroanatomical structures and pathways in dissections and MRI images through computerized exercises. Readings and lectures will emphasize general structure-function relationships and an understanding of the functional roles of particular structures in sensory, motor, and cognitive systems.	3.00	50	MWF 11:00-11:50AM
AS.200.372	01	NS	W	**The Aging Brain** *Gallagher, Michela*	3.00	30	TTh 3:00-4:15PM

Psychological & Brain Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				We will examine what current research can tell us about changes in mental abilities as we grow older, what biological changes in the brain during aging cause cognitive decline, and finally, how scientists are meeting the challenge of maintaining the functions of the mind into advanced old age.			
AS.200.376	01	NS		**Psychopharmacology** *Gorman, Linda K* Designed to provide information about how drugs affect the brain and behavior. The course focuses on the interaction of various classes of drugs with the individual neurotransmitter systems in the brain. A brief historic review is followed by a discussion of clinical relevance. Cross-listed with Behavioral Biology and Neuroscience.	3.00	75	WF 12:00-1:15PM
AS.200.377	01	N		**Neuroethology** *Moss, Cynthia* A comparative and evolutionary approach to understanding the neural underpinnings of biologically relevant behaviors in vertebrate and invertebrate animals.	3.00	19	TTh 3:00-4:15PM
AS.200.380	01			**Neurobiology of Human Cognition** *Bedny, Marina* The complexity of human behavior surpasses even our closest primate relatives. Only humans communicate through language, build complex technology, devise legal system and wage war. What neurobiological capacities set humans apart from other animals? This course will explore the neurobiology of cognition, focusing on cognitive domains that are particularly developed in the human species: language, social cognition, number, executive function and concepts. The course format will consist of lectures and in class workshops.	3.00	50	TTh 10:30-11:45AM
AS.200.386	01	S		**Animal Cognition** *Holland, Peter C* Examine relations between brain, mind, and behavior in nonhuman animals, focusing on topics such as learning, memory, attention, decision-making, navigation, communication, and awareness. We will take a variety of approaches, including behavioral, computational, evolutionary, neurobiological, and psychological perspectives.	3.00	30	TTh 9:00-10:15AM
AS.290.420	01	S	W	**Human Sexual Orientation** *Kraft, Chris S* This course will examine the historical and current theories of sexual orientation and sexual variation development by examining the biological, psychological and social contributing factors that influence the development of sexual orientations and variations along with treatment and modification of problematic sexual behaviors. Limited to Juniors and Seniors with PBS, Neuroscience, Public Health, Behavioral Biology, and Biology majors, or Juniors and Seniors with PBS or Women's Studies minors.	3.00	25	T 3:00-5:30PM

Public Health Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.140.106	01	HS		**History of Modern Medicine** *Greene, Jeremy* The history of Western medicine from the Enlightenment to the present, with emphasis on ideas, science, practices, practitioners, and institutions, and the relationship of these to the broad social context.	3.00	17	MW 10:00-10:50AM; F 10:00-10:50AM
AS.140.106	02	HS		**History of Modern Medicine**	3.00	17	MW 10:00-10:50AM; F 11:00-11:50AM
AS.140.106	03	HS		**History of Modern Medicine**	3.00	17	MW 10:00-10:50AM; F 10:00-10:50AM
AS.140.106	04	HS		**History of Modern Medicine**	3.00	17	MW 10:00-10:50AM; F 11:00-11:50AM
AS.180.252	01	S	W	**Economics of Discrimination** *Morgan, Barbara Anne* What does the empirical evidence show, and how can we explain it? How much of the difference in observed outcomes is driven by differences in productivity characteristics and how much is due to discrimination? How have economists theorized about discrimination and what methodologies can be employed to test those theories? What has been the impact of public policy in this area; how do large corporations and educational institutions respond; and what can we learn from landmark lawsuits? The course will reinforce skills relevant to all fields of applied economics, including critical evaluation of the theoretical and empirical literature, the reasoned application of statistical techniques, and analysis of current policy issues.	3.00	30	MW 1:30-2:45PM
AS.180.390	01	S	W	**Health Economics & Developing Countries** *Gersovitz, Mark* Benefits of good health and its costs. Health demand and supply in poor countries. Welfare economics of Public Health.	3.00	12	T 3:00-5:30PM
AS.190.405	01	S		**Food Politics** *Sheingate, Adam* This course examines the politics of food at the local, national, and global level. Topics include the politics of agricultural subsidies, struggles over genetically modified foods, government efforts at improving food safety, and issues surrounding obesity and nutrition policy. Juniors, seniors, and graduate students only. Cross-listed with Public Health Studies.	3.00	15	MW 1:30-2:45PM
AS.230.150	01	S		**Issues in International Development** *Levien, Michael*	3.00	30	TTh 10:30-11:45AM

Public Health Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Why do billions of people continue to suffer from poverty? Who is most likely to change this situation, what strategies should they follow, what kinds of institutions should they put into place, and what kinds of obstacles stand in the way? This course will introduce the main theoretical perspectives, debates, and themes in the field of international development since the mid-20th century. It has three sections. The first section focuses on debates about the optimal conditions and strategies for generating economic growth and on the relationship between growth, inequality, and human welfare. The second section presents micro-level assessments of various development interventions. The third section considers the role of civil society and political movements in shaping development and social change in the 21st century. Fulfills Economics (ECON) requirement for IS GSCD students only. Freshmen and sophomores only.			
AS.230.341	01	S		**Sociology of Health and Illness** *Agree, Emily* This course introduces students to medical sociology, which is the application of the sociological perspective to health and health care. Major topics include stress, social epidemiology, and the social organization of health care.	3.00	15	M 3:00-4:50PM; W 3:00-3:50PM
AS.230.341	02	S		**Sociology of Health and Illness**	3.00	15	M 3:00-4:50PM; W 3:00-3:50PM
AS.230.341	03	S		**Sociology of Health and Illness**	3.00	15	M 3:00-4:50PM; W 4:00-4:50PM
AS.230.341	04	S		**Sociology of Health and Illness**	3.00	15	W 4:00-4:50PM; M 3:00-4:50PM
AS.271.107	01	N		**Introduction to Sustainability** *Parker, Cindy L* Will introduce interactions between global environment and humans, discuss meaning of sustainability, and introduce use of tools to attain sustainability such as policy, law, communication, marketing, research, advocacy, international treaties.	3.00	110	TTh 3:00-4:15PM
AS.271.360	01	N		**Climate Change: Science & Policy** *Waugh, Darryn* Prereq: 270.103 or permission of instructor. This course will investigate the policy and scientific debate over global warming. It will review the current state of scientific knowledge about climate change, examine the potential impacts and implications of climate change, explore our options for responding to climate change, and discuss the present political debate over global warming.	3.00	50	TTh 10:30-11:45AM
AS.280.103	01	S		**Public Health, Policy and Politics: A Primer** *Beilenson, Peter* Combining basic tenets of public health with real-life examples of public health practice in Baltimore, the course will provide an introduction to the field of public health. Throughout the course a major effort will be made to expose students to the wide array of opportunities that are available to those pursuing a career in public health.	3.00	120	MW 1:30-2:45PM

Public Health Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.280.120	01	S		**Lectures on Public Health and Wellbeing in Baltimore** *Leaf, Philip* An introduction to Urban Health with Baltimore as a case study: wellbeing, nutrition, education, violence and city-wide geographic variation. Lectures by JH Faculty, local government/service providers and advocates.	1.00	20	T 4:30-5:45PM
AS.280.120	02	S		**Lectures on Public Health and Wellbeing in Baltimore**	1.00	20	T 4:30-5:45PM
AS.280.120	03	S		**Lectures on Public Health and Wellbeing in Baltimore**	1.00	30	T 4:30-5:45PM
AS.280.120	04	S		**Lectures on Public Health and Wellbeing in Baltimore**	1.00	55	T 4:30-5:45PM
AS.280.320	01	S		**Seminar on Public Health and Wellbeing in Baltimore** *Leaf, Philip* Seminar combines lectures from AS.280.120 with additional readings and discussion to more deeply address urban health issues. If you register for this course you do NOT register for AS.280.120. Course is open to Sophomores and Juniors only, or by instructor's permission.	3.00	25	T 4:30-5:45PM; Th 4:30-5:45PM
AS.280.340	01	S		**Fundamentals of Health Policy & Management** *Steinwachs, Donald M* Through lectures and small group discussions, students will develop a framework for analyzing health care policy problems and gain familiarity with current issues including managed care, Medicare and the uninsured.	3.00	25	MW 3:00-3:50PM; M 4:00-4:50PM
AS.280.340	02	S		**Fundamentals of Health Policy & Management**	3.00	25	MW 3:00-3:50PM; M 4:00-4:50PM
AS.280.340	03	S		**Fundamentals of Health Policy & Management**	3.00	25	MW 3:00-3:50PM; M 4:00-4:50PM
AS.280.340	04	S		**Fundamentals of Health Policy & Management**	3.00	25	W 4:00-4:50PM; MW 3:00-3:50PM
AS.280.340	05	S		**Fundamentals of Health Policy & Management**	3.00	25	W 4:00-4:50PM; MW 3:00-3:50PM
AS.280.340	06	S		**Fundamentals of Health Policy & Management**	3.00	25	W 4:00-4:50PM; MW 3:00-3:50PM
AS.280.340	07	S		**Fundamentals of Health Policy & Management**	3.00	25	MW 3:00-3:50PM; M 4:00-4:50PM
AS.280.350	01	Q		**Fundamentals of Epidemiology** *Phelan-Emrick, Darcy F* A practical introduction to epidemiology focusing on the principles and methods of examining the distribution and determinants of disease morbidity and mortality in human populations. Juniors and seniors only.	4.00	25	MW 1:30-2:45PM; F 1:30-2:45PM
AS.280.350	02	Q		**Fundamentals of Epidemiology**	4.00	25	MW 1:30-2:45PM; F 1:30-2:45PM
AS.280.350	03	Q		**Fundamentals of Epidemiology**	4.00	25	MW 1:30-2:45PM; F 1:30-2:45PM
AS.280.350	04	Q		**Fundamentals of Epidemiology**	4.00	25	MW 1:30-2:45PM; F 1:30-2:45PM
AS.280.350	05	Q		**Fundamentals of Epidemiology**	4.00	25	MW 1:30-2:45PM; F 1:30-2:45PM
AS.280.360	01	S		**Clinical & Public Health Behavior Change** *Cheskin, Lawrence J*	3.00	125	TTh 3:00-4:15PM

Public Health Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course explores the theory and practice of changing the health behaviors of individuals, and the public health and medical impact of doing so. Theoretical concepts are integrated with practical clinical applications, especially in the areas of diet and fitness. Skill building in persuasive, health-related communication will be included in smaller group discussions.			
AS.280.375	01	S		**Cultural Factor Of Public Health** *Furr-Holden, Carolyn* This course covers the influence of culture on public health, health policy, management and practice. It also provides background on disparities in health in the US with a particular focus on race, place, and poverty. Guest speakers include healthcare providers, managers, and policy-makers.	3.00	75	TTh 9:00-10:15AM
AS.280.380	01	S		**Global Health Principles and Practices** *Winch, Peter John* Global health addresses the staggering global disparities in health status, drawing on epidemiology, demography, anthropology, economics, international relations and other disciplines. We review patterns of mortality, morbidity and disability in low and middle income countries, starting with malnutrition, infectious diseases and reproductive health, and continuing to an emerging agenda including mental health, injury prevention, surgical care, chronic diseases, and health impacts of climate change. Gender, health systems and health workforce challenges, and career trajectories in global health are also discussed. Recommended course background: Minimum of one prior course in Public Health.	3.00	80	TTh 9:00-10:15AM
AS.280.417	01	S		**Mental Health in Humanitarian Emergencies** *Cherewick, Megan Lehn* This course will serve as an introduction to mental health in humanitarian emergencies. The course focuses both on mental health disorders (PTSD, anxiety, depression and substance abuse) and well-being (functionality, self-esteem, hope, and pro-social behavior). Assessment of mental health in humanitarian emergencies will include identification of risk factors and protective factors that impact mental health disorders and promote well-being. Coursework will include exploration of ways gender, age, political climate, environmental factors, and social and cultural norms impact mental health. Furthermore, the course will consider development of mental health interventions for specific cultural contexts and evaluation of the effectiveness of interventions in meeting mental health needs in the short and long-term. Class sessions will be built around case studies from various countries and include contexts of natural disasters, armed conflict and complex emergencies. Gordis Teaching Fellowship Course	3.00	19	TTh 12:00-1:15PM
AS.280.418	01	S		**Introduction to Public Health Genomics** *Guan, Yue*	3.00	19	TTh 10:30-11:45AM

Public Health Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Advances in genomic medicine and technology have presented both opportunities and challenges for public health. Through lectures and case studies, the first half of the course will provide an historical overview and raise contemporary issues related to genomics at the individual, public and policy level. In the second half of the course, students will critically analyze psychosocial, behavioral, ethical and legal issues arising from increasingly widespread access to genetic technologies and information. Topics will cover the use of routine testing (prenatal testing, newborn screening and predictive testing for adult-onset conditions) and emerging technologies capable of whole genome sequencing, direct-to-consumer marketing of various kinds of genetic testing, pharmacogenomics and personalized medicine. Gordis Teaching Fellowship Course			
AS.280.419	01	Q		**Introduction to Practical Data Analysis in Medicine and Public Health** *Usher, Therri Alexandria* The course is designed to introduce undergraduate public health majors to the methodology of data analysis, such as how to apply previously learned statistical methods in the performance of data analysis in medical and public health research. This course is unique in that it focuses on all parts of the data analysis process, from formulating a research question to synthesizing the results. While the emphasis is placed on developing and implementing various methods of data analysis, the course will also address interpreting and evaluating the strengths and limitations of existing data analyses. Students' understanding will be solidified through small in-class activities that explore the data analysis process and evaluations of data analyses in the scientific literature, culminating in a final data analysis project relevant to their own areas of expertise for the purpose of incorporating knowledge gained from the course into their research. Gordis Teaching Fellowship Course	3.00	19	TTh 10:30-11:45AM
AS.280.420	01	S		**Global Food and Nutrition Security** *Lewis, Bess Loraine* This course examines food insecurity in low and middle income countries from a public health nutrition perspective. Students will explore food insecurity as a complex phenomenon linked to important issues in global development and public health. Recommended prior course, either Issues in International Development or Global Health Principles & Practices. Gordis Teaching Fellowship Course	3.00	19	MW 3:00-4:15PM
AS.280.499	01	S	W	**Honors in Public Health** *Schrack, Jennifer A* A research methods seminar to prepare students doing honors in Public Health Studies. Permission Required.	3.00	12	TBA
AS.363.417	01	HS		**Internship/Practicum: Critical Theory & the Possibility of Social Justice** *Krauss, Amy Beth*	4.00	15	Th 4:00-6:30PM

Public Health Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Students will examine concepts of experience, social justice and transformation, governance and critical thought in connection with 4 hours of internship work in a Baltimore City organization per week.			

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.230.101	01	S		**Introduction Sociology** *Nelson, Timothy* Introduces students to basic sociological concepts and perspectives, and applies them to a variety of topics including family, work, and the dynamics of class, gender, and racial/ethnic inequalities in the United States and globally.	3.00	15	MW 10:00-10:50AM; F 10:00-10:50AM
AS.230.101	02	S		**Introduction Sociology**	3.00	15	MW 10:00-10:50AM; F 10:00-10:50AM
AS.230.101	03	S		**Introduction Sociology**	3.00	15	MW 10:00-10:50AM; F 10:00-10:50AM
AS.230.101	04	S		**Introduction Sociology**	3.00	15	MW 10:00-10:50AM; F 9:00-9:50AM
AS.230.101	05	S		**Introduction Sociology**	3.00	15	MW 10:00-10:50AM; F 11:00-11:50AM
AS.230.101	06	S		**Introduction Sociology**	3.00	15	MW 10:00-10:50AM; F 11:00-11:50AM
AS.230.147	01	S		**Introduction to Islam, Islamic Thougt and Muslim Societies Since 1800** *Calder, Ryan* This course is an introduction to contemporary Islam, Islamic thought, and Muslim societies around the world. It focuses somewhat arbitrarily on the 19th, 20th, and 21st centuries: a period of colonial encroachment, state formation and political reform, mobilization and resistance, Islamic revival, and globalization. We will discuss the decline of early modern empires (especially the Safavid, Ottoman, and Mughal), Great Power competition and the colonial encounter in Muslim Africa and Southeast Asia, Orientalism and its legacy, reform efforts and state-building in the late 19th century and the first half of the 20th, Islamic modernism, Zionism and the formation of modern Israel, Islamic revival and political Islam, the 1978–79 Islamic revolution in Iran, gender in contemporary Islam, militant Islamist movements and their portrayal in the media, the evolving significance of shariah (Islamic law) in modern Muslim societies, Islam and democracy, and Islam in the Arab Spring. In an effort to reflect the diversity of Islam, the course will include brief modules on contemporary Islam in Pakistan/Bangladesh, Indonesia, Egypt, Nigeria, Iran, Turkey, Afghanistan, Saudi Arabia, and the West.	3.00	30	MWF 9:00-9:50AM
AS.230.150	01	S		**Issues in International Development** *Levien, Michael*	3.00	30	TTh 10:30-11:45AM

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Why do billions of people continue to suffer from poverty? Who is most likely to change this situation, what strategies should they follow, what kinds of institutions should they put into place, and what kinds of obstacles stand in the way? This course will introduce the main theoretical perspectives, debates, and themes in the field of international development since the mid-20th century. It has three sections. The first section focuses on debates about the optimal conditions and strategies for generating economic growth and on the relationship between growth, inequality, and human welfare. The second section presents micro-level assessments of various development interventions. The third section considers the role of civil society and political movements in shaping development and social change in the 21st century. Fulfills Economics (ECON) requirement for IS GSCD students only. Freshmen and sophomores only.			
AS.230.202	01	S	W	**Research Methods for the Social Sciences** *Hao, Lingxin* The purpose of this course is to provide a sound introduction to the overall process of research and the specific research methods most frequently used by sociologists and other social scientists. Required for IS GSCD track students.	3.00	30	TTh 1:30-2:45PM
AS.230.244	01	S		**Race and Ethnicity in American Society** *Greif, Meredith* Race and ethnicity have played a prominent role in American society and continue to do so, as demonstrated by interracial and interethnic gaps in economic and educational achievement, residence, political power, family structure, crime, and health. Using a sociological framework, we will explore the historical significance of race and its development as a social construction, assess the causes and consequences of intergroup inequalities and explore potential solutions.	3.00	20	MW 1:30-2:45PM
AS.230.265	01	QS		**Research Tools and Technologies for the Social Sciences** *Upadhyay, Smriti* This course will introduce students to a range of digital technologies that are critical for conducting social scientific research in the 21st century. Students will develop competency in the use of computer programs for statistical analysis, database management, the creation of maps and timelines, and the presentation of research reports. The research tools and technologies will be taught using examples from ongoing social science faculty research projects at Johns Hopkins on global inequality and international development. Required for GSCD track students.	3.00	15	MW 1:30-2:45PM
AS.230.275	01	S	W	**Revolution, Reform and Social Inequality in China** *Andreas, Joel*	3.00	28	TTh 1:30-2:45PM

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course explores various aspects of social inequality in China during the Mao Zedong and the post-Mao reform eras. We will examine inequality within villages, the rural/urban divide, urban inequality, education and health policies, and gender and ethnic inequality. Each of these issue areas will be tackled analytically, but the aim is also to understand what it was/is like to live in China during and after the Mao era. Formerly offered as AS.230.321.			
AS.230.285	01	S	W	**Maritime East Asia** *Kuo, Huei-Ying* This course examines the transnational connections among merchants and migrants in the waters of East and Southeast Asia from a historical and comparative perspective. We will explore how diplomatic ties, long-distance trade and migration contributed to the making of cosmopolitan cities such as Quanzhou (Zayton), Malacca, Fort Zeelandia (Formosa), Batavia, Manila, Singapore and Hong Kong in the region from the tenth century onwards. The course will close with an examination of how the transnational connections are relevant to understand inter-state competition in Asia's long twentieth century. Key subjects to be introduced include tribute trade system, trading diasporas, Euro-Chinese co-colonialism, pan-Asianism, as well as history and historiography of maritime silk road.	3.00	20	TTh 1:30-2:45PM
AS.230.293	01	S		**Immigration in the United States** *Greif, Meredith* This course examines patterns and consequences of immigration at the national, state, and local level. Special attention will be given to changing racial and ethnic relations in American gateway cities, immigrants' economic and cultural assimilation, the plight of the second generation, the importance of immigration policy in shaping the experiences of migrant groups, and public opinion on immigration.	3.00	25	TTh 4:30-5:45PM
AS.230.322	01	QS	W	**Quantitative Research Practicum** *Burdick-Will, Julia* This course provides "hands on" research experience applying sociological research tools and a sociological perspective to problems of substance. Quantitative methods will be emphasized, as applied to census data, survey data and/or archival data. Students will design and carry out a research project and write a research report. Juniors and seniors only. Sophomores require instructor's permission. Recommended Course Background: AS.230.205, AS.230.202	3.00	20	MWF 10:00-10:50AM
AS.230.325	01	S		**Global Social Change and Development Practicum** *Silver, Beverly Judith*	3.00	15	M 3:00-5:30PM

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course provides "hands on" research experience in the field of global social change and development. Students will participate in a collaborative research project analyzing the causes and consequences of the recent upsurge of protest around the world in comparison with previous historical waves of social unrest. The course fulfills the "research practicum" requirement for Sociology majors and is required for the GSCD track.			
AS.230.332	01	S		**Race, Racism & Racial Priviledge** *McDonald, Katrina Bell* This course will examine the concepts of race, racism, racial privilege in contemporary America, and the West in general. Examples from other countries will be integrated as well. Historical contexts such as the colonialism, the Civil War and Reconstruction, the Civil Rights movement, and the post Civil Rights era will help to provide an understanding of the social, political, economic, and cultural forces processes that have constructed and shaped the concepts of race and the racialized subject over time.	3.00	20	MWF 1:30-2:20PM
AS.230.341	01	S		**Sociology of Health and Illness** *Agree, Emily* This course introduces students to medical sociology, which is the application of the sociological perspective to health and health care. Major topics include stress, social epidemiology, and the social organization of health care.	3.00	15	M 3:00-4:50PM; W 3:00-3:50PM
AS.230.341	02	S		**Sociology of Health and Illness**	3.00	15	M 3:00-4:50PM; W 3:00-3:50PM
AS.230.341	03	S		**Sociology of Health and Illness**	3.00	15	M 3:00-4:50PM; W 4:00-4:50PM
AS.230.341	04	S		**Sociology of Health and Illness**	3.00	15	W 4:00-4:50PM; M 3:00-4:50PM
AS.230.346	01	S		**Economic Sociology of Latin America** *von der Heydt-Coca, Magda Zonia* This course will offer an overview of Latin America's economic reality as an intertwined process of economic and political domestic factors within the constraints of the world economy. Latin American development will be analyzed from a historical perspective. The first half of the semester the course will focus on the analysis of the economic developmental patterns starting in the middle of the 19thcentury to the populist era in the middle of the 20thcentury. In the second half of the semester, we will analyze in depth the contemporary neoliberal approach to development. Globalization is the force that drives economic, social and political processes in Latin America. The course will include case studies as well the social conflicts generated by the increasing polarization of the society. Students will be exposed to important sociological theories. Fulfills Economics for GSCD students.	3.00	25	TTh 10:30-11:45AM
AS.230.361	01	S		**Class and Culture** *Nelson, Timothy*	3.00	20	TTh 1:30-2:45AM

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course examines the intersection of social class and culture—both the popular culture of movies, TV, music, etc, and "culture" in the anthropological sense as the shared way of life of a people. The course is divided into three main sections: 1) concepts of class, culture and the ways in which they interact; 2) cultures of each major class within American society, beginning with the "Old" and "New Money" classes, the "New Class" of intelligentsia, the much-invoked Middle Classes, the shrinking Working Class, and continuing through the poverty-stricken Lower Classes; 3) issues of cultural consumption and production and their role in reproducing the class structure.			
AS.230.364	01	S		**Ethnic Violence in Comparative and Global Perspective** *Kumral, Sefika* This course provides a framework for understanding and analyzing different forms of ethnic violence including ethnic riots, ethnic wars, and genocides around the world. Beginning with foundational texts on defining ethnic groups, we will examine causes and dynamics of ethnic mobilization and violence from different disciplines and perspectives. Throughout the course, we will explore texts that treat key themes in studies of ethnic violence including globalization, economic development, inequality, dismantling of the developmental state, migration, state formation and failure, conflict resolution, and democratization; focusing on various cases of ethnic violence in different regions including Eastern Europe, Basque Region, Turkey, Sudan, India, Sri Lanka, China, and historical cases like Northern Ireland. Fulfills Non-Western History (NWHIST) requirement for IS GSCD students only.	3.00	15	TTh 1:30-2:45PM
AS.230.369	01	S		**Sociology in Economic Life** *Kuo, Huei-Ying* This course discusses how geopolitics, technology as well as social differentiation (such as race, class and gender) shape the structure of economic actions. Special attention will be paid to patterns of state-business relationship, labor processes, migrant economy, globalization and international division of labor. Fulfills Economics (ECON) requirement for IS GSCD students only.	3.00	20	TTh 10:30-11:45AM
AS.230.375	01	S	W	**Nations, States, and Boundaries** *Hung, Ho-Fung*	3.00	15	MW 1:30-2:45PM

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course explores the historical origins and development of the modern global political order based on sovereign nation-states, the crisis of this order through the twentieth century, as well as the unraveling of this order at the turn of the twenty-first century. We will focus on how dominant political organizations in the changing world order (such as states, political parties, and transnational governing bodies) have been shaped by different social forces (such as classes and ethnic groups) and vice versa. Topics covered include rise and fall of modern nationalism, formation of regional and global governing structures, "civilizational" turn of global politics, waves of separatism and redrawing of nation's boundaries after the Cold War, politics of immigration and citizenship, among others. Fulfills Non-Western History (NWHIST) requirement for IS GSCD students only.			
AS.230.379	01	S		**Undergraduate Research Seminar** *Edin, Kathryn* Seminar for Sociology students writing senior honor theses and conducting pre-approved independent research projects. Sociology majors only. Permission of instructor.	3.00	12	T 3:00-5:30PM
AS.230.383	01	QS		**Courts, Housing, and the City: A Research Seminar on Social Justice in Baltimore** *Pasciuti, Daniel Steven* This course will join an existing survey of the Housing Court in Baltimore City by the Public Justice Center (PJC) of Maryland to examine the role and process of evictions in the Baltimore civil litigation system. The course will examine the history of housing in Baltimore and the changing role of the courts in housing rights and law from the mid-20th century to the present. Working with the PJC's Human Right to Housing Project, students will be expected to participate in the survey collection process by attending Rent Court and participating in the data collection process, followed by cleaning and analysis of the data. Counts as American Politics/Sociology of the United States for GSCD Track.	3.00	12	T 3:00-5:30PM
AS.230.388	01	S		**Sociology of the Family** *Cherlin, Andrew J* Sociological perspectives on contemporary family life, including marriage and divorce, cohabitation, single parenthood, same sex partnerships, children's wellbeing, balancing work and family responsibilities, domestic violence, and government policy toward families.	3.00	15	TTh 1:30-2:45PM
AS.230.395	01	S	W	**Contemporary Social Theory** *Levien, Michael*	3.00	20	W 1:30-4:00PM

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will examine how major social theorists of the 20th century advanced upon the "classical" social theories of Marx, Weber, and Durkheim. As they grappled with the historical events and social concerns of the 20th century—the Russian revolution and its degeneration into Stalinism, the failure of communist movements in the West, the rise and fall of fascism and Nazism, the consolidation of capitalist democracies and welfare states, the emergence of anti-colonial movements in the "Third World," and the persistence of race, gender and sexuality as forms of domination—social theorists provided novel answers to classical questions of social theory: 1) what is the structure of modern society, how does it change, and how is it reproduced?; 2) what is the relation between social structures and ideas, knowledge, and subjectivity?; and 3) what are the conditions of possibility for human freedom? Theorists to be covered include Antonio Gramsci, Franz Fanon, W.E.B. Dubois, Georg Lukacs, Talcott Parsons, Herbert Marcuse, Jurgen Habermas, Louis Althusser, Pierre Bourdieu, Michel Foucault, Nancy Fraser, Patricia Hill Collins, Judith Butler, and Henri Lefebvre. In addition to understanding and comparing the theories, we will try to use them to understand contemporary societies.			
AS.230.435	01	S	W	**The China Boom** *Hung, Ho-Fung* This course addresses the origins, global impacts, and demise of China's economic ascendancy as a world economic and political powerhouse at the turn of the twenty-first century. The course will cover the historical origins of the China boom and impacts of the boom on global political economic order. It will also address the social-political imbalances within China that contribute to the global financial crisis and recent slowdown of the Chinese economy. Particular topics include late imperial and Maoist legacies' relation to contemporary economic growth, stages of China's capitalist development, China's outward investment in the developing world, formation and limits of US-China economic symbiosis, and China's participation in global governance, among others. Fulfills Economics (ECON) requirement for IS GSCD students only.	3.00	15	MW 4:30-5:45PM
AS.230.460	01	QS		**Research Seminar on Stratification in the Modern World Economy: 1600-2014** *Karatasli, Sahan Savas*	3.00	12	Th 3:00-5:30PM

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course examines stratification in the modern world economy from the 16th century to today, covering classical and contemporary theoretical perspectives and empirical studies on the hierarchical structure of the capitalist world economy (including Baranko Milanovic, Thomas Pikkety, Andre Gunder Frank, Giovanni Arrighi, Christopher Chase-Dunn, P. Korzeniewicz and T. Moran, W. W. Rostow). Students will be expected to recreate and extend these empirical studies and engage in a quantitative discussion of theories of global inequality and development. In doing so, we will discuss how methodological choices, research designs, choice of indicators and inequality measures affect the outcomes and conclusions of this research. Using this theoretical and empirical background, the course will engage key questions on the contemporary and historical conditions of world inequality such as; has world income inequality been increasing or decreasing over time? Do we see stability or change in the hierarchical structure of the capitalist world economy? What are the consequences for contemporary rise of China and recent global financial meltdown for world income inequality? What will stratification in the world economy look like in the 21st century? Counts as IR/Global Sociology or Economics/Economic Sociology for GSCD Track.			
AS.360.331	01	S		**Methods for Policy Research** *Morgan, Barbara Anne* This course will introduce students to quantitative methods for studying social policy problems. Topics to be covered include descriptive statistics and sampling, correlation and causation, simple and multiple regression, experimental methods, and an introduction to cost-benefit analysis. The emphasis will be on the selection, interpretation and practical application of these methodologies in specific policy settings, rather than with formal proofs. Skills will be reinforced by hands-on exercises using statistical software. Over the course of the semester, students will critically analyze policy reports and empirical research in a range of policy areas and learn how to present this research to a non-specialist audience. Finally, we will discuss the pros and cons of quantitative vs. qualitative methodologies. The course will conclude with group presentations that draw on all these skills. Enrollment restricted to Social Policy minors only.	3.00	15	TBA
AS.360.357	01	S	W	**Baltimore as an Urban Laboratory** *Deluca, Stefanie*	3.00	15	TBA

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course uses the city of Baltimore as a lens through which to explore issues of urban inequality. We will focus on Baltimore's history of racial segregation and concentrated poverty, and its effect on the social and economic well-being of the city and its residents, with attention to education, employment, health and crime. Students will learn how to employ Census data, GIS approaches, and sociological research to inform questions about population change, inequality and the distribution of resources across the city and metropolitan region. Students will also work on one or more policy relevant studies based in Baltimore, including: a project on abandoned and vacant housing, a desegregation intervention, and a longitudinal study of inner city youth. Finally, students will become familiar with Baltimore City's programs and policy approaches to addressing the city's most pressing problems, and will design innovative and effective and innovative solutions as part of their course assignments. Enrollment restricted to Social Policy minors only.			
AS.360.366	01	S	W	**Public Policy Writing Workshop** *Longman, Phillip* This workshop is designed to hone the analytical and communications skills necessary for effective formulation and advocacy of public policy. Topics include how to develop op-ed pieces and other forms of advocacy journalism, memoranda, position papers, and grant proposals. The workshop puts special stress on how to make a clear and persuasive exposition of complex or counter-intuitive policy arguments in the market place of ideas, including the challenges of writing for popular journals and communicating to specific audiences both in and out of government. Students receive intensive individual instruction, including close editing of their work and advice on how to publish or promote it in the public sphere. Enrollment restricted to Social Policy minors only.	3.00	15	TBA
AS.360.372	01	S	W	**Poverty and Public Policy** *Edin, Kathryn* This course examines the causes and consequences of U.S. urban poverty, it's implications for health and wellbeing, and explores strategies for addressing it. We cover the major theoretical explanations scholars have advanced to explain the persistence of urban poverty including labor markets, residential segregation, welfare policy, family structure, and the criminal justice system. Within each topic area, students are introduced to a range of interventions aimed at alleviating urban poverty. Students will conduct a formal policy analysis of 20 pages and participate in a mock congressional hearing. Permission required for Social Policy minors.	3.00	15	TBA
AS.360.380	01	S	W	**Making America Social Policy** *Schlozman, Daniel*	3.00	15	TBA

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course analyzes the distinctive US welfare state in historical and comparative perspective. We begin with a survey of the policy context, an historical overview from the poorhouses through the Great Society, and a tour of welfare states across the rich democracies. We then survey developments – and explain the actual workings of policy – across jobs, education, welfare, pensions, and health care. We explore the institutional and political factors behind their divergent trajectories through conservative revival and the age of Obama. Students will write a seminar paper exploring policy development over time in a program or area of their choosing. Enrollment restricted to Social Policy minors only.			

Study of Women, Gender, & Sexuality

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.060.348	01	H	W	**Virginia Woolf and Bloomsbury** *Mao, Douglas* An exploration of the achievements and investments of one of the most influential coteries in the history of Britain. In addition to delving into key fictions by Virginia Woolf, we will examine novels by Leonard Woolf and E. M. Forster, art criticism by Roger Fry and Clive Bell, biographical essays by Lytton Strachey, economic writings by John Maynard Keynes, and poetry by T. S. Eliot.	3.00	18	T 1:30-3:50PM
AS.100.372	01	HS	W	**The Victorians** *Walkowitz, Judith* This course focuses on the politics of everyday life, consumption, intimate relations, and concepts of the self in Victorian Britain (1837-1901). Particular attention will be devoted to Victorian visual culture, including exhibitions, built environment, decorative arts and leisure culture. Other themes include popular nationalism, class cultures, feminism and body politics, Empire and racial thought. Cross-listed with WGS and Program in Museums and Society	3.00	20	W 1:30-3:50PM
AS.100.424	01	HS	W	**Women & Modern Chinese History** *Meyer-Fong, Tobie* This course examines the experience of Chinese women, and also how writers, scholars, and politicians (often male, sometimes foreign) have represented women's experiences for their own political and social agendas. Cross listed with East Asian Studies.	3.00	15	W 1:30-3:50PM
AS.140.350	01	HS	W	**Disability in 20th century America: Rights, Restrictions, Reproduction** *Schmidt, Marion Andrea* Is disability a biological fact or determined by culture? This class discusses different ideas of difference in the context of disability rights, professional power, reproductive technology and bioethics. Cross-listed with Studies of Women, Gender, and Sexuality	3.00	15	TTh 10:30-11:45AM
AS.140.353	01	HS		**Women, Health, and Medicine in Modern America** *Stillwell, Devon Elise* This course explores women's interactions with science, medicine, and health in the late-19th and 20th century United States. It is framed by an interest in medicialization, sex/gender, and feminism. Cross-listed with Studies of Women, Gender, and Sexuality.	3.00	20	M 3:00-5:20PM
AS.180.252	01	S	W	**Economics of Discrimination** *Morgan, Barbara Anne*	3.00	30	MW 1:30-2:45PM

Study of Women, Gender, & Sexuality

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				What does the empirical evidence show, and how can we explain it? How much of the difference in observed outcomes is driven by differences in productivity characteristics and how much is due to discrimination? How have economists theorized about discrimination and what methodologies can be employed to test those theories? What has been the impact of public policy in this area; how do large corporations and educational institutions respond; and what can we learn from landmark lawsuits? The course will reinforce skills relevant to all fields of applied economics, including critical evaluation of the theoretical and empirical literature, the reasoned application of statistical techniques, and analysis of current policy issues.			
AS.200.204	01	S	W	**Human Sexuality** *Kraft, Chris S* Course focuses on sexual development, sexuality across the lifespan, gender identity, sexual attraction and arousal, sexually transmitted disease, and the history of commercial sex workers and pornography. Juniors and seniors only within the following majors/minors: Behavioral Biology, Biology, Neuroscience, Psychological & Brain Sciences, Public Health, and the Study of Women, Gender, & Sexuality. All registration will be done during the normal registration period and you must meet all requirements to register. Formerly taught as AS.200.302.	3.00	25	T 12:00-2:30PM
AS.200.204	02	S	W	**Human Sexuality**	3.00	25	T 9:00-11:30AM
AS.215.353	01	H	W	**Women Writing in Latin America: Prose and Poetry by Sor Juana, Mistral, Lisoba, Pizarnik, Castellanos, and other poets** *Castro-Klaren, Sara* The first objective of the course is to train students in close reading and analysis of literary texts. The second objective is to read prose and poetry by some of the canonical texts in the Latin American tradition written by women. Taught in English.	3.00	15	W 1:30-4:00PM
AS.290.420	01	S	W	**Human Sexual Orientation** *Kraft, Chris S* This course will examine the historical and current theories of sexual orientation and sexual variation development by examining the biological, psychological and social contributing factors that influence the development of sexual orientations and variations along with treatment and modification of problematic sexual behaviors. Limited to Juniors and Seniors with PBS, Neuroscience, Public Health, Behavioral Biology, and Biology majors, or Juniors and Seniors with PBS or Women's Studies minors.	3.00	25	T 3:00-5:30PM
AS.300.363	01	H	W	**Reading Judith Shakespeare** *Patton, Elizabeth*	3.00	12	W 1:30-4:00PM

Study of Women, Gender, & Sexuality

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Virginia Woolf's account of the thwarted career of Shakespeare's hypothetical sister, Judith, frames our reading of plays and poetry by Shakespeare and contemporary women writers, including Isabella Whitney, Elizabeth Cary, Mary Sidney, Aemelia Lanyer, Mary Wroth, and others. Students will create fictional biographies of "Judith Shakespeare" and her literary accomplishments. Open to all students.			
AS.300.365	01	H	W	**Desire in the Fin de siècle** *Eakin Moss, Anne* This course examines the obsession with desire at the turn of the 20th century in literature, drama, philosophy and social thought and its implications for notions of self and community in modernity. We will read comparatively across European, Russian and American cultures, including Stoker's Dracula, Hamsun's Hunger, plays by Chekhov, Strindberg, Ibsen, Wilde, and stories by Tolstoy, Gorky, Chopin and Larsen.	3.00	20	TTh 10:30-11:45AM
AS.310.116	01	H		**Romantic Love in Chinese Literature** *Joo, Fumiko* This course aims to introduce students to a variety of literary texts featuring romantic love from the 9th to the mid-20th centuries in China. The target materials cover a wide range of literary products from Bo Juyi's court poem to the modern Shanghai novella by the woman writer Zhang Ailing (Eileen Chang). As we read romance in a variety of narrative forms such as fiction, drama, and poetry, we will examine changing ideas about marriage, love, sexuality, family, emotion, and morality within the literary discourse as well as in society. Thus, students are expected to connect various literary texts about romance to their socio-historical, literary, and political surroundings. At the same time, we will discuss the shifting significance of romance for writers and reading public and consider how literary texts formed ideas about romance in society. The course is organized chronologically and thematically. Reading assignments are all in English.	3.00	25	MW 1:30-2:45PM
AS.363.302	01	H		**Queer Identity?** *Chilton, Jacob Israel* What does "queer" mean? And who gets to say? This course examines tensions, ambiguities, and contradictions that have emerged in popular, political, and theoretical discourses over the past 25 years.	3.00	15	Th 1:30-4:00PM
AS.363.302	01	S		**Queer Identity?**	3.00	15	Th 1:30-4:00PM
AS.363.303	01	H	W	**Poetics and Politics of Sex: Intimacy and Its Discontents** *Shomura, Chad* This course explores problems with normative intimacies such as monogamy, family, and intimate publics. It asks what intimacies might be invented amidst discontent with their available forms.	3.00	15	T 2:30-5:00PM
AS.363.417	01	HS		**Internship/Practicum: Critical Theory & the Possibility of Social Justice** *Krauss, Amy Beth*	4.00	15	Th 4:00-6:30PM

Study of Women, Gender, & Sexuality

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Students will examine concepts of experience, social justice and transformation, governance and critical thought in connection with 4 hours of internship work in a Baltimore City organization per week.			

Theatre Arts & Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.211.312	01	H		**Acting French: learning about French language and culture through theater** *Cook-Gailloud, Kristin* Performing a play in a foreign language not only improves language skills, but develops the ability to express oneself through the body and to communicate both efficiently and elegantly. Using excerpts from popular French stage plays by Camus, Sartre, Feydeau, Ionesco, Pagnol and Rostand among others, this course aims to help students to 1) improve French pronunciation, intonation, syntax, and vocabulary; 2) appreciate and understand linguistic nuance and socio-cultural practices; 3) learn fundamentals of acting that carry over into everyday communication, from body language and vocal projection to the expression of emotion and improvisation. Students will view filmed representations of select plays as well as present an end-of-semester staging. Recommended course background: AS.210.301.	3.00	12	MWF 12:00-12:50PM
AS.225.300	01	H		**Contemporary Theatre & Film** *Astin, John* An introduction to the performing arts, including an overview of theatre history, acting styles and the interaction of art and society. A personal view from inside.	3.00	46	TTh 10:30-11:45AM
AS.225.302	01	H		**Acting & Directing Workshop II** *Astin, John* The Sanford Meisner repetition exercises are explored in detail. They form the basis of Workshop II. The Uta Hagen exercises are also pursued. As in Workshop I, the principal classroom activities will consist of scene work, exercises, lectures, and discussion. Some rehearsal will also take place during school hours. It is expected that substantial out-of-class time be spent on rehearsals and exercises. Recommended Course Background: AS.225.301	3.00	12	TTh 12:00-1:15PM
AS.225.303	01	H		**Acting & Directing Workshop III** *Astin, John* Special attention is given to the development of spontaneity and emotional freedom using the principles of Workshops I and II. Hands on work with John Astin's "The Process" and the second Silverberg workbook are employed, along with the Uta Hagen text. Boleslavsky and Michael Chekhov are introduced. The Clurman, Meisner, Stanislavsky and Strasberg approaches are included. Substantial out of class time is required. Recommended Course Background: Two acting courses.	3.00	12	W 1:30-4:00PM
AS.225.308	01	H		**Shakespeare in Performance** *Glossman, James*	3.00	15	M 6:00-8:30PM

Theatre Arts & Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The techniques and craft of following a Shakespearean text directly into character and action. Students will work with a selection of Shakespeare's plays --- HENRY IV, PART ONE; CYMBELINE; and THE TEMPEST --- in exploring specific ways in which the power of the lines can be translated dynamically and immediately into vocal and physical performance. This course can be repeated for credit, because it covers different topics. (Some background in the acting sequence is encouraged).			
AS.225.310	01	H		**Stagecraft** *Roche, William C* A hands-on approach to the technical and theoretical elements of production. Meets in the Merrick Barn Scene Shop. Permission Required.	3.00	6	TTh 10:30-11:45AM
AS.225.323	01	H		**Design for the Stage** *Roche, William C* The fundamentals of stage design, with an emphasis on process, including script analysis, research, conceptualization, and implementation, from the first reading of the play to opening night, along with an overview of theatre architecture from the Greeks to the current day and into our imagined future.	3.00	15	MW 12:00-1:15PM
AS.225.324	01	H	W	**Adaptation for the Stage** *Martin, Joseph H* For aspiring playwrights, dramaturgs, and literary translators, this course is a workshop opportunity in learning to adapt both dramatic and non-dramatic works into fresh versions for the stage. Students with ability in foreign languages and literatures are encouraged to explore translation of drama as well as adaptation of foreign language fiction in English. Fiction, classical dramas, folk and fairy tales, independent interviews, or versions of plays from foreign languages are covered.	3.00	10	W 3:00-5:30PM
AS.225.328	01	H	W	**The Existential Drama: Philosophy and Theatre of the Absurd** *Martin, Joseph H* Existentialism, a powerful movement in modern drama and theatre, has had a profound influence on contemporary political thought, ethics, and psychology, and has transformed our very notion of how to stage a play. Selected readings and lectures on the philosophy of Kierkegaard, Nietszche, Camus and Sartre -- and discussion of works for the stage by Sartre, Ionesco, Genet, Beckett, Albee, Pinter, Athol Fugard (with Nkani & Nshone), Heiner Müller and the late plays of Caryl Churchill. Opportunities for projects on Dürrenmatt, Frisch, Havel, Witkiewicz, and Mrozek.	3.00	15	M 3:00-5:30PM

Theatre Arts & Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.225.329	01	H		**Acting and Directing Musical Theatre** *Denithorne, Margaret* Musical Theatre is a unique form of theatrical expression that requires special skills of its actors and directors. In this course, students will study the form and structure of musicals as they apply to acting and directing. Students will direct and perform musical numbers as well as book scenes from classic and contemporary American musicals.	3.00	12	T 6:00-8:30PM
AS.225.346	01	H		**Creative Improvisation** *Denithorne, Margaret* An exploration of the imagination and the senses using basic techniques of improvisation: exercises, conflict resolution, ensemble building, and theatre games. Texts: Spolin, Johnstone, LaBan and Feldencreis. Open to all students.	3.00	20	TTh 3:00-4:15PM
AS.225.346	02	H		**Creative Improvisation**	3.00	20	TTh 4:30-5:45PM

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.061.205	01	H	W	**Introduction to Dramatic Writing: Film** *Busó-García, Roberto* We will explore the basic principles of visual storytelling in narrative film as they apply to the design and execution of a screenplay. During the course of the semester, each student will work on different writing exercises as they search for their specific story and the best way to approach it and execute it. We will study different narrative tools and methods of screenwriting by analyzing specific films to ascertain how they work or fail to do so at script level. Through in-class critiques, group discussions and one-on-one sessions, students will apply these techniques to their own work as they undergo the process of designing, breaking down, outlining and writing a screenplay for a short film. In-class analysis and debate on the strengths and challenges posed by the students' work will help shape the thematic emphasis of the second half of the course.	3.00	15	T 4:30-6:50PM
AS.061.376	01		W	**Arts and Culture Journalism: Interactive Media, Online Publishing** *Ober, Caroline* Students will participate in the ongoing creation of BmoreArt.com, an online arts and culture publication that serves the Baltimore community. In conjunction with visiting professionals, students will investigate the Baltimore cultural community and create different types of editorial content using interactive media including film, video, sound, and writing. Students will produce creative content utilizing their individual areas of expertise - such as visual art, art history, music, literary arts, film, and theater - while working together as a professional organization. A strong emphasis will be placed on the student's collaborative participation and creative experimentation. Students with differing backgrounds in media will approach this project from unique perspectives, which will be valued and cultivated. Students with previous experience in journalism are welcome. An introductory writing or film course is suggested as a prerequisite.	3.00	15	T 4:30-6:50PM
AS.061.404	01		W	**Advanced Dramatic Writing: Film** *Busó-García, Roberto* Intensive workshop course where students will write both a first draft and a full revision of a feature length screenplay. Classes will be designed and centered on the specific challenges of the students' works-in-progress, with an emphasis on exploring and discussing different narrative approaches and solutions that will enhance their writing and revision processes. Select films will be screened and analyzed as they pertain to the students' scripts. Students will aim to have a polished draft of their screenplay to be submitted to industry-recognized screenwriting labs at the end of the semester.	3.00	10	T 1:30-3:50PM
AS.212.205	01	H		**Winter Is Coming: Writing and Rewriting French Dark Ages** *Alhinho, Marie Elisabeth*	3.00	12	TTh 3:00-4:15PM

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will not aim at drawing the exhaustive literary landscape of French Middle Ages, neither will it be a Comparative Literature or History class. It may be considered a gateway to French Medieval literature, given that the Modern Fantasy has obviously improved the last decades, the latter being built as a rewriting of Medieval themes and Western European folklore. Looking at texts originally written in Old French, including prose and poetry, but also at the French Medieval iconography, we will try to understand the old roots of the Modern and so popular (but sacrificing) Fantasy Literature. Basic French will be required.			
AS.214.479	01	H	W	**Dante Visits the Afterlife: The Divine Comedy** *Stephens, Walter E* Dante's Divina commedia is the greatest long poem of the Middle Ages; some say the greatest poem of all time. We will study the Commedia critically to find: (1) What it reveals about the worldview of late-medieval Europe; (2) how it works as poetry; (3) its relation to the intellectual cultures of pagan antiquity and Latin (Catholic) Christianity; (4) its presentation of political and social issues; (5) its influence on intellectual history, in Italy and elsewhere; (6) the challenges it presents to modern readers and translators; (7) what it reveals about Dante's understanding of cosmology, world history and culture. We will read and discuss the Commedia in English, but students will be expected to familiarize themselves with key Italian terms and concepts. Students taking section 02 (for 4 credits) will spend an additional hour working in Italian at a time to be mutually decided upon by students and professor.	3.00	12	TTh 10:30-11:45AM
AS.214.479	02	H	W	**Dante Visits the Afterlife: The Divine Comedy**	4.00		TTh 10:30-11:45AM
AS.215.353	01	H	W	**Women Writing in Latin America: Prose and Poetry by Sor Juana, Mistral, Lisoba, Pizarnik, Castellanos, and other poets** *Castro-Klaren, Sara* The first objective of the course is to train students in close reading and analysis of literary texts. The second objective is to read prose and poetry by some of the canonical texts in the Latin American tradition written by women. Taught in English.	3.00	15	W 1:30-4:00PM
AS.216.370	01	H	W	**Israel Through Prose** *Stahl, Neta* This course examines representations of various aspects of Israeli society and culture in contemporary Israeli prose. The course will follow both a thematic and chronological path in order to study the ways in which Israeli prose reflects political, ideological, social and cultural aspects of contemporary Israel. In this context, we will read works by several major authors such as: Agnon, Shabtai, Kahanah-Carmon, Oz, Kenaz, Yehoshua, Grossman, Castel-Bloom, Matalon, Laor, Kashua and Hoffmann.	3.00	16	TTh 10:30-11:45AM
AS.216.370	02	H	W	**Israel Through Prose**	4.00	4	TTh 10:30-11:45AM
AS.216.444	01	H	W	**Apocolaypse Now: Apocalpype in Literature and Cinema**	3.00	15	T 1:30-4:00PM

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Stahl, Neta This course studies literary and cinematic representations of the apocalypse. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and seek to trace the narrative dynamics as well as literary and cinematic means of apocalyptic representations. We will discuss works from various periods, languages, cultures and religions. Among the issues to be discussed: what is the apocalypse, war and the apocalypse, the Holocaust as apocalypse, Biblical apocalypse, post-apocalyptic works, the apocalypse in popular culture, realism, anti-realism and the apocalypse.			
AS.220.105	01	H	W	**Fiction Poetry Writing I** *Goldberg, Benjamin Ross* A course in the arts of realist fiction and traditional verse, with reading in American literature, most recently: Eudora Welty, Vladimir Nabokov, Henry James, Donald Justice, Robert Frost and Gwendolyn Brooks. Students will learn to read as writers; they will compose short stories and poems of their own. Classes meet two or three times a week with a day set aside for a writing workshop. This course is part one of the year-long Introduction to Fiction and Poetry, and must be taken before AS.220.106.	3.00	15	MWF 9:00-9:50AM
AS.220.105	02	H	W	**Fiction Poetry Writing I** *Raskulinecz, Madeline K*	3.00	15	MWF 10:00-10:50AM
AS.220.105	03	H	W	**Fiction Poetry Writing I** *Childers, Christopher Jackson*	3.00	15	MWF 10:00-10:50AM
AS.220.105	05	H	W	**Fiction Poetry Writing I** *Eisman, Benjamin L*	3.00	15	MWF 11:00-11:50AM
AS.220.105	06	H	W	**Fiction Poetry Writing I** *Landry, Byron Nicolas*	3.00	15	MWF 11:00-11:50AM
AS.220.105	07	H	W	**Fiction Poetry Writing I** *Dolling, Carmen S*	3.00	15	MWF 11:00-11:50AM
AS.220.105	08	H	W	**Fiction Poetry Writing I** *Hudgins, Jessica Rae*	3.00	15	MWF 12:00-12:50PM
AS.220.105	12	H	W	**Fiction Poetry Writing I** *Frantz, Joseph Kenneth*	3.00	15	TTh 10:30-11:45AM
AS.220.105	13	H	W	**Fiction Poetry Writing I** *Siskel, Callie G*	3.00	15	TTh 10:30-11:45AM
AS.220.105	14	H	W	**Fiction Poetry Writing I** *Winchester, Lauren N*	3.00	15	TTh 12:00-1:15PM
AS.220.105	22	H	W	**Fiction Poetry Writing I** *Nabi, Zehra*	3.00	15	MWF 9:00-9:50AM
AS.220.106	03	H	W	**Fiction Poetry Writing II** *Morton, Matthew T* The second half of IFP, a course in counter-traditional antirealist fiction and free verse (Emily Dickinson, Virginia Woolf, Elizabeth Bishop, Franz Kafka, Italo Calvino, and William Carlos Williams). This course is a prerequisite for most upper level courses.	3.00	15	MWF 10:00-10:50AM
AS.220.106	04	H	W	**Fiction Poetry Writing II** *Ernst, Cody Robert*	3.00	15	MWF 10:00-10:50AM
AS.220.106	05	H	W	**Fiction Poetry Writing II** *Morton, Matthew T*	3.00	15	MWF 11:00-11:50AM

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.220.106	06	H	W	**Fiction Poetry Writing II** *Mitchell, Robert Alan, Jr.*	3.00	15	MWF 11:00-11:50AM
AS.220.106	07	H	W	**Fiction Poetry Writing II** *Stintzi, Daniel P*	3.00	15	MWF 11:00-11:50AM
AS.220.106	08	H	W	**Fiction Poetry Writing II** *Koekkoek, Taylor Ryan*	3.00	15	MWF 12:00-12:50PM
AS.220.106	09	H	W	**Fiction Poetry Writing II** *Lynch, Molly Therese Kathleen*	3.00	15	MWF 12:00-12:50PM
AS.220.106	10	H	W	**Fiction Poetry Writing II** *Daynes, Taylor Darlington*	3.00	15	MWF 12:00-12:50PM
AS.220.106	11	H	W	**Fiction Poetry Writing II** *Booe, Michael A*	3.00	15	TTh 9:00-10:15AM
AS.220.106	12	H	W	**Fiction Poetry Writing II** *McNamara, Nathan S*	3.00	15	TTh 10:30-11:45AM
AS.220.106	13	H	W	**Fiction Poetry Writing II** *Grasser, John P*	3.00	15	TTh 10:30-11:45AM
AS.220.106	14	H	W	**Fiction Poetry Writing II** *McNamara, Nathan S*	3.00	15	TTh 12:00-1:15PM
AS.220.106	15	H	W	**Fiction Poetry Writing II** *Grasser, John P*	3.00	15	TTh 12:00-1:15PM
AS.220.106	16	H	W	**Fiction Poetry Writing II** *Thompson, Elizabeth M*	3.00	15	TTh 12:00-1:15PM
AS.220.106	17	H	W	**Fiction Poetry Writing II**	3.00	15	TTh 10:30-11:45AM
AS.220.106	19	H	W	**Fiction Poetry Writing II** *Kauffman, Kjerstin A*	3.00	15	TTh 10:30-11:45AM
AS.220.106	20	H	W	**Fiction Poetry Writing II**	3.00	15	TTh 12:00-1:15PM
AS.220.106	21	H	W	**Fiction Poetry Writing II** *Stintzi, Daniel P*	3.00	15	MWF 10:00-10:50AM
AS.220.106	22	H	W	**Fiction Poetry Writing II** *Xie, Yi*	3.00	15	MWF 10:00-10:50AM
AS.220.106	23	H	W	**Fiction Poetry Writing II** *Heney, Julia L*	3.00	15	MWF 11:00-11:50AM
AS.220.106	24	H	W	**Fiction Poetry Writing II**	3.00	15	MWF 12:00-12:50PM
AS.220.108	01	H	W	**Introduction to Fiction & Nonfiction** *Cavanaugh-Simpson, Joanne* A course in realist fiction and nonfiction, with readings by Eudora Welty, Vladimir Nabokov, Henry James; George Orwell, Beryl Markham and Truman Capote. Students compose short stories and essays with attention to literary models. AS.220.105 can be substituted for AS.220.108.	3.00	17	T 6:00-8:30PM
AS.220.200	01	H		**Introduction to Fiction** *Davies, Tristan* Study in the reading and writing of short narrative with focus on basic technique: subject, narrative voice, character, sense of an ending, etc. Students will write weekly sketches, present story analyses in class, and workshop one finished story. Selected parallel readings from such models of the form as Henry James, Anton Chekov, James Joyce, John Cheever, Alice Munro, and others. Permission Required. (Formerly AS.220.191.)	3.00	15	M 1:30-3:50PM
AS.220.200	02	H		**Introduction to Fiction** *Blake, Glenn*	3.00	15	Th 3:00-5:20PM
AS.220.200	03	H		**Introduction to Fiction** *Klam, Matthew*	3.00	15	W 3:00-5:20PM

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.220.201	01	H		**Introduction to Poetry Writing** *Arthur, James P* A study of the fundamentals and strategies of poetry writing. This course combines analysis and discussion of traditional models of poetry with workshop critiques of student poems and student conferences with the instructor. Permission Required. Prerequisite: AS.220.105 AND AS.220.106.(Formerly 220.141.)	3.00	15	M 1:30-3:50PM
AS.220.201	02	H		**Introduction to Poetry Writing** *Salter, Mary Jo*	3.00	15	F 1:30-3:50PM
AS.220.310	01	H	W	**Intermediate Fiction: Nature Writing** *Leithauser, Brad* Our central text will be Thoreau's "Walden". Most of our readings will be American, though we will read excerpts from Lucretius and Darwin. We will examine various ways in which the natural world has been depicted in nonfiction, fiction, and poetry. Students will write critical papers on nature writers as well as to do creative nature writing of their own. Our authors may include: Emerson, Rachel Carson, Loren Eiseley, John Updike, Robert Frost, Donald Culross Peattie.	3.00	15	W 1:30-3:50PM
AS.220.311	01	H		**Intermediate Fiction: Point of View** *Noel, Katharine* A consideration of not just the obvious point-of-view choices writers face - first person or third? one perspective or many? - but also questions of reliability and distance. Reading may include Chekhov, Faulkner, Nabokov, Munro, Diaz, and others. Students will write and workshop their own short stories.	3.00	15	F 1:30-3:50PM
AS.220.315	01	H		**Intermediate Poetry: Sound Effects** *Malech, Dora Rachel* This course explores the crucial role sound plays in the power of poetry, from early roots in oral traditions to contemporary contexts. Through readings, discussion, academic reflection, and creative exercises, participants will explore a range of sound techniques in their own poems and in the poems of others.	3.00	15	M 3:00-5:20PM
AS.220.317	01	H	W	**Writing about Science II** *Grimm, David* Skills taught will include how to construct a long-form narrative, how to create characters, and how to maintain reader interest throughout. Class speakers will include award-winning science journalists from New York to DC, who will share the secrets of their craft. The primary writing assignment will be a 3,000-word feature piece that is pitched, reported, and workshopped throughout the course of the class. "Writing About Science I"(formerly Becoming a Science Journalist) is strongly recommended as a prerequisite for this course. Students who have not taken this course will need the permission of the instructor to enroll.	3.00	15	F 4:00-6:20PM

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.220.327	01	H		**Intermediate Fiction: Characters** *Leithauser, Brad* A study of fictional persons in works by Fitzgerald, Joyce, W.C. Williams, and Rilke. Students write sketches and compose at least one complete story.	3.00	15	T 3:00-5:20PM
AS.220.378	01	H		**Poetic Forms II** *Williamson, Greg W* The course builds on the information and techniques encountered in Poetic Forms I, and uses them in reading and imitating a range of contemporary poets. Permission Required.	3.00	15	W 1:30-3:50PM
AS.220.379	01	H		**Intermediate Poetry: Performing Shakespeare** *Yezzi, David D* This course, which begins with careful textual study, offers students the opportunity to experience Shakespeare's language as a spoken expression, marked by rhythm, sound, rhetoric, and emotion. By working with (and ultimately committing to memory) sonnets, speeches, and scenes, students will deepen their understanding of Shakespeare's art, through performance and brief critical writings.	3.00	15	T 1:30-3:50PM
AS.220.380	01	H		**Intermediate Fiction: The Scene** *Blake, Glenn* Emphasis in writing scenes-the building blocks of fiction-units of action, units of dialogue. Readings will include the stories of Chekhov, Cheever, Hemingway, and Carver. Recommended Course Background: AS.220.200	3.00	15	T 1:30-3:50PM
AS.220.385	01	H	W	**Intermediate Nonfiction: Communicating Risk** *Biddle, Wayne* We are faced with a barrage of information about risks to our health, from fatty foods to cosmic rays. Because risk is a complex notion, the way it is defined, interpreted and reported to the public has a tremendous impact on response. We will examine these three components of risk communication with the goal of seeing through how they are commonly manipulated.	3.00	15	W 1:30-3:50PM
AS.220.400	01	H		**Advanced Poetry Workshop** *Irwin, John T* The capstone course in poetry writing. Consideration of various poetic models in discussion, some assigned writing, primarily workshop of student poems. Students will usually complete a "collection" of up to 15 poems. Permission Required. (Formerly AS.220.396.)	3.00	15	M 1:30-3:50PM

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.220.401	01	H		**Advanced Fiction Workshop** *Klam, Matthew* The capstone course in writing fiction, primarily devoted to workshop of student stories. Some assignments, some discussion of literary models, two or three completed student stories with revisions. Completion of Intermediate Fiction is required for admission. Permission Required. (Formerly AS.220.355)	3.00	15	Th 3:00-5:20PM
AS.220.401	02	H		**Advanced Fiction Workshop** *Puchner, Roderic P*	3.00	15	W 1:30-3:50PM
AS.220.412	01	H		**Readings in Poetry:Eliot,Crane & Stevens** *Irwin, John T* An examination of the poetry of Eliot, Crane and Stevens in the context of the modernist movement in the verbal and visual arts. Not a workshop course. Juniors and seniors majors are given preference.	3.00	15	W 1:30-3:50PM
AS.220.417	01	H	W	**Advanced Nonfiction Workshop** *Biddle, Wayne* Classes will be devoted to writing and collective editing of factual work of significant length and ambition, including essays, journalistic reports, histories, and biographies. Instructor permission required.	3.00	15	T 1:30-3:50PM
AS.220.424	01	H	W	**Science as Narrative** *Panek, Richard* Class reads the writings of scientists to explore what their words would have meant to them and their readers. Discussion will focus on the shifting scientific/cultural context throughout history. Authors include Aristotle, Copernicus, Galileo, Descartes, Newton, Darwin, Freud, Einstein, Heisenberg, Bohr, Crick and Watson.	3.00	15	T 1:30-3:50PM
AS.220.429	01	H		**Readings in Poetry: Poetry of Ireland Since 1900** *Arthur, James P* A close study of twentieth- and twenty-first-century Irish poetry. Course readings will include work by W.B. Yeats, Austin Clarke, Michael Longley, Seamus Heaney, Eiléan Ní Chuilleanáin, Eavan Boland, Ciaran Carson, and others. This is not a workshop course, but students will have the opportunity to respond artistically as well as analytically to the course readings.	3.00	15	T 1:30-3:50PM
AS.220.430	01	H		**Readings in Poetry: Lives of the Poets** *Yezzi, David D* Lives of the Poets: Hecht, Merrill, Sexton, Plath. “The intellect of man is forced to choose / perfection of the life, or of the work,” wrote Yeats. This course examines important intersections between the life and the work in the poems and memoirs of four, biographically interconnected poets. Poems treating subjects of depression and mental illness (Hecht, Sexton, Plath), the terror of war (Hecht), the depredations of disease (Merrill), and suicide (Sexton, Plath), find their sources in these poets fascinating—and, to varying degrees, troubled—lives.	3.00	15	Th 1:30-3:50PM

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.220.431	01	H		**Readings in Fiction: Origins of the Short Story** *Davies, Tristan* This course will trace the development of the short story beginning with its tentative emergence from the shadow of the novel, through the early commercial period triggered by the invention of inexpensive newsprint, and to its full maturation at the turn of the 20th century. Works by E.T.A. Hoffmann, Heinrich Von Kleist, Alexander Pushkin, Nikolai Gogol, Ivan Turgenev, Guy de Maupassant, Henry James, Anton Chekhov, and Edith Wharton.	3.00	15	T 3:00-5:20PM
AS.220.432	01	H		**Readings in Fiction: Innovators of the Short Story** *Puchner, Roderic P* In this class, we'll look at particularly influential writers who've had a lasting effect on the form of the short story, reshaping it through their own idiosyncratic vision. Authors may include Hawthorne, Kafka, Chekhov, Babel, Joyce, Borges, O'Connor, Welty, Barthelme, Paley, and Munro.	3.00	15	M 3:00-5:20PM
AS.225.324	01	H	W	**Adaptation for the Stage** *Martin, Joseph H* For aspiring playwrights, dramaturgs, and literary translators, this course is a workshop opportunity in learning to adapt both dramatic and non-dramatic works into fresh versions for the stage. Students with ability in foreign languages and literatures are encouraged to explore translation of drama as well as adaptation of foreign language fiction in English. Fiction, classical dramas, folk and fairy tales, independent interviews, or versions of plays from foreign languages are covered.	3.00	10	W 3:00-5:30PM
AS.310.116	01	H		**Romantic Love in Chinese Literature** *Joo, Fumiko* This course aims to introduce students to a variety of literary texts featuring romantic love from the 9th to the mid-20th centuries in China. The target materials cover a wide range of literary products from Bo Juyi’s court poem to the modern Shanghai novella by the woman writer Zhang Ailing (Eileen Chang). As we read romance in a variety of narrative forms such as fiction, drama, and poetry, we will examine changing ideas about marriage, love, sexuality, family, emotion, and morality within the literary discourse as well as in society. Thus, students are expected to connect various literary texts about romance to their socio-historical, literary, and political surroundings. At the same time, we will discuss the shifting significance of romance for writers and reading public and consider how literary texts formed ideas about romance in society. The course is organized chronologically and thematically. Reading assignments are all in English.	3.00	25	MW 1:30-2:45PM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.550.111	01	EQ		**Statistical Analysis I** *Torcaso, Fred* First semester of a general survey of statistical methodology. Topics include descriptive statistics, introductory probability, conditional probability, random variables, expectation, sampling, the central limit theorem, classical and robust estimation, confidence intervals, and hypothesis testing. Case studies from psychology, epidemiology, economics and other fields serve to illustrate the underlying theory. Some use of Minitab, Excel or R, but no prior computing experience is necessary. Recommended Course Background: four years of high school mathematics. Students who may wish to undertake more than two semesters of probability and statistics should consider EN.550.420-EN.550.430.	4.00	35	MWF 1:30-2:20PM; Th 9:00-9:50AM
EN.550.111	02	EQ		**Statistical Analysis I**	4.00	35	MWF 1:30-2:20PM; Th 10:30-11:20AM
EN.550.111	03	EQ		**Statistical Analysis I**	4.00	35	MWF 1:30-2:20PM; Th 12:00-12:50PM
EN.550.111	04	EQ		**Statistical Analysis I**	4.00	35	MWF 1:30-2:20PM; Th 1:30-2:20PM
EN.550.111	05	EQ		**Statistical Analysis I**	4.00	35	MWF 1:30-2:20PM; Th 3:00-3:50PM
EN.550.111	06	EQ		**Statistical Analysis I**	4.00	35	MWF 1:30-2:20PM; Th 4:30-5:20PM
EN.550.112	01	EQ		**Statistical Analysis II** *Athreya, Dwijavanti P* Second semester of a general survey of statistical methodology. Topics include two-sample hypothesis tests, analysis of variance, linear regression, correlation, analysis of categorical data, and nonparametrics. Students who may wish to undertake more than two semesters of probability and statistics should strongly consider the EN.550.420-430 sequence.	4.00	25	MWF 12:00-12:50PM; Th 9:00-9:50AM
EN.550.112	02	EQ		**Statistical Analysis II**	4.00	25	MWF 12:00-12:50PM; Th 10:30-11:20AM
EN.550.112	03	EQ		**Statistical Analysis II**	4.00	25	MWF 12:00-12:50PM; Th 12:00-12:50PM
EN.550.112	04	EQ		**Statistical Analysis II**	4.00	25	MWF 12:00-12:50PM; Th 3:00-3:50PM
EN.550.112	05	EQ		**Statistical Analysis II**	4.00	25	MWF 12:00-12:50PM; Th 4:30-5:20PM
EN.550.112	06	EQ		**Statistical Analysis II**	4.00	25	MWF 12:00-12:50PM; Th 9:00-9:50AM
EN.550.171	01	Q		**Discrete Mathematics** *Castello, Beryl* Introduction to the mathematics of finite systems. Logic; Boolean algebra; induction and recursion; sets, functions, relations, equivalence, and partially ordered sets; elementary combinatorics; modular arithmetic and the Euclidean algorithm; group theory; permutations and symmetry groups; graph theory. Selected applications. The concept of a proof and development of the ability to recognize and construct proofs are part of the course. Recommended Course Background: Four years of high school mathematics.	4.00	35	MWF 10:00-10:50AM; Th 3:00-3:50PM
EN.550.171	02	Q		**Discrete Mathematics**	4.00	35	MWF 10:00-10:50AM; Th 4:30-5:20PM
EN.550.171	03	Q		**Discrete Mathematics**	4.00	30	MWF 10:00-10:50AM; Th 9:00-9:50AM
EN.550.171	04	Q		**Discrete Mathematics**	4.00	30	MWF 10:00-10:50AM; Th 10:30-11:20AM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.550.211	01	Q		**Probability and Statistics for the Life Sciences** *Jedynak, Bruno* This is an introduction to statistics aimed at students in the life sciences. The course will provide the necessary background in probability with treatment of independence, Bayes theorem, discrete and continuous random variables and their distributions. The statistical topics covered will include sampling and sampling distributions, confidence intervals and hypothesis testing for means, comparison of populations, analysis of variance, linear regression and correlation. Analysis of data will be done using Excel.	4.00	30	MW 1:30-2:45PM; T 9:00-9:50AM
EN.550.211	02	Q		**Probability and Statistics for the Life Sciences**	4.00	30	MW 1:30-2:45PM; T 10:30-11:20AM
EN.550.211	03	Q		**Probability and Statistics for the Life Sciences**	4.00	30	MW 1:30-2:45PM; T 12:00-12:50PM
EN.550.211	04	Q		**Probability and Statistics for the Life Sciences**	4.00	30	MW 1:30-2:45PM; T 1:30-2:20PM
EN.550.211	05	Q		**Probability and Statistics for the Life Sciences**	4.00	30	MW 1:30-2:45PM; T 4:30-5:20PM
EN.550.291	01	EQ		**Lin Alg & Diff Equations** *Castello, Beryl* An introduction to the basic concepts of linear algebra, matrix theory, and differential equations that are used widely in modern engineering and science. Intended for engineering and science majors whose program does not permit taking both AS.110.201 and AS.110.302.	4.00	30	MWF 12:00-12:50PM; T 1:30-2:20PM
EN.550.291	02	EQ		**Lin Alg & Diff Equations**	4.00	30	MWF 12:00-12:50PM; T 3:00-3:50PM
EN.550.310	01	EQ		**Probability & Statistics for the Physical and Information Sciences & Engineering** *Torcaso, Fred* An introduction to probability and statistics at the calculus level, intended for engineering and science students planning to take only one course on the topics. Combinatorial probability, independence, conditional probability, random variables, expectation and moments, limit theory, estimation, confidence intervals, hypothesis testing, tests of means and variances, goodness-of-fit. Recommended course background: Co-requisite, Multivariable Calculus.	4.00	35	MWF 11:00-11:50AM; T 1:30-2:20PM
EN.550.310	02	EQ		**Probability & Statistics for the Physical and Information Sciences & Engineering**	4.00	35	MWF 11:00-11:50AM; T 3:00-3:50PM
EN.550.310	03	EQ		**Probability & Statistics for the Physical and Information Sciences & Engineering**	4.00	35	MWF 11:00-11:50AM; T 4:30-5:20PM
EN.550.311	01	EQ		**Probability and Statistics for the Biological Sciences and Engineering** *Lee, Nam H*	4.00	35	MWF 10:00-10:50AM; T 1:30-2:20PM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				An introduction to probability and statistics at the calculus level, intended for students in the biological sciences planning to take only one course on the topics. This course will be at the same technical level as EN.550.310. Students are encouraged to consider EN.550.420-430 instead. Combinatorial probability, independence, conditional probability, random variables, expectation and moments, limit theory, estimation, confidence intervals, hypothesis testing, tests of means and variances, and goodness-of-fit will be covered. Students cannot receive credit for both EN.550.310 and EN.550.311. Students cannot receive credit for EN.550.311 after having received credit for EN.550.420 or En.550.430. Recommended Course Corequisite: AS.110.202			
EN.550.311	02	EQ		**Probability and Statistics for the Biological Sciences and Engineering**	4.00	35	MWF 10:00-10:50AM; T 3:00-3:50PM
EN.550.362	01	EQ		**Introduction to Optimization II** *Fishkind, Donniell* An introductory survey of optimization methods, supporting mathematical theory and concepts, and application to problems of planning, design, prediction, estimation, and control in engineering, management, and science. Study of varied optimization techniques including linear programming, network-problem methods, dynamic programming, integer programming, and nonlinear programming. Appropriate for undergraduate and graduate students without the mathematical background required for EN.550.661.	4.00	25	MWF 11:00-11:50AM; T 3:00-3:50PM
EN.550.362	02	EQ		**Intro to Optimization II**	4.00	25	MWF 11:00-11:50AM; T 4:30-5:20PM
EN.550.371	01	EQ		**Cryptology and Coding** *Fishkind, Donniell* Computing experience. A first course in the mathematical theory of secure and reliable electronic communication. Cryptology is the study of secure communication: How can we ensure the privacy of messages? Coding theory studies how to make communication reliable: How can messages be sent over noisy lines? Topics include finite field arithmetic, error-detecting and error-correcting codes, data compressions, ciphers, one-time pads, the Enigma machine, one-way functions, discrete logarithm, primality testing, secret key exchange, public key cryptosystems, digital signatures, and key escrow. Recommended Course Background: AS.110.204	4.00	20	MWF 1:30-2:20PM; Th 10:30-11:20AM
EN.550.371	02	EQ		**Cryptology and Coding**	4.00	20	MWF 1:30-2:20PM; Th 9:00-9:50AM
EN.550.383	01	Q		**Python for Scientific Computing** *Lalescu, Cristian Constantin*	4.00	24	TTh 9:00-10:15AM; F 10:00-10:50AM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				An introduction to programming and the Python language in particular, with an emphasis on its use for scientific computing. We will discuss core language concepts, algorithms and data structures, and the use of modules from the scipy family for problem solving and postprocessing of results. Coding examples will be focused on appropriate topics in numerical analysis, such as equation solving, integration of ordinary differential equations, discrete Fourier transforms, interpolation, etc. Numerical methods and related mathematical concepts will be reviewed as needed. No previous experience with computer programming is required.			
EN.550.386	01	EQ		**Scientific Computing: Differential Equations** *Hedrick, Kathryn Ruth* A first course on computational differential equations and applications. Topics include floating-point arithmetic, algorithms and convergence, root-finding (midpoint, Newton, and secant methods), numerical differentiation and integration, and numerical solution of initial value problems (Runge–Kutta, multistep, extrapolation methods, stability, implicit methods, and stiffness). Theoretical topics such as existence, uniqueness, and stability of solutions to initial-value problems, conversion of higher order/ non-autonomous equations to systems, etc., will be covered as needed. Matlab is used to solve all numerical exercises; no previous experience with computer programming is required.	4.00	30	TTh 10:30-11:45AM; F 9:00-9:50AM
EN.550.415	01	NQ		**Practical Scientific Analysis of Big Data** *Budavari, Tamas* This course explores common issues around computational analysis of massive data. We will learn about numerical inaccuracies in calculations, work with databases, and venture out into parallel computing (multi-threading and CUDA). Students will be introduced to streaming algorithms and elements of robust statistics.	3.00	15	TTh 9:00-10:15AM
EN.550.420	01	EQ		**Intro To Probability** *Wierman, John Charles* Probability and its applications, at the calculus level. Emphasis on techniques of application rather than on rigorous mathematical demonstration. Probability, combinatorial probability, random variables, distribution functions, important probability distributions, independence, conditional probability, moments, covariance and correlation, limit theorems. Students initiating graduate work in probability or statistics should enroll in EN.550.620. Auditors are not permitted. Students can use any of the 6th, 7th or 8th editions of the textbook. Recommended Course Background: one year of calculus; Corequisite: multivariable calculus.	4.00	30	MWF 1:30-2:20PM; Th 10:30-11:20AM
EN.550.420	02	EQ		**Intro To Probability**	4.00	30	MWF 1:30-2:20PM; Th 12:00-12:50PM
EN.550.420	03	EQ		**Intro To Probability**	4.00	30	MWF 1:30-2:20PM; Th 9:00-9:50AM
EN.550.426	01	EQ		**Introduction to Stochastic Processes** *Wierman, John Charles*	4.00	25	MWF 11:00-11:50AM; T 10:30-11:20AM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Mathematical theory of stochastic processes. Emphasis on deriving the dependence relations, statistical properties, and sample path behavior including random walks, Markov chains (both discrete and continuous time), Poisson processes, martingales, and Brownian motion. Applications that illuminate the theory. Auditors are not permitted. Students may not earn credit for both EN.550.426 and EN.550.427.			
EN.550.426	02	EQ		**Introduction to Stochastic Processes**	4.00	25	MWF 11:00-11:50AM; T 12:00-12:50PM
EN.550.428	01	Q		**Stochastic Processes and Applications to Finance II** *Athreya, Dwijavanti P* A basic knowledge of stochastic calculus and Brownian motion is assumed. Topics include stochastic differential equations, the Feynman-Kac formula and connections to partial differential equations, changes of measure, fundamental theorems of asset pricing, martingale representations, first passage times and pricing of path-dependent options, and jump processes.	4.00	35	MW 1:30-2:45PM; T 9:00-9:50AM
EN.550.430	01	EQ		**Introduction to Statistics** *Younes, Elie L* Introduction to the basic principles of statistical reasoning and data analysis. Emphasis on techniques of application. Classical parametric estimation, hypothesis testing, and multiple decision problems; linear models, analysis of variance, and regression; nonparametric and robust procedures; decision-theoretic setting, Bayesian methods.	4.00	35	MW 3:00-4:15PM; Th 10:30-11:20AM
EN.550.430	02	EQ		**Introduction to Statistics**	4.00	35	MW 3:00-4:15PM; Th 12:00-12:50PM
EN.550.430	03	EQ		**Introduction to Statistics**	4.00	35	Th 3:00-3:50PM; MW 3:00-4:15PM
EN.550.431	01	EQ		**Statistical Methods in Imaging** *Jedynak, Bruno* Denoising, segmentation, texture modeling, tracking, object recognition are challenging problems in imaging. We will present a collection of statistical models and methods in order to address these, including the E.M. algorithm, Maximum Entropy Modeling, Particle filtering, Markov Random Fields and Belief Propagation. Co-listed with EN.580.466. Some practice of Matlab or R is highly recommended.	3.00	25	TTh 9:00-10:15AM
EN.550.439	01	EQ		**Time Series Analysis** *Torcaso, Fred* Time series analysis from the frequency and time domain approaches. Descriptive techniques; regression analysis; trends, smoothing, prediction; linear systems; serial correlation; stationary processes; spectral analysis.	4.00	26	MWF 9:00-9:50AM; Th 10:30-11:20AM
EN.550.439	02	EQ		**Time Series Analysis**	4.00	25	MWF 9:00-9:50AM; Th 10:30-11:20AM
EN.550.445	01	EQ		**Interest Rate and Credit Derivatives** *Audley, David*	4.00	26	MW 3:00-4:15PM; T 10:30-11:20AM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Advances in corporate finance, investment practice and the capital markets have been driven by the development of a mathematically rigorous theory for financial instruments and the markets in which they trade. This course builds on the concepts, techniques, instruments and markets introduced in EN.550.444. In addition to new topics in credit enhancement and structured securities, the focus is expanded to include applications in portfolio theory and risk management, and covers some numerical and computational approaches.			
EN.550.445	02	EQ		**Interest Rate and Credit Derivatives**	4.00	25	MW 3:00-4:15PM; T 10:30-11:20AM
EN.550.448	01	EQ		**Financial Engineering and Structured Products** *Audley, David* This course focuses on structured securities and the structuring of aggregates of financial instruments into engineered solutions of problems in capital finance. Topics include the fundamentals of creating asset-backed and structured securities—including mortgage-backed securities (MBS), stripped securities, collateralized mortgage obligations (CMOs), and other asset-backed collateralized debt obligations (CDOs)—structuring and allocating cash-flows as well as enhancing credit; equity hybrids and convertible instruments; asset swaps, credit derivatives and total return swaps; assessment of structure-risk interest rate-risk and credit-risk as well as strategies for hedging these exposures; managing portfolios of structured securities; and relative value analysis (including OAS and scenario analysis).	4.00	26	MW 12:00-1:15PM; F 12:00-12:50PM
EN.550.448	02	EQ		**Financial Engineering and Structured Products**	4.00	25	MW 12:00-1:15PM; F 12:00-12:50PM
EN.550.450	01	EQ		**Computational Molecular Medicine** *Geman, Donald J* Computational systems biology has emerged as the dominant framework for analyzing high-dimensional “omics” data in order to uncover the relationships among molecules, networks and disease. In particular, many of the core methodologies are based on statistical modeling, including machine learning, stochastic processes and statistical inference. We will cover the key aspects of this methodology, including measuring associations, testing multiple hypotheses, and learning predictors, Markov chains and graphical models. In addition, by studying recent important articles in cancer systems biology, we will illustrate how this approach enhances our ability to annotate genomes, discover molecular disease networks, detect disease, predict clinical outcomes, and characterize disease progression. Whereas a good foundation in probability and statistics is necessary, no prior exposure to molecular biology is required (although helpful).	4.00	25	MW 4:30-5:45PM
EN.550.453	01	EQ		**Mathematical Game Theory** *Castello, Beryl*	4.00	25	MW 3:00-4:15PM; Th 9:00-9:50AM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Mathematical analysis of cooperative and noncooperative games. Theory and solution methods for matrix game (two players, zero-sum payoffs, finite strategy sets), games with a continuum of strategies, N-player games, games in rule-defined form. The roles of information and memory. Selected applications to economic, recreational, and military situations. Prereq: Multivariable Calculus, probability, linear algebra.			
EN.550.472	01	Q		**Graph Theory** *Basu, Amitabh* Study of systems of "vertices" with some pairs joined by "edges." Theory of adjacency, connectivity, traversability, feedback, and other concepts underlying properties important in engineering and the sciences. Topics include paths, cycles, and trees; routing problems associated with Euler and Hamilton; design of graphs realizing specified incidence conditions and other constraints. Attention directed toward problem solving, algorithms, and applications. One or more topics taken up in greater depth.	4.00	20	MWF 9:00-9:50AM; Th 10:30-11:20AM
EN.550.492	01	NQ		**Mathematical Biology** *Athreya, Dwijavanti P* This course will examine the mathematical methods relevant to modeling biological phenomena, particularly dynamical systems and probability. Topics include ordinary differential equations and their simulation; stability and phase plane analysis; branching processes; Markov chains; and stochastically perturbed systems. Biological applications will be drawn from population growth, predator-prey dynamics, epidemiology, genetics, intracellular transport, and neuroscience.	3.00	25	MW 3:00-4:15PM
EN.550.493	01	EQ		**Mathematical Image Analysis** *Staff* This course gives an overview of various mathematical methods related to several problems encountered in image processing and analysis, and presents numerical schemes to address them. It will focus on problems like image denoising and deblurring, contrast enhancement, segmentation and registration. The different mathematical concepts shall be introduced during the course; they include in particular functional spaces such as Sobolev and BV, Fourier and wavelet transforms, as well as some notions from convex optimization and numerical analysis. Most of such methods will be illustrated with algorithms and simulations on discrete images, using MATLAB. Prerequisites : linear algebra, multivariate calculus, basic programming in MATLAB. Recommended Course Background: Real analysis	3.00	25	TTh 3:00-4:15PM

Biomedical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.520.434	01			**Modern Biomedical Imaging Instrumentation and Techniques** *Tsui, Benjamin* An intermediate biomedical imaging course covering modern biomedical imaging instrumentation and techniques as applied to diagnostic radiology and other biomedical applications. It includes recent advances in various biomedical imaging modalities, multi-modality imaging and molecular imaging. The course is team taught by experts in the respective fields and provides a broad based knowledge of modern biomedical imaging to prepare students for graduate studies and research in biomedical imaging. Also, the course will offer tours and practical experience with modern biomedical imaging equipments in clinical and research settings. Co-listed with EN.580.473	3.00	22	TTh 9:00-10:15AM
EN.550.450	01	EQ		**Computational Molecular Medicine** *Geman, Donald J* Computational systems biology has emerged as the dominant framework for analyzing high-dimensional “omics” data in order to uncover the relationships among molecules, networks and disease. In particular, many of the core methodologies are based on statistical modeling, including machine learning, stochastic processes and statistical inference. We will cover the key aspects of this methodology, including measuring associations, testing multiple hypotheses, and learning predictors, Markov chains and graphical models. In addition, by studying recent important articles in cancer systems biology, we will illustrate how this approach enhances our ability to annotate genomes, discover molecular disease networks, detect disease, predict clinical outcomes, and characterize disease progression. Whereas a good foundation in probability and statistics is necessary, no prior exposure to molecular biology is required (although helpful).	4.00	25	MW 4:30-5:45PM
EN.580.112	01	EN		**BME Design Group** *Allen, Robert H* A two-semester course sequence where freshmen work with groups of BME upperclassmen mentors, and learn to use engineering principles to solve design problems that are biological, physiological, and/or medical. Freshmen are expected to use the informational content being taught in calculus, physics, and chemistry and apply this knowledge to the solution of practical problems encountered in biomedical engineering.	3.00	35	TTh 4:30-5:45PM
EN.580.200	01	E		**Introduction to Scientific Computing in BME using Python, Matlab, and R** *Beer, Michael*	3.00	100	MW 1:30-2:45PM

Biomedical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is an introduction to scientific programming and computing designed for first-year students. The aim is to develop core computer skills required to succeed in research. Programming projects are drawn from current biomedical applications within BME. Emphasis is on algorithm development, large scale data analysis, and effective visualization of results, using MATLAB, Python, and R. Prior programming experience is not required.			
EN.580.202	01			**BME in the Real World** *Popel, Aleksander S* Open only to engineering students; A series of weekly lectures to inform students about careers in biomedical engineering and to discuss technological, social, ethical, legal, and economic issues relevant to the profession. Topics include academic careers in biomedical engineering; biomedical engineering in industry (large corporations to sole entrepreneurship); health care delivery; ethical issues; legal issues (patenting, licensing, product liability); standards and government regulations; and economic issues in biomedical engineering industry (start-up companies, global businesses).	1.00	150	M 4:30-5:20PM
EN.580.212	01	EN		**BME Design Group** *Allen, Robert H* Sophomore-level version of EN.580.111-112. Permission of course directors required.	3.00	5	TTh 4:30-5:45PM
EN.580.222	01	E		**Systems and Controls** *Miller, Michael* An introduction to linear systems: analysis, stability and control. Topics include first and second order systems, linear time invariant discrete and continuous systems, convolution, Fourier series, Fourier transforms, Laplace transforms, stability of linear systems, input output and state space representation of linear systems, stability, observability, controlability, and PID controller design. Recommended Course Background: AS.171.102 and AS.110.201, AS.110.302 or EN.550.291	4.00	35	MW 12:00-1:15PM; F 9:00-9:50AM
EN.580.222	02	E		**Systems and Controls**	4.00	35	MW 12:00-1:15PM; F 10:00-10:50AM
EN.580.222	03	E		**Systems and Controls** *Sarma, Sridevi*	4.00	35	MW 12:00-1:15PM; F 12:00-12:50PM
EN.580.222	04	E		**Systems and Controls**	4.00	35	MW 12:00-1:15PM; F 1:30-2:20PM
EN.580.222	06	E		**Systems and Controls**	4.00	35	MW 12:00-1:15PM; F 3:00-3:50PM
EN.580.223	01	E		**Models and Simulations** *Popel, Aleksander S*	4.00	35	MW 3:00-4:15PM; F 10:00-10:50AM

Biomedical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course introduces students to modeling and analysis of biological systems. The first portion of the course focuses on linear systems. Topics include harmonic oscillators, pharmacokinetics, reaction-diffusion equation, heat transfer, and fluid flow. The second half of the course focuses on non-linear systems. Topics include iterated maps, bifurcations, chaos, stability of autonomous systems, the Hodgkin-Huxley model, bistability, limit cycles, and the Poincare-Bendixson theorem. The course also introduces students to the Matlab programming language, which allows them to implement the models discussed in class. Recommended Course Background: AS.110.201, AS.110.302, or EN.550.291			
EN.580.223	02	E		**Models and Simulations**	4.00	35	MW 3:00-4:15PM; F 11:00-11:50AM
EN.580.223	03	E		**Models and Simulations**	4.00	35	F 12:00-12:50PM; MW 3:00-4:15PM
EN.580.223	04	E		**Models and Simulations**	4.00	35	MW 3:00-4:15PM; F 1:30-2:20PM
EN.580.223	06	E		**Models and Simulations**	4.00	35	MW 3:00-4:15PM; F 3:00-3:50PM
EN.580.302	01			**Careers in Biomedical Engineering** *Popel, Aleksander S* See description for EN.580.202. This course is designed for upperclassmen that wish to meet with weekly speakers to discuss careers issues. Junior/Senior Engineers only.	1.00	50	M 4:30-5:20PM
EN.580.312	01	EN		**BME Design Group** *Allen, Robert H* A two semester course sequence where juniors and seniors work with a team leader and a group of BME freshmen and sophomores, to solve open-ended problems in biomedical engineering. Upperclassmen are expected to apply their general knowledge and experience, and their knowledge in their concentration area, to teach lower classmen and to generate the solution to practical problems encountered in biomedical engineering.	3.00	30	TTh 4:30-5:45PM
EN.580.410	01			**BME Teaching Practicum** *Beer, Michael* Senior biomedical engineering students will assist the core course instructors and PhD students in managing the sections and recitations and or lab component of a course. Permission required.	2.00	20	TBA
EN.580.412	01	E		**BME Design Group** *Allen, Robert H* Senior-level version of EN.580.311-312. Permission of course directors required	3.00	30	TTh 4:30-5:45PM
EN.580.414	01	E		**Design Team/Team Leader** *Allen, Robert H* A two-semester sequence where leaders direct a team of undergraduate biomedical engineering students in a series of design problems. Prior design team experience and permission of course directors required.	4.00	15	TTh 4:30-5:45PM
EN.580.420	01	EN		**Build-a-Genome** *Bader, Joel S*	4.00	8	MWF 8:30-9:50AM

Biomedical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Must understand fundamentals of DNA structure, DNA electrophoresis and analysis, Polymerase Chain Reaction (PCR) and must be either a) Experienced with molecular biology lab work or b) Adept at programming with a biological twist. In this combination lecture/laboratory "Synthetic Biology" course students will learn how to make DNA building blocks used in an int'l. project to build the world's first synthetic eukaryotic genome, Saccharomyces cerevisiae v. 2.0. Please study the wiki www.syntheticyeast.org for more details about the project. Following a biotechnology boot-camp, students will have 24/7 access to computational and wet-lab resources and will be expected to spend 15-20 hours per week on this course. Advanced students will be expected to contribute to the computational and biotech infrastructure. Successful completion of this course provides 3 credit hours toward the supervised research requirement for Molecular and Cellular Biology majors, or 2 credit hours toward the upper level elective requirement for Biology or Molecular and Cellular Biology majors.			
EN.580.422	01	EN		**Systems Bioengineering II** *Wang, Xiaoqin* A quantitative, model-oriented approach to the study of the nervous system. Topics include functional anatomy of the central and autonomic nervous systems, neurons and networks, learning and memory, structure and function of the auditory and visual systems, motor systems, and neuro-engineering. Prerequisites: EN.580.221 (Molecules and Cells), EN.580.222 (Systems and Controls), EN.580.223 (Models and Simulations), AS.110.302 (Differential Equations), EN.580.421 (Physiological Foundations I). Coreq: EN.580.424 (Physiological Foundations Laboratory II).	4.00	35	MWF 1:30-2:20PM; Th 10:30-11:20AM
EN.580.422	02	EN		**Systems Bioengineering II**	4.00	35	MWF 1:30-2:20PM; Th 10:30-11:20AM
EN.580.422	03	EN		**Systems Bioengineering II**	4.00	35	MWF 1:30-2:20PM; Th 2:00-2:50PM
EN.580.422	04	EN		**Systems Bioengineering II**	4.00	35	MWF 1:30-2:20PM; Th 2:00-2:50PM
EN.580.424	01			**Systems Bioengineering Lab** *Haase, Eileen B* A laboratory course in which various physiological preparations are used as examples of problems of applying technology in biological systems. The emphasis in this course is on the design of experimental measurements and on physical models of biological systems. Recommended Corequisite: EN.580.422	2.00	36	T 9:00AM-1:00PM; F 9:00-9:50AM
EN.580.424	02			**Systems Bioengineering Lab**	2.00	36	T 1:30-5:20PM; F 9:00-9:50AM
EN.580.424	03			**Systems Bioengineering Lab**	2.00	36	Th 9:00AM-1:00PM; Th 4:30-5:20PM
EN.580.424	04			**Systems Bioengineering Lab**	2.00	36	Th 1:30-4:20PM; Th 4:30-5:20PM
EN.580.434	01	E		**Bioelectricity** *Tung, Leslie*	3.00	25	MW 4:30-5:45PM

Biomedical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course has been revised to include numerous examples of bioelectrically active tissues and organs, complemented by relevant engineering principles. Topics include bioelectric currents and potentials, measurements of biological electric fields, wound repair in skin and epithelia, early history of bioelectricity, volume conductor theory, cardiac electrogram and lead theory, electromanipulation of cells, galvanotaxis, stem cell development, bone repair, and neuronal growth. Recommended Prereqs: EN.580.421 and EN.580.422.			
EN.580.442	01	E		**Tissue Engineering** *Elisseeff, Jennifer Hartt* This course focuses on the application of engineering fundamentals to designing biological tissue substitutes. Concepts of tissue development, structure and function will be introduced. Students will learn to recognize the majority of histological tissue structures in the body and understand the basic building blocks of the tissue and clinical need for replacement. The engineering components required to develop tissue-engineered grafts will be explored including biomechanics and transport phenomena along with the use of biomaterials and bioreactors to regulate the cellular microenvironment. Emphasis will be placed on different sources of stem cells and their applications to tissue engineering. Clinical and regulatory perspectives will be discussed. Recommended Course Background: EN.580.221 or AS.020.305 and AS.020.306, AS.030.205 Recommended EN.580.441/EN.580.641 Co-listed with EN.580.642	3.00	40	TTh 9:00-10:15AM
EN.580.452	01	EN		**Cell and Tissue Engineering Lab** *Haase, Eileen B* This laboratory course will consist of three experiments that will provide students with valuable hands-on experience in cell and tissue engineering. Experiments include the basics of cell culture techniques, gene transfection and metabolic engineering, basics of cell-substrate interactions I, cell-substrate interactions II, and cell encapsulation and gel contraction. Spring semester only.	3.00	8	MWF 12:00-1:50PM
EN.580.452	02	EN		**Cell and Tissue Engineering Lab**	3.00	8	MWF 2:00-3:50PM
EN.580.466	01	EQ		**Statistical Methods in Imaging** *Jedynak, Bruno* Denoising, segmentation, texture modeling, tracking, object recognition are challenging problems in imaging. We will present a collection of statistical models and methods in order to adress these, including the E.M algorithm, Maximum Entropy Modeling, Markov Random Fields, Markov Chain Monte Carlo, Boltzmann Machines and Multilayer Perceptrons. Recommended Course Background: AS.110.202 and EN.550.310 or equivalent.	3.00	20	Th 4:00-5:50PM; F 1:00-4:50PM
EN.580.473	01	EN		**Modern Biomedical Imaging Instrumentation and Techniques**	3.00	10	TTh 9:00-10:15AM

Biomedical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Tsui, Benjamin An intermediate biomedical imaging course covering modern biomedical imaging instrumentation and techniques as applied to diagnostic radiology and other biomedical applications. It includes recent advances in various biomedical imaging modalities, multi-modality imaging and molecular imaging. The course is team taught by experts in the respective fields and provides a broad based knowledge of modern biomedical imaging to prepare students for graduate studies and research in biomedical imaging. Also, the course will offer tours and practical experience with modern biomedical imaging equipment in clinical and research settings. Co-listed with EN.520.434 Recommended course background: EN.520.432 or EN.580.472			
EN.580.476	01	E		**Magnetic Resonance in Medicine** *Herzka, Daniel* This course provides the student with a complete introduction to the physical principles, hardware design, and signal processing used in magnetic resonance imaging and magnetic resonance spectroscopy. The course is designed for students who wish to pursue research in magnetic resonance. Recommended course background: EN.580.222 or EN.520.214. Co-listed with EN.580.673.	3.00	15	TTh 10:30-11:45AM
EN.580.479	01	E		**X-ray Imaging and Computed Tomography** *Siewerdsen, Jeff* This course provides students with an intermediate-level understanding of the physics, engineering, algorithms, and applications of medical x-ray imaging and computed tomography (CT). It is intended for senior undergraduates (580.479) and/or graduate students (580.679) in Biomedical Engineering, Computer Science, Electrical and Computer Engineering, or related fields in science and engineering. Topics include the physics of x-ray interaction and detection, image quality modeling and assessment, 3D image reconstruction (including analytical and iterative approaches), and applications in diagnostic and image-guided procedures. Background knowledge required of students includes EN.580.472 and/or EN.580.473 and familiarity with Matlab.	3.00	25	TTh 3:30-5:00PM
EN.580.491	01	E		**Learning Theory** *Shadmehr, Reza* The course introduces the probabilistic foundations of learning theory. We will discuss topics in regression, estimation, optimal control, system identification, Bayesian learning, and classification. Our aim is to first derive some of the important mathematical results in learning theory, and then apply the framework to problems in biology, particularly animal learning and control of action. Recommended Course Background: AS.110.201 and AS.110.302	3.00	40	MW 3:00-4:15PM
EN.580.492	01	EN		**Build-a-Genome Mentor** *Bader, Joel S*	4.00	4	MWF 8:30-9:50AM

Biomedical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				In addition to producing and sequencing DNA segments like regular B-a-G students, mentors will help prepare and distribute reagents, and maintain a Moddle site to track student reagent use and productivity. Mentors will also be expected to mentor specific students who are learning new techniques for the first time, contribute to the computational and biotech infrastructure associated with Build-a-Genome, and pursue at least one independent research project. Successful completion of this course provides 3 credit hours toward the supervised research requirement for Molecular and Cellular Biology majors. Co-listed AS.020.451 Permission Required.			
EN.600.476	01	EQ		**Machine Learning in Complex Domains** *Saria, Suchi* How can robots localize themselves in an environment when navigating? Can we predict which patients are at greatest-risk for complications in the hospital? Which movie should I recommend to this user given his history of likes? Many such big data questions can be answered using the paradigm of probabilistic models in machine learning. These are especially useful when common off-the-shelf algorithms such as support vector machines and k-means fail. You will learn methods for clustering, classification, structured prediction, recommendation and inference. We will use Murphy's book, Machine Learning: a Probabilistic Perspective, as the text for this course. Assignments are solved in groups of size 1-3 students. The class will have 4 interactive sessions during which we brainstorm how to solve example open-ended real-world problems with the tools learnt in class. Students are also required to do a project of their choice within which they experiment with the ideas learnt in class. [Analysis or Applications] Students may receive credit for EN.600.476 or EN.600.676, but not both. Recommended Course Background: 1) Proficiency in at least one programming language is expected. 2) A class in probability theory or statistics or introductory machine learning is required.	3.00	15	TTh 4:30-5:45PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.660.100	01	S		**Hopkins Leadership Challenge Seminar** *Smedick, William D* The Hopkins Leadership Challenge is a one credit pass/fail seminar and is designed specifically for first year undergraduates at JHU who are interested in developing their leadership skills and applying those skills to Hopkins life. The seminar includes both a classroom component and an experiential component. The classroom content includes leadership topics, discussions with university leaders and serves as an introduction to the history, services and involvement opportunities at Hopkins. The experiential component includes programs such as JHU history, faculty student interaction, visits to other JHU campuses and more! Interested students should register early, as there is limited space available in each section of the seminar. Freshmen only. S/U only.	1.00	19	MW 10:00-10:50AM
EN.660.104	01			**Exploring Leadership: For Hopkins Students Who Want to Make a Difference** *Smedick, William D* Seminar is designed specifically for second year undergraduates at JHU and is limited to that population. An eight-week seminar and experiential program designed to provide the following learning outcomes for students enrolled: 1. Understand self-others and how to work effectively in communities 2. Understand the importance of integrity, moral purpose, and positive change. 3. Understand how change occurs and why people resist or promote change. 4. Understand the importance of enhancing and applying individual team strengths, developing greater levels of well being for you and in others, and thriving together as individuals and organizations. 5. Form positive connections and relationships with upper class students and alumni in areas of career interests.	1.00	20	TTh 10:30-11:45AM
EN.660.105	01	S	W	**Introduction to Business** *Aronhime, Lawrence* This course is designed as an introduction to the terms, concepts, and values of business and management. The course comprises three broad categories: the economic, financial, and corporate context of business activities; the organization and management of business enterprises; and, the marketing and production of goods and services. Topic specific readings, short case studies and financial exercises all focus on the bases for managerial decisions as well as the long and short-term implications of those decisions in a global environment. No audits.	4.00	25	MWF 12:00-12:50PM; T 1:30-2:20PM
EN.660.105	02	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; T 1:30-2:20PM
EN.660.105	03	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; T 3:00-3:50PM
EN.660.105	04	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; W 3:00-3:50PM
EN.660.105	05	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; Th 1:30-2:20PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.660.105	07	S	W	**Introduction to Business** *Izenberg, Illysa B*	4.00	18	MWF 9:00-9:50AM; Th 3:00-3:50PM
EN.660.105	08	S	W	**Introduction to Business**	4.00	17	MWF 9:00-9:50AM; M 1:30-2:20PM
EN.660.105	09	S	W	**Introduction to Business** *Staff*	4.00	20	MW 3:00-4:15PM; T 3:00-3:50PM
EN.660.105	10	S	W	**Introduction to Business**	4.00	20	MW 3:00-4:15PM; Th 3:00-3:50PM
EN.660.105	11	S	W	**Introduction to Business**	4.00	20	TTh 9:00-10:15AM; M 3:00-3:50PM
EN.660.105	12	S	W	**Introduction to Business**	4.00	20	TTh 9:00-10:15AM; W 3:00-3:50PM
EN.660.203	01			**Financial Accounting** *Aronhime, Lawrence* The course in Financial Accounting is designed for anyone who could be called upon to analyze and/or communicate financial results and/or make effective financial decisions in a for-profit business setting. No prior accounting knowledge or skill is required for successful completion of this course. Because accounting is described as the language of business, this course emphasizes the vocabulary, methods, and processes by which all business transactions are communicated. The accounting cycle, basic business transactions, internal controls, and preparation and understanding of financial statements including balance sheets, statements of income and cash flows are covered. No audits.	3.00	35	MWF 10:00-10:50AM
EN.660.203	02			**Financial Accounting** *Leps, Annette*	3.00	35	MW 12:00-1:15PM
EN.660.203	03			**Financial Accounting**	3.00	35	TTh 12:00-1:15PM
EN.660.203	04			**Financial Accounting** *Furlong, Sean T*	3.00	30	TTh 4:30-5:45PM
EN.660.203	05			**Financial Accounting**	3.00	30	TTh 12:00-1:15PM
EN.660.250	01			**Principles of Marketing** *Kendrick, Leslie* This course explores the role of marketing in society and within the organization. It examines the process of developing, pricing, promoting and distributing products to consumer and business markets and shows how marketing managers use the elements of the marketing mix to gain a competitive advantage. Through interactive, application-oriented exercises, case videotapes, a guest speaker (local marketer), and a group project, students will have ample opportunity to observe key marketing concepts in action. The group project requires each team to research the marketing plan for an existing product of its choice. Teams will analyze what is currently being done by the organization, choose one of the strategic growth alternatives studied, and recommend why this alternative should be adopted. The recommendations will include how the current marketing plan will need to be modified in order to implement this strategy and will be presented to the instructor in written form and presented to the class. No audits.	3.00	38	MW 12:00-1:15PM
EN.660.250	02			**Principles of Marketing** *Quesenberry, Keith A*	3.00	35	TTh 10:30-11:45AM
EN.660.250	03			**Principles of Marketing** *DeVries, Marci*	3.00	35	TTh 12:00-1:15PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.660.250	04			**Principles of Marketing** *Jones, Theresa*	3.00	35	W 6:15-9:00PM
EN.660.250	05			**Principles of Marketing** *Manns, Kimberly*	3.00	35	T 6:15-9:00PM
EN.660.250	06			**Principles of Marketing** *Kendrick, Leslie*	3.00	38	MW 1:30-2:45PM
EN.660.300	01			**Managerial Finance** *Priolo, Marcus* This course is designed to familiarize the student with the basic concepts and techniques of financial management practice. The course begins with a review of accounting, securities markets, and the finance function. The course then moves to discussion of financial planning, financial statement analysis, time value of money, interest rates and bond valuation, stock valuation, and concludes with capital budgeting and project analysis. A combination of classroom discussions, problem sets, and case studies will be used. Note: not open to students who have taken EN.660.302 Corporate Finance. No audits.	3.00	25	T 6:15-9:00PM
EN.660.303	01			**Managerial Accounting** *Leps, Annette* This course introduces management accounting concepts and objectives including planning, control, and the analysis of sales, expenses, and profits. Major topics include cost behavior, cost allocation, product costing (including activity based costing), standard costing and variance analysis, relevant costs, operational and capital budgeting, and performance measurement. Note: not open to students who have taken EN.660.204 Managerial Accounting. No audits.	3.00	30	TTh 10:30-11:45AM
EN.660.308	01	S		**Business Law I** *Fisher, David* This course is designed to provide students an introduction to legal reasoning and analysis. Content distinguishes forms of business, civil versus criminal law, and agency principles; intellectual property concepts, contract Law, the UCC (Uniform Commercial Code) and consumer protection are explored and discussed in the context of assigned legal cases which are intended to develop a student's ability to analyze and apply law. Note: not open to students who have taken 660.205 Business Law I. No audits.	3.00	35	M 6:15-9:00PM
EN.660.308	02	S		**Business Law I** *Rakes, William Bryan*	3.00	35	W 6:15-9:00PM
EN.660.310	01	H		**Case Studies in Business Ethics** *Franceschini, Mark*	3.00	30	W 6:15-9:00PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is designed as a workshop using case studies to introduce students to the ethical concepts that are relevant to resolve moral issues in contemporary business and social settings—both global and personal in nature. Students will learn the reasoning and analytical skills needed to apply ethical concepts to their own decision-making, to identify moral issues involved in the management of specific problem areas in business and society, and to understand the social and natural environments which give rise to moral issues. The course focus is on performance articulated by clear reasoning and effective verbal and written communication concerning ethical issues in business and society. Not open to students who have taken EN.660.231 Case Studies in Business Ethics. No audits.			
EN.660.311	01	S		**Law and the Internet** *Sandhaus, Douglas* Sometimes called “Cyber law,” this course uses the case study method to examine some of the most significant and compelling legal aspects, issues, and concerns involved with operating a business enterprise in an Internet environment. Some of the issues likely to be covered include jurisdiction, resolution of online disputes, trademarks, copyright, licenses, privacy, defamation, obscenity, the application of traditional concepts of tort liability to an Internet context, computer crime, information security, taxation, international considerations, and an analysis of other recent litigation and/or statutes. Note: not open to students who have taken EN.660.306 Law and the Internet. No audits.	3.00	30	T 6:15-9:00PM
EN.660.332	01	S	W	**Leadership Theory** *Smedick, William D* Students will be introduced to the history of Leadership Theory from the “Great Man” theory of born leaders to Transformational Leadership theory of non-positional learned leadership. Transformational Leadership theory postulates that leadership can be learned and enhanced. The course will explore the knowledge base and skills necessary to be an effective leader in a variety of settings. Students will assess their personal leadership qualities and develop a plan to enhance their leadership potential. Recommended Course Background: EN.660.105 or EN.660.220/EN.660.340. No audits.	3.00	30	MW 2:00-3:15PM
EN.660.332	02	S	W	**Leadership Theory**	3.00	30	TTh 2:00-3:15PM
EN.660.333	01		W	**Leading Change** *Smedick, William D*	3.00	24	TTh 4:00-5:15PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				In this course, we will use a combination of presentation, discussion, experiential learning, research and self-reflection to investigate issues surrounding leadership and change in communities and the economy. While considering both for-profit and non-profit entities, we will pursue topics including understanding and using theories of change; finding competitive advantage and creating strategic plans; making decisions, even in uncertain times; valuing differences; employing leadership styles; giving and receiving feedback; understanding employee relations; creating performance measures; and developing organizational cultures; and using the dynamics of influence. Not open to students who have taken EN.660.235. No audits. Recommended Course Background: EN.660.105			
EN.660.340	01			**Principles of Management** *Izenberg, Illysa B* This course introduces the student to the management process. The course takes an integrated approach to management by examining the role of the manager from a traditional and contemporary perspective while applying decision-making and critical-thinking skills to the challenges facing managers in today's globally diverse environment. The course examines the techniques for controlling, planning, organizing resources and leading the workforce. Not open to students who have taken EN.660.220 Principles of Management. No audits.	3.00	35	W 1:30-4:15PM
EN.660.341	01		W	**Business Process and Quality Management** *Reiter, Joshua* This course focuses on both quantitative and qualitative analytical skills and models essential to operations process design, management, and improvement in both service and manufacturing oriented companies. The objective of the course is to prepare the student to play a significant role in the management of a world-class company which serves satisfied customers through empowered employees, leading to increased revenues and decreased costs. The material combines managerial issues with both technical and quantitative aspects. Practical applications to business organizations are emphasized. Prerequisites: EN.660.105 Introduction to Business or EN.660.241 IT Management. No audits.	3.00	35	M 1:30-4:15PM
EN.660.352	01			**New Product Development** *Agronin, Michael L*	3.00	24	M 6:15-9:00PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				New product development is the ultimate interdisciplinary entrepreneurial art, combining marketing, technical, and managerial skills. A successful product lies at the intersection of the user's need, a technical solution, and compelling execution. This class will bootstrap your experience in the art through exercises and team projects. We will examine products and services, consumer and industrial, simple and technologically complex. Case studies will feature primary sources and the instructor's personal experiences as an inventor for a major consumer products company. Topics will span the product development cycle: identifying user needs, cool-hunting, brainstorming, industrial design, prototyping techniques, market research to validate new ideas, and project management -- especially for managing virtual teams and foreign manufacturers. No audits.			
EN.660.404	01	S		**Business Law II** *Fisher, David* Building on the material from Business Law I, topics examined include entrepreneurship, business entities and business formation, principles of agency, real property, personal property, bailments, bankruptcy, secured transactions, employment discrimination, business financing, investor protection, antitrust and environmental law. No audits.	3.00	35	T 6:15-9:00PM
EN.660.420	01		W	**Marketing Strategy** *Kendrick, Leslie* This writing intensive course helps students develop skills in formulating, implementing, and controlling a strategic marketing program for a given product-market entry. Using a structured approach to case analysis, students will learn how to make the kinds of strategic marketing decisions that will have a long-term impact on the organization and support these decisions with quantitative analyses. Through textbook readings, students will learn how to identify appropriate marketing strategies for new, growth, mature, and declining markets and apply these strategies as they analyze a series of marketing cases. The supplementary readings, from a broad spectrum of periodicals, are more applied and will allow students to see how firms are addressing contemporary marketing challenges. In addition to analyzing cases individually, each student will be part of a team that studies a case during the latter half of the semester, developing marketing strategy recommendations, including financial projections, and presenting them to the class. No audits.	3.00	19	TTh 10:30-11:45AM
EN.660.450	01			**Advertising & Integrated Marketing Communication** *Kendrick, Leslie*	3.00	40	TTh 12:00-1:15PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course builds on the promotional mix concepts covered in Principles of Marketing (EN.660.250)—advertising, public relations, sales promotion and personal selling. Students will learn how marketers are changing the ways they communicate with consumers and the ways in which promotional budgets are allocated—and how this impacts the development of marketing strategies and tactics. Working with a client (provided by EdVenture Partners) that has chosen this JHU class as its "advertising agency" and an actual budget provided by the firm, the class will form small teams to mirror the functional organization of an actual ad agency (market research, media strategy/planning, copywriting/design, public relations, etc.). Student teams will then develop a promotional plan and corresponding budget to reach the desired target market (JHU undergrads who meet the client's criteria), implement the plan and then evaluate its effectiveness through pre- and post campaign market research conducted on the target consumer. Note: Not open to students who have taken EN.660.450 as Advertising and Promotion. No audits. (Formerly Advertising and Promotion.)			
EN.660.453	01		W	**Social Media and Marketing** *Quesenberry, Keith A* This course explores strategies for monitoring and engaging consumers in digital media. Students will gain practical knowledge about developing, implementing and measuring social media marketing campaigns. They will learn how to analyze what consumers are saying and connect with them by leveraging word of mouth, viral and buzz marketing through sites like Facebook, Twitter and YouTube. A series of assignments build upon each other toward a final social media marketing plan for a selected consumer product or service. Co-listed with EN.661.453.	3.00	19	TTh 12:00-1:15PM
EN.660.461	01	E		**Engineering Business and Management** *Izenberg, Illysa B* An introduction to the business and management aspects of the engineering profession, project management, prioritization of resource allocation, intellectual property protection, management of technical projects, and product/production management. Preference will be given to Mechanical Engineering students. No audits. Recommended Course Background: EN.660.105	3.00	20	TTh 10:30-11:45AM
EN.661.110	01		W	**Professional Communication for Science, Business and Industry** *Thompson, Jay R*	3.00	19	TTh 9:00-10:15AM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course teaches students to communicate effectively with a wide variety of specialized and non-specialized audiences. Projects include production of resumes, cover letters, proposals, instructions, reports, and other relevant documents. Class emphasizes writing clearly and persuasively, creating appropriate visuals, developing oral presentation skills, working in collaborative groups, giving and receiving feedback, and simulating the real world environment in which most communication occurs. Not open to students who have taken EN.661.110 as Technical Communication or EN.661.120 Business Communication. No audits. (formerly as both Technical Communication and Business Communication)			
EN.661.110	02		W	**Professional Communication for Science, Business and Industry**	3.00	19	TTh 10:30-11:45AM
EN.661.110	03		W	**Professional Communication for Science, Business and Industry** *Graham, Robert M.*	3.00	19	TTh 10:30-11:45AM
EN.661.110	04		W	**Professional Communication for Science, Business and Industry** *Reiser, Julie*	3.00	19	TTh 12:00-1:15PM
EN.661.110	05		W	**Professional Communication for Science, Business and Industry** *Jerr, Nicole*	3.00	19	TTh 1:30-2:45PM
EN.661.110	06		W	**Professional Communication for Science, Business and Industry**	3.00	19	TTh 3:00-4:15PM
EN.661.110	07		W	**Professional Communication for Science, Business and Industry** *Bernstein, Jenny*	3.00	19	MW 12:00-1:15PM
EN.661.110	08		W	**Professional Communication for Science, Business and Industry** *Wilkins, Caroline A*	3.00	19	MW 10:30AM-11:45PM
EN.661.110	09		W	**Professional Communication for Science, Business and Industry**	3.00	19	MW 1:30-2:45PM
EN.661.111	01		W	**Professional Communication for International Students** *Davis, Laura G* This course teaches ESL students to communicate effectively with a wide variety of specialized and non-specialized audiences and will provide ESL-specific help with grammar, pronunciation, and idiomatic expression in these different contexts. Projects include production of resumes, cover letters, proposals, instructions, reports, and other relevant documents. Class emphasizes writing clearly and persuasively, creating appropriate visuals, developing oral presentation skills, working in collaborative groups, giving and receiving feedback, and simulating the real world environment in which most communication occurs. Note: not open to students who have taken EN.661.110 as Technical Communication or Professional Communication for Science, Business, and Industry or EN.661.120 Business Communication. No audits.	3.00	19	TTh 4:30-5:45PM
EN.661.250	01		W	**Oral Presentations** *Dungey, Kevin R*	3.00	13	M 3:00-5:45PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is designed to help students push through any anxieties about public speaking by immersing them in a practice-intensive environment. They learn how to speak with confidence in a variety of formats and venues - Including extemporaneous speaking, job interviewing, leading a discussion, presenting a technical speech, and other relevant scenarios. Students learn how to develop effective slides that capture the main point with ease and clarity, hone their message, improve their delivery skills, and write thought-provoking, well-organized speeches that hold an audience's attention. No audits. Not open to students that have taken EN.661.150.			
EN.661.250	02		W	**Oral Presentations**	3.00	13	M 6:15-9:00PM
EN.661.250	03		W	**Oral Presentations** *Reiser, Julie*	3.00	13	T 1:30-4:15PM
EN.661.250	04		W	**Oral Presentations** *Heiserman, Jason*	3.00	13	T 4:30-7:15PM
EN.661.250	05		W	**Oral Presentations** *Graham, Robert M.*	3.00	13	W 1:30-4:15PM
EN.661.250	06		W	**Oral Presentations** *O'Donnell, Charlotte Alyssa*	3.00	13	W 5:00-7:45PM
EN.661.250	07		W	**Oral Presentations** *Kulanko, Andrew*	3.00	13	Th 1:30-4:15PM
EN.661.250	08		W	**Oral Presentations**	3.00	13	Th 5:00-7:45PM
EN.661.251	01		W	**Oral Presentations for International Students** *Davis, Laura G* This course is designed to help students push through any anxieties about public speaking by immersing them in a practice-intensive environment. They learn how to speak with confidence in a variety of formats and venues - Including extemporaneous speaking, job interviewing, leading a discussion, presenting a technical speech, and other relevant scenarios. Students learn how to develop effective slides that capture the main point with ease and clarity, hone their message, improve their delivery skills, and write thought-provoking, well-organized speeches that hold an audience's attention. Special attention will be placed on diction, pronunciation, tone, pace and emphasis of language. Additional attention also will be given to syntax as well as non-verbal communication patterns. No audits. Not open to students that have taken EN.661.151	3.00	13	W 4:30-7:15PM
EN.661.315	01	S	W	**Culture of the Engineering Profession** *Rice, Eric*	3.00	24	TTh 12:00-1:15PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course focuses on building understanding of the culture of engineering while preparing students to communicate effectively with the various audiences with whom engineers interact. Working from a base of contemporary science writing (monographs, non-fiction, popular literature and fiction), students will engage in discussion, argument, case study and project work to investigate: the engineering culture and challenges to that culture, the impacts of engineering solutions on society, the ethical guidelines for the profession, and the ways engineering information is conveyed to the range of audiences for whom the information is critical. Additionally, students will master many of the techniques critical to successful communication within the engineering culture through a series of short papers and presentations associated with analysis of the writings and cases. No audits. For Engineering juniors and seniors only. Sophomores by permission of instructor.			
EN.661.315	02	S	W	**Culture of the Engineering Profession** *Sheff, Pamela*	3.00	30	TTh 12:00-1:15PM
EN.661.317	01	S	W	**Culture of the Medical Profession** *Sheff, Pamela* This course builds understanding of the culture of medicine as well as the ways in which different strata within society have access to and tend to make decisions about health and health related services while preparing students to communicate effectively with the various audiences with whom medical professionals interact. Working from a base of contemporary science writing (monographs, non-fiction, popular literature and fiction), students engage in discussion, argument, case study and project work to investigate topics such as the medical culture, the ways medicine is viewed by different segments of society, issues associated with access to health care, ethical dilemmas and guidelines for medical decisions, the impacts of medical and engineering solutions on society, decision making within client/patient groups, social and cultural differences that effect behavioral change, and the ways medical information is conveyed to the range of audiences for whom the information is critical. Additionally, students will master many of the techniques critical to successful communication through a series of short papers and presentations associated with analysis of the writings and cases. For sophomores, juniors, and seniors or by permission of instructor. No audits.	3.00	19	TTh 3:00-4:15PM
EN.661.370	01			**Visual Rhetoric** *O'Donnell, Charlotte Alyssa*	3.00	15	T 1:30-4:15PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				A course that aims to help students design clearer, more visually engaging graphics for a wide variety of business and technical documents. Students will learn to manage essential principles of graphic design through a variety of graphic programs (Adobe Creative Suite) and MS Office software. Topics will include logos, letterhead, event posters, brochures, data graphics and some basic web design. No audits. Not open to students that have taken EN.661.170.			
EN.661.380	01			**Business Analytics** *Ozdemir, Sinan U* In this course students learn the procedures and processes that researchers use to determine answers to questions such as how to price a product, how to differentiate one product from another, and how to evaluate customer response to an offering. The materials combine fundamentals of research design with statistics procedures to answer the questions that entrepreneurs and marketing managers must answer as they write business plans, develop their product mix, set prices, create advertising and test products. The course combines case study, simulated situations, lecture, discussion and real-time projects to produce answers using the techniques, tools and procedures typically used in North American enterprises.	3.00	19	Th 6:15-9:00PM
EN.661.380	02			**Business Analytics**	3.00	19	T 6:15-9:00PM
EN.661.390	01		W	**Jay Street 2.0: A Student-run Magazine** *O'Donnell, Charlotte Alyssa* Jay Street, a student-run publication last put out in 2010, was once the university's only student-run publication that focused on entrepreneurship. Now in 2015, students in this class will redesign the magazine to fit changing readership needs. The first portion of the course will teach basic journalistic writing and interviewing techniques and familiarize students with newsroom procedure. They will learn to pitch, write and edit a variety of story types, from basic news pieces, to profiles, features and reviews. Later in the semester, students will look at contemporary models for online journalism with a view toward redesigning Jay Street's content and focus. Students will publish their work in a new version of the magazine at the end of the spring semester.	3.00	19	M 1:30-4:15PM
EN.661.454	01		W	**Blogging and Digital Copywriting** *Quesenberry, Keith A*	3.00	19	MW 12:00-1:15PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Learn how to develop, write and manage content for marketing communication on the Web and build an online presence through search engine optimization (SEO) and search engine marketing (SEM). Each student will create his/her own professional WordPress blog and gain knowledge on how to market it. They will also learn copywriting for various digital formats including Email marketing, website copy and social media while gaining an understanding of web analytics, conversion optimization, writing for keywords and mobile marketing. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars). No audits.			

Chemical & Biomolecular Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.540.202	01	E		**Introduction to Chemical & Biological Process Analysis** *Gray, Jeffrey J* Introduction to chemical and biomolecular engineering and the fundamental principles of chemical process analysis. Formulation and solution of material and energy balances on chemical processes. Reductionist approaches to the solution of complex, multi-unit processes will be emphasized. Introduction to the basic concepts of thermodynamics as well as chemical and biochemical reactions.	4.00	12	MWF 10:00-10:50AM; W 2:30-4:30PM
EN.540.202	02	E		**Introduction to Chemical & Biological Process Analysis**	4.00	12	MWF 10:00-10:50AM; W 2:30-4:30PM
EN.540.202	03	E		**Introduction to Chemical & Biological Process Analysis**	4.00	12	MWF 10:00-10:50AM; Th 4:30-6:30PM
EN.540.202	04	E		**Introduction to Chemical & Biological Process Analysis**	4.00	12	MWF 10:00-10:50AM; Th 4:30-6:30PM
EN.540.203	01	E		**Engr Thermodynamics** *Wang, Chao* Formulation and solution of material, energy, and entropy balances with an emphasis on open systems. A systematic problem-solving approach is developed for chemical and biomolecular process-related systems. Extensive use is made of classical thermodynamic relationships and constitutive equations for one and two component systems. Applications include the analysis and design of engines, refrigerators, heat pumps, compressors, and turbines.	3.00	80	MW 3:00-4:15PM
EN.540.291	01	E		**Chemical Engineering Modeling and Design for Sophomores** *Donohue, Marc D* The courses 540.290, 291, 390, and 391 guide the students through the open-ended problems in product and process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the creation of new products to fulfill a societal need. Process design concerns the quantitative description of processes which serve to produce chemically-derived materials and the estimation of process profitability. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the principles of unit operations and design. Students report weekly both orally and in writing on their accomplishments. Some projects are single semester, but others can be multi-semester. Students can start in any semester and can work on projects for as many semesters as they want.	3.00	12	TBA
EN.540.301	01	E		**Kinetic Processes** *Goffin, An*	3.00	50	MWF 11:00-11:50AM

Chemical & Biomolecular Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Review of numerical methods applied to kinetic phenomena and reactor design in chemical and biological processes. Homogeneous kinetics and interpretation of reaction rate data. Batch, plug flow, and stirred tank reactor analyses, including reactors in parallel and in series. Selectivity and optimization considerations in multiple reaction systems. Non isothermal reactors. Elements of heterogeneous kinetics, including adsorption isotherms and heterogeneous catalysis. Coupled transport and chemical/biological reaction rates.			
EN.540.301	02	E		**Kinetic Processes** *Cui, Honggang*	3.00	50	TTh 10:30-11:45AM
EN.540.303	01	EN		**Transport Phenomena I** *Konstantopoulos, K* Molecular mechanisms of momentum transport (viscous flow), energy transport (heat conduction), and mass transport (diffusion). Isothermal equations of change (continuity, motion, and energy). The development of the Navier Stokes equation. The development of non isothermal and multi component equations of change for heat and mass transfer. Exact solutions to steady state, isothermal unidirectional flow problems, to steady state heat and mass transfer problems. The analogies between heat, mass, and momentum transfer are emphasized throughout the course. Recommended Corequisite: AS.110.302, Introduction to the field of transport phenomena.	3.00	120	MWF 9:00-9:50AM
EN.540.306	01	E		**Chemical & Biomolecular Separation** *Betenbaugh, Michael J* This course covers staged and continuous-contacting separations processes critical to the chemical and biochemical industries. Separations technologies studied include distillation, liquid-liquid extraction, gas absorption, membrane ultrafiltration, reverse osmosis, dialysis, adsorption, and chromatography. Particular emphasis is placed on the biochemical uses of these processes and consequently on how the treatment of these processes differs from the more traditional approach.	3.00	100	TTh 3:00-4:15PM
EN.540.307	01	N		**Cell Biology for Engineers** *Yang, Joy T* This course explores fundamental structural details and molecular functions of different parts of the cell. Considerable emphasis is placed on experimental/quantitative approaches to answering these questions. Topics include Central dogma and the nucleus; protein trafficking; ion transporters; cytoskeleton; molecular motors; cell cycle and cell division; signal transduction, cell growth and cancer; cell death, the extracellular matrix; cell adhesion, cell junctions and epithelium; and muscle contraction, cell motility and morphogenesis.	3.00	120	MWF 12:00-12:50PM
EN.540.309	01	E		**Product Design Part 1** *Donohue, Marc D*	2.00	18	TBA

Chemical & Biomolecular Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time

This course guides the student through the contrasting aspects of product design and of process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the selection of best products to fulfill the needs. Process design concerns the quantitative description of processes which serve to produce many commodity chemicals, the estimation of process profitability, and the potential for profitability improvement through incremental changes in the process. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the primary objectives of the course. Students report several times both orally and in writing on their accomplishments. This course is the first part two semester sequence that optionally can be taken instead of for EN.540.314 Chemical and Biomolecular Engineering Product and Process Design. The material covered is the same as in EN.540.314, but more time is allowed so that laboratory tests can be performed and/or prototypes can be made. Note that both courses in this sequence must be taken in order to satisfy the requirement that students take EN.540.314 as part of the Chemical and Biomolecular Engineerng program. Recommended Course Background: EN.540.301, EN.540.304, EN.540.311 or EN.540.313 or permission of instructor.

Chemical & Biomolecular Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.540.310	01	EN		**Product Design Part 2** *Donohue, Marc D* This course is one part of a two semester sequence that optionally can be taken instead of for EN.540.314 Chemical and Biomolecular Engineering Product and Process Design. This course guides the student through the contrasting aspects of product design and of process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the selection of best products to fulfill the needs. Process design concerns the quantitative description of processes which serve to produce many commodity chemicals, the estimation of process profitability, and the potential for profitability improvement through incremental changes in the process. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the primary objectives of the course. Students report several times both orally and in writing on their accomplishments. The material covered is the same as in EN.540.314, but more time is allowed so that laboratory tests can be performed and/or prototypes can be made. Note that both courses, 540.309 and 540.310 must be taken to satisfy the Undergraduate degree requirement for EN.540.314 as part of the Chemical and Biomolecular Engineering program. The two courses can be started in any term. Recommended Course Background: EN.540.301, EN.540.304, EN.540.311 or EN.540.313 or permission of instructor.	2.00	18	TBA
EN.540.314	01	E		**ChemBE Product Design** *Goffin, An* This course guides the student through the contrasting aspects of product design and of process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the selection of best products to fulfill the needs. Process design concerns the quantitative description of processes, which serve to produce many commodity chemicals, the estimation of process profitability, and the potential for profitability improvement through incremental changes in the process. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the primary objectives of the course. Students report several times both orally and in writing on their accomplishments.	2.00	20	T 1:30-4:15PM
EN.540.314	02	E		**ChemBE Product Design** *Dahuron, Lise*	2.00	20	W 1:30-4:15PM
EN.540.314	03	E		**ChemBE Product Design**	2.00	20	Th 9:00-11:45AM
EN.540.315	01	E		**Process Design with Aspen** *Goffin, An*	2.00	24	M 1:30-3:20PM
EN.540.315	02	E		**Process Design with Aspen** *Dahuron, Lise*	2.00	24	TBA
EN.540.315	03	E		**Process Design with Aspen**	2.00	24	Th 1:30-3:20PM

Chemical & Biomolecular Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.540.391	01	E		**Chemical Engineering Modeling and Design for Juniors** *Donohue, Marc D* The courses 540.290, 291, 390, and 391 guide the students through the open-ended problems in product and process design. Product design concerns the recognition of customer needs, the creation of suitable specifications, and the creation of new products to fulfill a societal need. Process design concerns the quantitative description of processes which serve to produce chemically-derived materials and the estimation of process profitability. Students work in small teams to complete a major project demonstrating their understanding of and proficiency in the principles of unit operations and design. Students report weekly both orally and in writing on their accomplishments. Some projects are single semester, but others can be multi-semester. Students can start in any semester and can work on projects for as many semesters as they want.	3.00	12	TBA
EN.540.403	01	E		**Colloids and Nanoparticles** *Bevan, Michael* Fundamental principles related to interactions, dynamics, and structure in colloidal, nanoparticle, and interfacial systems. Concepts covered include hdrodynamics, Brownian motion, diffusion, sedimentation, electrophoresis, colloidal and surface forces, polymeric forces, aggregation, deposition, and experimental methods. Modern topics related to colloids in nano- science and technology will be discussed throughout the course with frequent references to recent literature. Meets with EN.540.603	3.00	15	TTh 9:00-10:15AM
EN.540.419	01			**Projects in the Design of a Chemical Car** *Dahuron, Lise* Ready to put those concepts from class into practice? Members work over the course ofthe semester to design and build a chemically powered vehicle that will compete with other college teams at the American Institute of Chemical Engineers (AIChE) Regional Conference. In this course, the students work in small groups to design and construct the chassis along with chemically powered propulsion and break mechanisms within the constraints of the competition. In addition, students will give oral presentation, write reports, and do thorough safety analysis of their prototypes.	2.00	25	W 5:00-6:40PM
EN.540.421	01	E		**Project in Design: Pharmacodynamics** *Donohue, Marc D* This course covers pharmacodynamics, i.e. how pharmaceuticals affect biological processes. The course will use MatLab to aid in the design of new drug formulations.	3.00	20	TBA
EN.540.436	01	EN		**Design: Pharmacokinetics/Dynamics** *Donohue, Marc D*	3.00	16	TBA

Chemical & Biomolecular Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				One semester overview of year long course, students that want a comprehensive understanding of pharmacokinetics and pharmacodynamics should take the 2 courses EN.540.400 and EN.540.421. This course covers the principles of pharmacokinetics and pharmacodynamics. Computer models ofpharmacokinetic and pharmacodynamics behavior will be developed and then used to design better drug delivery regimens and to analyze drug chemistry modifications.			
EN.540.437	01	EN		**Application of Molecular Evolution to Biotechnology** *Ostermeier, Marc* One of the most promising strategies for successfully designing complex biomolecular fuinctions is to exploit nature's principles of evolution. This course provides an overview of the basics of molecular evolution as well as its experimental implementation. Current research problems in evolution-based biomolecular engineering will be used to illustrate principles in the design of biomolecules (i.e. protein engineering, RNA/DNA engineering), genetic circuits and complex biological systems including cells. Meets with EN.540.637	3.00	18	TTh 1:30-2:45PM
EN.540.440	01	E		**Micro/Nanotechnology: The Science and Engineering of Small Structures** *Gracias, David* The field of micro / nanotechnology has been gaining tremendous momentum as evidenced by an explosive rise in the number of publications, patents and commercial activities. This is an introductory course intended to expose students to the field as well as real world applications. Lectures will include an overview of scaling of material properties at the nanoscale, micro and nanofabrication methods and essential analytical tools of relevance to the field. All through the course, we will go over electronic, optical and biological applications of emerging micro and nanoscale devices and materials. Co-listed with EN.540.640.	3.00	15	TBA
EN.540.479	01	E		**Current Topics in Eukaryotic Cell Biotechnology** *Betenbaugh, Michael J*	3.00	15	TTh 5:00-7:30PM

Chemical & Biomolecular Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course involves integrated lecture/discussion and laboratory components to review and participate in current and emerging topics involving eukaryotic biotechnology. Lectures and discussions review how fundamentals of biochemical kinetics and biomolecular engineering are connected to emerging problems in mammalian, algal, and stem cell biotechnology. Laboratory activities are connected to diverse scientific and technological fundamental topics on these same themes. Journal article and research presentations provide a context for laboratory activities with respect to emerging industrial applications for eukaryotic cell types. Research design and strategy is discussed in terms of its ultimate implementation in laboratory, pilot plant, and eventually manufacturing facilities. Methodologies implemented include cell and metabolic engineering for improving yields and production rates of proteins, cells, and tissues. Example topics include expansion of mammalian, stem cells, and algae for the production of membrane proteins, biologics, biofuels, and complex metabolites.			
EN.540.490	01			**Chemical Laboratory Safety** *Kuespert, Daniel* This course is meant to provide the student with a basic knowledge of laboratory safety; hazards, regulations, personal protective equipment, good laboratory practice, elementary toxicology, and engineering controls. It has been developed by the Department of Chemical and Biomolecular Engineering to assist with regulatory compliance, minimize hazards, and reduce the severity of any incidents that may occur in the department's laboratories. The course is a prerequisite of EN.540.311/EN.540.313. It is required of all Chemical and Biomolecular Engineering undergraduates. In addition once per year a three-hour refresher seminar must be taken by all students involved in laboratory research.	1.00	100	Th 1:30-2:45PM

Civil Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.560.141	01	EQ	W	**Perspectives on the Evolution of Structures** *Schafer, Benjamin* Why do buildings and bridges look the way they do today? Students will be provided the tools to answer this question for themselves through a study of the history of the design of buildings and bridges throughout the world from both engineering and architectural/aesthetic perspectives. Only simple mathematics is required (no calculus). Students will participate in individual and group critique of structures from engineering, architectural, and social points of view.	3.00	100	TTh 3:00-4:15PM
EN.560.202	01	E		**Dynamics** *Graham-Brady, Lori* Basic principles of classical mechanics applied to the motion of particles, system of particles and rigid bodies. Kinematics: analytical description of motion; rectilinear and curvilinear motions of particles; rigid body motion. Kinetics: force, mass, and acceleration; energy and momentum principles. Introduction to vibration. Includes laboratory experience.	4.00	8	TTh 10:30-11:45AM; W 2:00-4:00PM
EN.560.202	02	E		**Dynamics**	4.00	8	TTh 10:30-11:45AM; Th 4:00-6:00PM
EN.560.206	01	E		**Solid Mechanics & Theory of Structures** *Shields, Michael D* Application of the principles of structural analysis for statically determinant and indeterminant structures (trusses, cables, beams, arches, and frames). Calculation of internal forces and stresses in members and structures. Determination of deflections by equilibrium and energy methods. Analysis of indeterminate structures by flexibility and stiffness methods.	4.00	35	Th 1:30-2:45PM; MW 1:30-2:50PM
EN.560.325	01	E		**Structural Design II** *Sangree, Rachel H* A continuation of Structural Design I, this course explores the behavior and conceptual design of structures. Emphasis is placed on identifying load paths through typical gravity and lateral load systems, modeling loads on real structures, and designing structural systems. Designing connections capable of transferring loads through a structural system will also be covered. Recommended Course Background: EN.560.320	3.00	25	MW 12:00-1:15PM
EN.560.330	01	E		**Foundation Design** *de Melo, Lucas T* Application of soil mechanics theory and soil test results to the analysis and design of foundations for structures; retaining walls; embankments; design of pile and shallow footing foundations; slope stability.	3.00	30	W 4:30-6:00PM; F 11:00-11:50AM

Civil Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.560.348	01	E		**Probability & Statistics in Civil Engineering** *Siddiqui, Sauleh A* Development and applications of the analysis of uncertainty, including basic probability, statistics and decision theory, in civil engineering systems. Recommended Course Background: AS.110.109	3.00	162	TTh 9:00-10:15AM
EN.560.429	01	E		**Preservation Engineering: Theory and Practice** *Sangree, Rachel H* The renovation of existing buildings often holds many advantages over new construction, including greater economy, improved sustainability, and the maintenance of engineering heritage and architectural character in our built environment. Yet, the renovation of existing structures presents many challenges to structural engineers. These challenges include structural materials that are no longer in widespread use (e.g., unreinforced masonry arches and vaults, cast iron, and wrought iron) as well as structural materials for which analysis and design practices have changed significantly over the last half-century (e.g., wood, steel, and reinforced concrete). This course will examine structures made of a wide variety of materials and instruct the student how to evaluate their condition, determine their existing capacity, and design repairs and/or reinforcement. The investigation and analysis procedures learned from this course may then be applied to create economical and durable structural alterations that allow for the reuse of older buildings. Site visits near Homewood campus will supplement lectures.	3.00	19	T 4:00-6:50PM
EN.560.447	01	E		**Systems Science for a Dynamic World** *Epstein, Joshua* The course provides an interdisciplinary overview of mathematical and computational models of human driven systems. It spans a wide range of topics including the spread of infectious diseases, the dynamics of revolution and civil violence, ethnic segregation, land use change, urban disaster preparedness, computational reconstruction of ancient civilizations, and more. The course prepares students to develop their own models—alone or in teams. The NetLogo modeling environment will be presented, although students are welcome to use any language. Students are assessed by class projects at the end of the course.	3.00	50	W 3:00-5:30PM
EN.560.452	01	E		**Civil Engineering Design II** *Matteo, John* A study of the engineering design process from problem definition to the final design. There are team projects which include written and oral presentations. Requirements: Student must be a senior in Civil Engineering.	3.00	25	Th 4:00-6:50PM
EN.560.491	01	E		**Civil Engineering Seminar I** *Sangree, Rachel H*	0.50	50	T 12:00-12:50PM

Civil Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Seminar series of speakers on various aspects of civil engineering. Juniors and Seniors in Civil Engineering are expected to enroll in this sequence; juniors and seniors receive one-half credit. Different speakers are invited each semester. Satisfactory/ Unsatisfactory only			
EN.560.492	01	E		**Civil Engineering Seminar II** *Sangree, Rachel H* Seminar series of speakers on various aspects of civil engineering. Juniors and Seniors in Civil Engineering are expected to enroll in this sequence; juniors and seniors receive one-half credit. Different speakers are invited each semester. Satisfactory/ Unsatisfactory only	0.50	50	T 12:00-12:50PM
EN.560.493	01	E		**Civil Engineering Seminar III** *Sangree, Rachel H* Seminar series of speakers on various aspects of civil engineering. Juniors and Seniors in Civil Engineering are expected to enroll in this sequence; juniors and seniors receive one-half credit. Different speakers are invited each semester. Satisfactory/ Unsatisfactory only	0.50	50	T 12:00-12:50PM
EN.560.494	01	E		**Civil Engineering Seminar IV** *Sangree, Rachel H* Seminar series of speakers on various aspects of civil engineering. Juniors and Seniors in Civil Engineering are expected to enroll in this sequence; juniors and seniors receive one-half credit. Different speakers are invited each semester. Satisfactory/ Unsatisfactory only	0.50	50	T 12:00-12:50PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.520.434	01			**Modern Biomedical Imaging Instrumentation and Techniques** *Tsui, Benjamin* An intermediate biomedical imaging course covering modern biomedical imaging instrumentation and techniques as applied to diagnostic radiology and other biomedical applications. It includes recent advances in various biomedical imaging modalities, multi-modality imaging and molecular imaging. The course is team taught by experts in the respective fields and provides a broad based knowledge of modern biomedical imaging to prepare students for graduate studies and research in biomedical imaging. Also, the course will offer tours and practical experience with modern biomedical imaging equipments in clinical and research settings. Co-listed with EN.580.473	3.00	22	TTh 9:00-10:15AM
EN.580.473	01	EN		**Modern Biomedical Imaging Instrumentation and Techniques** *Tsui, Benjamin* An intermediate biomedical imaging course covering modern biomedical imaging instrumentation and techniques as applied to diagnostic radiology and other biomedical applications. It includes recent advances in various biomedical imaging modalities, multi-modality imaging and molecular imaging. The course is team taught by experts in the respective fields and provides a broad based knowledge of modern biomedical imaging to prepare students for graduate studies and research in biomedical imaging. Also, the course will offer tours and practical experience with modern biomedical imaging equipment in clinical and research settings. Co-listed with EN.520.434 Recommended course background: EN.520.432 or EN.580.472	3.00	10	TTh 9:00-10:15AM
EN.600.104	01	H		**Computer Ethics** *Kosaraju, Sheela* Students will examine a variety of topics regarding policy, legal, and moral issues related to the computer science profession itself and to the proliferation of computers in all aspects of society, especially in the era of the Internet. The course will cover various general issues related to ethical frameworks and apply those frameworks more specifically to the use of computers and the Internet. The topics will include privacy issues, computer crime, intellectual property law -- specifically copyright and patent issues, globalization, and ethical responsibilities for computer science professionals. Work in the course will consist of weekly assignments on one or more of the readings and a final paper on a topic chosen by the student and approved by the instructor. CS Majors Only - Alternate Weeks	1.00	20	W 6:00-8:00PM
EN.600.107	01	E		**Introductory Programming in Java** *More, Sara K*	3.00	140	MW 1:30-2:45PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course introduces fundamental structured and object-oriented programming concepts and techniques, using Java, and is intended for all who plan to use computer programming in their studies and careers. topics covered include variables, arithmetic operators, control structures, arrays, functions, recursion, dynamic memory allocation, files, class usage and class writing. Program design and testing are also covered, in addition to more advanced object-oriented concepts including inheritance and exceptions as time permits. First-time programmers are strongly advised to take EN.600.108 concurrently. Mus have familiarity with computers. Students may receive credit for EN.600.107 or EN.600.112, but not both.			
EN.600.108	01	E		**Introduction to Programming Lab** *More, Sara K* This course is intended for novice programmers, and must be taken in conjunction with EN.600.107. The purpose of this course is to give first-time programmers extra hands-on practice with guided supervision. Students will work in pairs each week to develop working programs, with checkpoints for each development phase. Must have familiarity with computers. Satisfactory/Unsatisfactory only.	1.00	24	W 6:00-9:00PM
EN.600.108	02	E		**Introduction to Programming Lab**	1.00	24	Th 4:30-7:30PM
EN.600.108	03	E		**Introduction to Programming Lab**	1.00	16	F 1:30-4:30PM
EN.600.120	01	E		**Intermediate Programming** *Staff* This course teaches intermediate to advanced programming, using C and C++. (Prior knowledge of these languages is not expected.) We will cover low-level programming techniques, as well as object-oriented class design, and the use of class libraries. Specific topics include pointers, dynamic memory allocation, polymorphism, overloading, inheritance, templates, collections, exceptions, and others as time permits. Students are expected to learn syntax and some language specific features independently. Course work involves significant programming projects in both languages. Recommended Course Background: AP CS, EN.600.107, EN.600.111, EN.600.112 or equivalent.	4.00	30	MWF 1:30-2:45PM
EN.600.120	02	E		**Intermediate Programming**	4.00	30	MWF 3:00-4:15PM
EN.600.120	03	E		**Intermediate Programming**	4.00	30	MWF 4:30-5:45PM
EN.600.226	01	EQ		**Data Structures** *More, Sara K* This course covers the design and implementation of data structures including collections, sequences, trees, and graphs. Other topics include sorting, searching, and hashing. Course work involves both written homework and Java programming assignments. Recommended Course Background: AP CS, EN.600.107 or EN.600.120 .	4.00	40	MWF 12:00-1:15PM
EN.600.226	02	EQ		**Data Structures**	4.00	40	MWF 12:00-1:15PM
EN.600.233	01	E		**Computer System Fundamentals**	3.00	30	MWF 1:30-2:20PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Froehlich, Peter [Formerly EN.600.333/433] We study the design and performance of a variety of computer systems from simple 8-bit micro-controllers through 32/64-bit RISC architectures all the way to ubiquitous x86 CISC architecture. We'll start from logic gates and digital circuits before delving into arithmetic and logic units, registers, caches, memory, stacks and procedure calls, pipelined execution, super-scalar architectures, memory management units, etc. Along the way we'll study several typical instruction set architectures and review concepts such as interrupts, hardware and software exceptions, serial and other peripheral communications protocols, etc. A number of programming projects, frequently done in assembly language and using various processor simulators, round out the course. [Systems] . Students may receive credit for only one of EN.600.233, EN.600.333 or EN.600.433. Recommended Course Background: intro programming			
EN.600.233	02	E		**Computer System Fundamentals**	3.00	30	MWF 1:30-2:20PM
EN.600.250	01	E		**User Interfaces and Mobile Applications** *Selinski, Joanne F* This course will provide students with a rich development experience, focused on the design and implementation of user interfaces and mobile applications. A brief overview of human computer interaction will provide context for designing, prototyping and evaluating user interfaces. Students will invent their own mobile applications and implement them using the Android SDK, which is JAVA based. An overview of the Android platform and available technologies will be provided, as well as XML for layouts, and general concepts for effective mobile development. Students will be expected to explore and experiment with outside resources in order to learn technical details independently. There will also be an emphasis on building teamwork skills, and on using modern development techniques and tools.	3.00	35	TTh 3:00-4:15PM
EN.600.271	01	EQ		**Automata & Computation Theory** *Checkoway, Stephen F* This course is an introduction to the theory of computing. topics include design of finite state automata, pushdown automata, linear bounded automata, Turing machines and phrase structure grammars; correspondence between automata and grammars; computable functions, decidable and undecidable problems, P and NP problems, NP-completeness, and randomization. Students may not receive credit for EN.600.271 and EN.600.471 for the same degree.	3.00	75	TTh 1:30-2:45PM
EN.600.316	01	E		**Database Systems** *Ahmad, Yanif N*	3.00	20	MW 12:00-1:15PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course serves as an introduction to the architecture and design of modern database management systems. topics include query processing algorithms and data structures, data organization and storage, query optimization and cost modeling, transaction management and concurrency control, high-availability mechanisms, parallel and distributed databases, and a survey of modern architectures including NoSQL, column-oriented and streaming databases. Course work includes programming assignments and experimentation in a simple database framework written in Java. [Systems] Students may receive credit for EN.600.316 or EN.600.416, but not both.			
EN.600.318	01	E		**Operating Systems** *Froehlich, Peter* This course covers fundamental topics related to operating systems theory and practice. Topics include processor management, storage management, concurrency control, multi-programming and processing, device drivers, operating system components (e.g., file system, kernel), modeling and performance measurement, protection and security, and recent innovations in operating system structure. Course work includes the implementation of operating systems techniques and routines, and critical parts of a small but functional operating system. Students may receive credit for EN.600.318 or EN.600.418 but not both. Recommended Course Background: EN.600.211	4.00	30	MWF 10:00-10:50AM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.600.320	01	E		**Parallel Programming** *Burns, Randal* This course prepares the programmer to tackle the massive data sets and huge problem size of modern scientific and enterprise computing. Google and IBM have commented that undergraduate CS majors are unable to "break the single server mindset" (http://www.google.com/intl/en/press/pressrel/20071008_ibm_univ.html). Students taking this course will abandon the comfort of serial algorithmic thinking and learn to harness the power of cutting-edge software and hardware technologies. The issue of parallelism spans many architectural levels. Even ``single server'' systems must parallelize computation in order to exploit the inherent parallelism of recent multi-core processors. The course will examine different forms of parallelism in four sections. These are: (1) massive data-parallel computations with Hadoop!; (2) programming compute clusters with MPI; (3) thread-level parallelism in Java; and, (4) GPGPU parallel programming with NVIDIA's Cuda. Each section will be approximately 3 weeks and each section will involve a programming project. The course is also suitable for undergraduate and graduate students from other science and engineering disciplines that have prior programming experience. [Systems] Students may receive credit for EN.600.320 or EN.600.420, but not both. Recommended Course Background:.EN.600.333	3.00	30	MW 4:30-5:45PM
EN.600.325	01	E		**Declarative Methods** *Eisner, Jason* Suppose you could simply write down a description of your problem, and let the computer figure out how to solve it. What notation could you use? What strategy should the computer then use? In this survey class, you'll learn to recognize when your problem is an instance of satisfiability, constraint programming, logic programming, dynamic programming, or mathematical programming (e.g., integer linear programming). For each of these related paradigms, you'll learn to reformulate hard problems in the required notation and apply off-the-shelf software that can solve any problem in that notation -- including NP-complete problems and many of the problems you'll see in other courses and in the real world. You'll also gain some understanding of the general-purpose algorithms that power the software. [Analysis] Students can only receive credit for EN.600.325 or EN.600.425, not both.	3.00	30	MWF 3:00-4:15PM
EN.600.328	01	E		**Compilers and Interpreters** *Froehlich, Peter*	3.00	30	MWF 10:00-10:50AM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Introduction to compiler design, including lexical analysis, parsing, syntax-directed translation, symbol tables, run-time environments, and code generation and optimization. Students are required to write a compiler as a course project. [Systems] Co-listed with EN.600.428			
EN.600.335	01	E		**Artificial Intelligence** *Mitchell, Benjamin* Artificial intelligence (AI) is introduced by studying automated reasoning, automatic problem solvers and planners, knowledge representation mechanisms, game playing, machine learning, and statistical pattern recognition. The class is a recommended for all scientists and engineers with a genuine curiosity about the fundamental obstacles to getting machines to perform tasks such as deduction, learning, and planning and navigation. Strong programming skills and a good grasp of the English language are expected; students will be asked to complete both programming assignments and writing assignments. The course will include a brief introduction to scientific writing and experimental design, including assignments to apply these concepts. [Applications] Recommended: linear algebra, prob/stat. Students can only receive credit for EN.600.335 or EN.600.435, not both.	3.00	30	WF 12:00-1:15PM
EN.600.344	01	E		**Computer Network Fundamentals** *DeSimone, Antonio* This course considers intersystem communications issues. topics covered include layered network architectures; the OSI model; bandwidth, data rates, modems, multiplexing, error detection/correction; switching; queuing models, circuit switching, packet switching; performance analysis of protocols, local area networks; and congestion control. [Systems] Students can only receive credit for EN.600.344 or EN.600.444, not both.	3.00	30	TTh 4:30-5:45PM
EN.600.355	01	E		**Video Game Design Project** *Froehlich, Peter* An intensive capstone design project experience in video game development. Students will work in groups of 4-8 on developing a complete video game of publishable quality. Teams will (hopefully) include programmers, visual artists, composers, and writers. Students will be mentored by experts from industry and academia. Aside from the project itself, project management and communication skills will be emphasized. Enrollment is limited to ensure parity between the various disciplines. [General] May involve travel to MICA. Junior or senior standing recommended.	3.00	20	W 4:30-7:30PM
EN.600.363	01	EQ		**Introduction To Algorithms** *Braverman, Vladimir*	3.00	30	TTh 9:00-10:15AM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course concentrates on the design of algorithms and the rigorous analysis of their efficiency. topics include the basic definitions of algorithmic complexity (worst case, average case); basic tools such as dynamic programming, sorting, searching, and selection; advanced data structures and their applications (such as union-find); graph algorithms and searching techniques such as minimum spanning trees, depth-first search, shortest paths, design of online algorithms and competitive analysis. [Analysis] Students may receive credit for EN.600.363 or EN.600.463, but not both.			
EN.600.371	01	E		**Software Tools Practicum** *Staff* This course will survey the wide range of tools, frameworks and packages that form a foundation for much of the modern Internet. Each week, a group of students will present a particular software package to the class, exploring the architectural, historical and competitive aspects. The weekly lab work and assignments will focus on testing the software and understanding its contributions to providing the services that support the Internet. The software will be chosen from a list of popular packages like Hudson, Drupal, Docker, WordPress, Node.js, jQuery, Django, Ruby on Rails, Git, Coffeescript, Ember, Angular, MongoDB, Couch, and others. Students will select one package and work with others to explore the packages, learn how they work and then summarize this knowledge by creating a presentation for the class. [General] CS majors only.	3.00	30	TBA
EN.600.402	01	E		**Medical Informatics** *Lehmann, Harold P* Advances in technology are driving a change in medicine, from personalized medicine to population health. Computers and information technology will be critical to this transition. We shall discuss some of the coming changes in terms of computer technology, including computer-based patient records, clinical practice guidelines, and region-wide health information exchanges. We will discuss the underlying technologies driving these developments - databases and warehouses, controlled vocabularies, and decision support.	1.00	30	MW 4:30-5:45PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.600.411	01	E		**Computer Science Innovation & Entrepreneurship II** *Dahbura, Anton T* This course is the second half of a two-course sequence and is a continuation of course EN.660.410.01, CS Innovation and Entrepreneurship, offered by the Center for Leadership Education (CLE). In this sequel course the student groups, directed by CS faculty, will implement the business idea which was developed in the first course and will present the implementations and business plans to an outside panel made up of practitioners, industry representatives, and venture capitalists. [General]	3.00	10	F 6:00-9:00PM
EN.600.416	01	E		**Database Systems** *Ahmad, Yanif N* Similar material as EN.600.316, covered in more depth. Intended for upper-level undergraduates and graduate students. Students may receive credit for EN.600.316 or EN.600.416, but not both. Recommended Course Background: EN.600.120 and EN.600.226	3.00	30	MW 12:00-1:30PM
EN.600.418	01	E		**Operating Systems** *Froehlich, Peter* Similar material as EN.600.318, covered in more depth. Intended for upper-level undergraduates and graduate students. Students may receive credit for EN.600.318 or EN.600.418, but not both. [Systems]	3.00	20	MWF 10:00-10:50AM
EN.600.420	01	E		**Parallel Programming** *Burns, Randal* Graduate level version of EN.600.320. Students may receive credit for EN.600.320 or EN.600.420, but not both. Recommended Course Background: EN.600.120 or equivalent.	3.00	40	MW 4:30-5:45PM
EN.600.424	01	E		**Network Security** *Nielson, Seth J* This course focuses on communication security in computer systems and networks. The course is intended to provide students with an introduction to the field of network security. The course covers network security services such as authentication and access control, integrity and confidentiality of data, firewalls and related technologies, Web security and privacy. Course work involves implementing various security techniques. A course project is required. [Systems] EN.600.120 (or equivalent) recommended.	3.00	30	TTh 3:00-4:15PM
EN.600.425	01	E		**Declarative Methods** *Eisner, Jason* Students can only receive credit for EN.600.325 or EN.600.425, not both. Graduate level version of EN.600.325. Recommended Course Background: EN.600.226, EN.600.271, AS.110.107/AS.110.109	3.00	30	MWF 3:00-4:15PM
EN.600.426	01	EQ		**Principles of Programming Languages** *Smith, Scott F*	3.00	40	MW 1:30-2:45PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Functional, object-oriented, and other language features are studied independent of a particular programming language. Students become familiar with these features by implementing them. Most of the implementations are in the form of small language interpreters. Some type checkers and a small compiler will also be written. The total amount of code written will not be overly large, as the emphasis is on concepts. The ML programming language is the implementation language used. [Analysis] No Freshmen or Sophomores. Recommended Course Background: EN.600.226			
EN.600.428	01	E		**Compilers & Interpreters** *Froehlich, Peter* Introduction to compiler design, including lexical analysis, parsing, syntax-directed translation, symbol tables, run-time environments, and code generation and optimization. Students are required to write a compiler as a course project. Co-listed with EN.600.328. Students should have knowledge of C/C++ programming and data structures. Graduate version of EN.600.328. Students may receive credit for EN.600.328 or EN.600.428, but not both.	3.00	30	MWF 10:00-10:50AM
EN.600.430	01	HQ		**Ontologies and Knowledge Representation** *Rynasiewicz, Robert* Knowledge representation (KR) deals with the possible structures by which the content of what is known can be formally represented in such a way that queries can be posed and inferences drawn. Ontology concerns the hierarchi- cal classification of entities from given domains of knowledge together with the relations between various classes or subclasses. We begin with KR, examining the standard variety of frameworks developed or implemented over the last twenty years, including 1st-order logic and automated theorem proving, networks, frames, and description logics. Then we move on to a study of the problems inherent in ontology development and examine the some of the currently prevalent environments, including Universal Modeling Language, OWL and Protege', RDFS and semantic web applications. [Analysis] Recommended Course Background: EN.600.107 and EN.600.271	3.00	10	TTh 1:30-2:45PM
EN.600.435	01	E		**Artificial Intelligence** *Mitchell, Benjamin* Students may receive credit for EN.600.335 or EN.600.435, not both. Graduate level version of EN.600.335 [Applications]. Prerequisite: EN.600.226, EN.550.171; Recommended: linear algebra, prob/stat.	3.00	30	WF 12:00-1:15PM
EN.600.436	01	E		**Algorithms for Sensor-Based Robotics** *Hager, Gregory*	3.00	30	TTh 3:00-4:15PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course surveys the development of robotic systems for navigating in an environment from an algorithmic perspective. It will cover basic kinematics, configuration space concepts, motion planning, and localization and mapping. It will describe these concepts in the context of the ROS software system, and will present examples relevant to mobile platforms, manipulation, robotics surgery, and human-machine systems. [Analysis] Formerly EN.600.336. Students may receive credit for only one of EN.600.336, EN.600.436 and EN.600.636.			
EN.600.444	01	E		**Computer Networks** *DeSimone, Antonio* This course considers intersystem communications issues. Topics covered include layered network architectures; the OSI model; bandwidth, data rates, modems, multiplexing, error detection/correction; switching; queuing models, circuit switching, packet switching; performance analysis of protocols, local area networks; and congestion control. Recommended Course Background: EN.600.333 or EN.600.433 or permission. Students can only receive credit for EN.600.344 or EN.600.444, not both.	3.00	30	TTh 4:30-5:45PM
EN.600.446	01	E		**Computer Integrated Surgery II** *Taylor, Russell H* This weekly lecture/seminar course addresses similar material to EN.600.445, but covers selected topics in greater depth. In addition to material covered in lectures/seminars by the instructor and other faculty, students are expected to read and provide critical analysis/presentations of selected papers in recitation sessions. Students taking this course are required to undertake and report on a significant term project under the supervision of the instructor and clinical end users. Typically, this project is an extension of the term project from EN.600.445, although it does not have to be. Grades are based both on the project and on classroom recitations. Students wishing to attend the weekly lectures as a 1-credit seminar should sign up for EN.600.452. Students may also take this course as EN.600.646. The only difference between EN.600.446 and EN.600.646 is the level of project undertaken. Typically, EN.600.646 projects require a greater degree of mathematical, image processing, or modeling background. Prospective students should consult with the instructor as to which course number is appropriate. [Applications] Students may receive credit for EN.600.446 or EN.600.646, but not both.	3.00	35	TTh 1:30-2:45PM
EN.600.451	01	E		**Introduction to Bitcoin and Other Crypto-currencies** *Ateniese, Giuseppe*	3.00	30	MW 12:00-1:15PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course covers the basics of Bitcoin and the underlying technologies driving it. The course is intended for students interested in the cryptographic techniques devised to make digital currencies and payment systems secure. Topics include Bitcoin transactions, the blockchain, mining, and decentralized consensus. The course will include a brief introduction to public-key cryptography, digital signatures, hash functions, proof of work/space, multisignatures, and elliptic curve cryptography. The course concludes with an overview of the Bitcoin scripting language and Bitcoin 2.0 platforms. [Systems] Recommended Course Background: EN.600.344/444 (Computer Networks) and EN.550.171 (Discrete Math)			
EN.600.452	01	E		**Seminar: Computer Integrated Surgery II** *Taylor, Russell H* Students may receive credit for EN.600.446 or EN.600.452, but not both. Lecture only version of EN.600.446 (no project). Recommended Course Background: EN.600.445 or instructor permission required.	1.00	5	TTh 1:30-2:45PM
EN.600.454	01	E		**Practical Cryptographic Systems** *Green, Matthew* This semester-long course will teach systems and cryptographic design principles by example: by stud-ying and identifying flaws in widely-deployed cryptographic products and protocols. Our focus will be on the techniques used in practical security systems, the mistakes that lead to failure, and the approaches that might have avoided the problem. We will place a particular emphasis on the techniques of provable security and the feasibility of reverse-engineering undocumented cryptographic systems. [Systems]	3.00	20	MW 3:00-4:15PM
EN.600.463	01	EQ		**Algorithms I** *Braverman, Vladimir* Graduate version of EN.600.363. Students may receive credit for EN.600.363 or EN.600.463, but not both. Recommended Course Background: EN.600.226 and EN.550.171 or instructor permission required.	3.00	30	TTh 9:00-10:15AM
EN.600.466	01	E		**Information Retrieval and Web Agents** *Yarowsky, David*	3.00	60	TTh 3:00-4:15PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				An in-depth, hands-on study of current information retrieval techniques and their application to developing intelligent WWW agents. Topics include a comprehensive study of current document retrieval models, mail/news routing and filtering, document clustering, automatic indexing, query expansion, relevance feedback, user modeling, information visualization and usage pattern analysis. In addition, the course explores the range of additional language processing steps useful for template filling and information extraction from retrieved documents, focusing on recent, primarily statistical methods. The course concludes with a study of current issues in information retrieval and data mining on the World Wide Web. Topics include web robots, spiders, agents and search engines, exploring both their practical implementation and the economic and legal issues surrounding their use. Recommended Course Background: EN.600.226			
EN.600.468	01	E		**Machine Translation** *Koehn, Philipp* Google translate can instantly translate between any pair of over fifty human languages (for instance, from French to English). How does it do that? Why does it make the errors that it does? And how can you build something better? Modern translation systems learn to translate by reading millions of words of already translated text, and this course will show you how they work. The course covers a diverse set of fundamental building blocks from linguistics, machine learning, algorithms, data structures, and formal language theory, along with their application to a real and difficult problem in artificial intelligence. Recommended Course Background: prob/stat, EN.600.226; EN.600.465	3.00	30	TTh 1:30-2:45PM
EN.600.469	01	EQ		**Approximation Algorithms** *Dinitz, Michael H* This course provides an introduction to approximation algorithms. Topics include vertex cover, TSP, Steiner trees, cuts, greedy approach, linear and semi-definite programming, primal-dual method, and randomization. Additional topics will be covered as time permits. There will be a final project. Students may receive credit for EN.600.469 or EN.600.669, but not both. [Analysis]	3.00	20	TTh 3:00-4:15PM
EN.600.470	01	EQ		**Combinatorics & Graph Theory in Computer Science** *Li, Xin*	3.00	25	TTh 12:00-1:15PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This is a graduate level course studying the applications of combinatorics and graph theory in computer science. We will start with some basic combinatorial techniques such as counting and pigeon hole principle, and then move to advanced techniques such as the probabilistic method, spectral graph theory and additive combinatorics. We shall see their applications in various areas in computer science, such as proving lower bounds in computational models, randomized algorithms, coding theory and pseudorandomness. [Analysis] Recommended Course Background: probability theory and linear algebra			
EN.600.476	01	EQ		**Machine Learning in Complex Domains** *Saria, Suchi* How can robots localize themselves in an environment when navigating? Can we predict which patients are at greatest-risk for complications in the hospital? Which movie should I recommend to this user given his history of likes? Many such big data questions can be answered using the paradigm of probabilistic models in machine learning. These are especially useful when common off-the-shelf algorithms such as support vector machines and k-means fail. You will learn methods for clustering, classification, structured prediction, recommendation and inference. We will use Murphy's book, Machine Learning: a Probabilistic Perspective, as the text for this course. Assignments are solved in groups of size 1-3 students. The class will have 4 interactive sessions during which we brainstorm how to solve example open-ended real-world problems with the tools learnt in class. Students are also required to do a project of their choice within which they experiment with the ideas learnt in class. [Analysis or Applications] Students may receive credit for EN.600.476 or EN.600.676, but not both. Recommended Course Background: 1) Proficiency in at least one programming language is expected. 2) A class in probability theory or statistics or introductory machine learning is required.	3.00	15	TTh 4:30-5:45PM
EN.600.492	05	E		**Comp Science Workshop II** *Smith, Scott F* Permission of faculty sponsor is required.			None
EN.600.492	06	E		**Comp Science Workshop II** *Selinski, Joanne F*			None
EN.600.492	13	E		**Comp Science Workshop II** *Yarowsky, David*			None
EN.600.492	28	E		**Comp Science Workshop II** *Froehlich, Peter*			None

Electrical & Computer Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.510.314	01	EN		**Electronic Properties of Materials** *Poehler, Theodore O* Fourth of the Introduction to Materials Science series, this course is devoted to a study of the electronic, optical and magnetic properties of materials. Lecture topics include electrical and thermal conductivity, thermoelectricity, transport phenomena, dielectric effects, piezoelectricity, and magnetic phenomena.	3.00	40	MWF 11:00-11:50AM
EN.520.142	01	EQ		**Digital Systems Fundamentals** *Meyer, Gerard G* Number systems and computer codes, switching functions, minimization of switching functions, Quine - McCluskey method, sequential logic, state tables, memory devices, analysis, and synthesis of synchronous sequential devices.	3.00	93	MWF 11:00-11:50AM
EN.520.212	02	E		**ECE Engineering Team Project (Freshmen and Sophomores)** *Etienne Cummings, Ralph* This course introduces the student to the basics of engineering team projects. The student will participate in an ECE engineering team project as a member. The student is expected to participate in the different aspects of the project over several semesters. (Freshmen and Sophomores) Permission of instructor required.	1.00	100	WTh 4:30-5:45PM
EN.520.212	03	E		**ECE Engineering Team Project (Freshmen and Sophomores)**	1.00	100	WTh 4:30-5:45PM
EN.520.214	01	EQ		**Signals & Systems I** *Cooper, A Brinton, III.* An introduction to discrete-time and continuous-time signals and systems covers representation of signals and linear time-invariant systems and Fourier analysis.	4.00	28	TTh 10:30-11:45AM; W 4:30-5:30PM
EN.520.214	02	EQ		**Signals & Systems I**	4.00	28	TTh 10:30-11:45AM; M 3:30-4:30PM
EN.520.216	01	E		**Introduction To VLSI** *Andreou, Andreas* This course teaches the basics of switch-level digital CMOS VLSI design. This includes creating digital gates using MOS transistors as switches, laying out a design using CAD tools, and checking the design for conformance to the Scalable CMOS design rules. Recommended: EN.520.213.	3.00	60	TTh 3:00-4:15PM
EN.520.220	01	EN		**Fields, Matter & Waves** *Foster, Mark A* Magnetostatic fields in vacuum and material media. Maxwell's equations and time-dependent electric and magnetic fields, electromagnetic waves and radiation, transmission lines, wave guides, applications.	3.00	35	MW 3:00-4:15PM
EN.520.222	01	E		**Computer Architecture** *Jenkins, Robert E*	3.00	25	TTh 3:00-4:15PM

Electrical & Computer Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				A study of the structure and organization of classical von Neuman uniprocessor computers. Topics include a brief history of modern machines starting from the Turing computer model, instruction sets, addressing, RISC versus CICS, traps and interrupt handling, twos complement arithmetic, adders and ALUs, CSA's Booth's algorithm, multiplication and division, control unit design, microprogramming, dynamic versus static linking, memory systems and memory hierarchy, paging segmentation, cache hardware, cache organizations, and replacement policies.			
EN.520.353	01	E		**Control Systems** *Tarraf, Danielle* Modeling, analysis, and an introduction to design for feedback control systems. Topics include state equation and transfer function representations, stability, performance measures, root locus methods, and frequency response methods (Nyquist, Bode).	3.00	35	TTh 1:30-2:45PM
EN.520.372	01	E		**Programmable Device Lab** *Glaser, Robert E* The use of programmable memories (ROMs, EPROMs, and EEPROMs) as circuit elements (as opposed to storage of computer instructions) is covered, along with programmable logic devices (PALs and GALs). These parts permit condensing dozens of standard logic packages (TTL logic) into one or more off-the-shelf components. Students design and build circuits using these devices with the assistance of CAD software. Topics include programming EEPROMs; using PLDs as address decoders; synchronous sequential logic synthesis for PLDs; and PLD-based state machines. Recommended Course Background: EN.520.142 and EN.520.345	3.00	20	Th 12:00-12:50PM; Th 1:30-4:20PM
EN.520.402	01	EN		**Digital Communications** *Davidson, Frederic* This is a first course in digital communications. Topics covered are sampling theorem, representation and reconstruction of analog signals from sampled values, quantization noise, pulse code modulation, delta modulation, digital waveform encoding, signal space descriptions of binary and M-ary signaling schemes (BPSK, QAM, FSK, PAM, PSK), optimal receivers, effects of additive Gaussian noise on bit error rates, digital transmission through band-limited channels, and multicarrier transmission systems (OFDM). System concepts will be emphasized through implementation with TIMS hardware. This course is a replacement for EN.520.401 and EN.520.465 and can not be taken by students who have taken these courses.	3.00	40	TTh 10:30-11:45AM

Electrical & Computer Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.520.415	01	E		**Image Process & Analysis II** *Goutsias, John I* This course covers fundamental methods for the processing and analysis of images and describes standard and modern techniques for the understanding of images by morphological image processing and analysis, image representation and description, image recognition and interpretation.	3.00	30	MW 4:30-5:45PM
EN.520.424	01	EQ		**FPGA Synthesis Lab** *Jenkins, Robert E* An advanced laboratory course in the application of FPGA technology to information processing, using VHDL synthesis methods for hardware development. The student will use commercial CAD software for VHDL simulation and synthesis, and implement their systems in programmable XILINX 20,000 gate FPGA devices. The lab will consist of a series of digital projects demonstrating VHDL design and synthesis methodology, building up to final projects at least the size of an 8-bit RISC computer. Projects will encompass such things as system clocking, flip-flop registers, state-machine control, and arithmetic. The students will learn VHDL methods as they proceed through the lab projects, and prior experience with VHDL is not a prerequisite.	3.00	13	T 3:00-5:30PM; Th 4:15-6:00PM
EN.520.433	01	E		**Medical Image Analysis** *Prince, Jerry Ladd* This course covers the principles and algorithms used in the processing and analysis of medical images. Topics include, interpolation, registration, enhancement, feature extraction, classification, segmentation, quantification, shape analysis, motion estimation, and visualization. Analysis of both anatomical and functional images will be studied and images from the most common medical imaging modalities will be used. Projects and assignments will provide students experience working with actual medical imaging data.	3.00	40	MW 3:00-4:15PM
EN.520.434	01			**Modern Biomedical Imaging Instrumentation and Techniques** *Tsui, Benjamin* An intermediate biomedical imaging course covering modern biomedical imaging instrumentation and techniques as applied to diagnostic radiology and other biomedical applications. It includes recent advances in various biomedical imaging modalities, multi-modality imaging and molecular imaging. The course is team taught by experts in the respective fields and provides a broad based knowledge of modern biomedical imaging to prepare students for graduate studies and research in biomedical imaging. Also, the course will offer tours and practical experience with modern biomedical imaging equipments in clinical and research settings. Co-listed with EN.580.473	3.00	22	TTh 9:00-10:15AM
EN.520.448	01			**Electronics Design Lab** *Etienne Cummings, Ralph*	3.00	30	W 11:00-11:50AM; F 1:30-4:20PM

Electrical & Computer Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				An advanced laboratory course in which teams of students design, build, test and document application specific information processing microsystems. Semester long projects range from sensors/actuators, mixed signal electronics, embedded microcomputers, algorithms and robotics systems design. Demonstration and documentation of projects are important aspects of the evaluation process. Recommended: EN.600.333, EN.600.334, EN.520.349, EN.520.372, EN.520.490 or EN.520.491.			
EN.520.448	02			**Electronics Design Lab** *Pouliquen, Philippe O*	3.00	30	W 11:00-11:50AM; F 2:00-4:50PM
EN.520.450	01			**Advanced Micro-Processor Lab** *Glaser, Robert E* This course covers the usage of common microcontroller peripherals. Interrupt handling, timer operations, serial communication, digital to analog and analog to digital conversions, and flash ROM programming are done on the 68HC08, 8051, and eZ8 microcontrollers. Upon completion, students can use these flash-based chips as elements in other project courses. Recommended Course Background: EN.520.349	3.00	20	Th 10:30AM-1:20PM; Th 8:00-8:50AM
EN.520.450	02			**Advanced Micro-Processor Lab**	3.00	20	Th 1:30-4:20PM; Th 8:00-8:50AM
EN.520.453	02	E		**Advanced ECE Engineering Team Project** *Etienne Cummings, Ralph* The course introduces the student to running an engineering team project. The student will participate in the ECE engineering team project as a leading member. The student is expected to participate in the different aspects of the project over several semesters and manage both team members and the project. (Juniors and Seniors) Permission of instructor is required.	3.00	100	WTh 4:30-5:45PM
EN.520.453	03	E		**Advanced ECE Engineering Team Project**	3.00	100	WTh 4:30-5:45PM
EN.520.473	01	EN		**Magnetic Resonance in Medicine** *Herzka, Daniel* This course provides a wide-ranging introduction to the physics and principles of magnetic resonance imaging (MRI). Topics include the resonance phenomenon, relaxation, signal formation, spatial localization, image contrast, hardware, signal processing, and image reconstruction. MATLAB simulation exercises will demonstrate key aspects of MRI and a laboratory component using the clinical MRI systems at the School of Medicine will reinforce concepts learned in class. Textbook "Principles of Magnetic Resonance Imaging" by D. Nishimura (from www.lulu.com) should be obtained before the start of the course. Recommended Course Background: (EN.520.434 or EN.580.473) or (EN.520.432 or EN.580.472). Co-listed with EN.580.476 and EN.580.673.	3.00	20	TTh 10:30-11:45AM
EN.520.482	01	EN		**Introduction To Lasers** *Khurgin, Jacob*	3.00	20	MW 12:00-1:15PM

Electrical & Computer Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course covers the basic principles of laser oscillation. Specific topics include propagation of rays and Gaussian beams in lens-like media, optical resonators, spontaneous and stimulated emission, interaction of optical radiation and atomic systems, conditions for laser oscillation, homogeneous and inhomogeneous broadening, gas lasers, solid state lasers, Q-switching and mode locking of lasers.			
EN.520.483	01			**Bio-Photonics Laboratory** *Gannot, Israel* This laboratory course involves designing a set of basic optical experiments to characterize and understand the optical properties of biological materials. The course is designed to introduce students to the basic optical techniques used in medicine, biology, chemistry and material sciences.	3.00	30	T 1:30-4:50PM
EN.520.485	01	EN		**Advanced Semiconductor Devices** *Khurgin, Jacob* This course is designed to develop and enhance the understanding of the operating principles and performance characteristics of the modern semiconductor devices used in high speed optical communications, optical storage and information display. The emphasis is on device physics and fabrication technology. The devices include heterojunction bipolar transistors, high mobility FET's, semiconductor lasers, laser amplifiers, light-emitting diodes, detectors, solar cells and others.	3.00	20	MW 1:30-2:45PM
EN.520.492	01	E		**Mixed-Mode VLSI Systems** *Pouliquen, Philippe O* Silicon models of information and signal processing functions, with implementation in mixed analog and digital CMOS integrated circuits. Aspects of structured design, scalability, parallelism, low power consumption, and robustness to process variations. Topics include digital-to-analog and analog-to-digital conversion, delta-sigma modulation, bioinstrumentation, and adaptive neural computation. The course includes a VLSI design project. Recommended Course Background: EN.521.491 or equivalent.	3.00	20	MF 4:30-5:45PM
EN.520.499	01	E		**Senior Design Project** *Foster, Amy C* Capstone design project, in which a team of students engineer a system and evaluate its performance in meeting design criteria and specifications. Example application areas are microelectronic information processing, image processing, speech recognition, control, communications and biomedical instrumentation. The design needs to demonstrate creative thinking and experimental skills, and needs to draw upon knowledge in basic sciences, mathematics and engineering sciences. Interdisciplinary participation, such as by biomedical engineering, mechanical engineering and computer science majors, is strongly encouraged.	3.00		TBA

Electrical & Computer Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.520.499	03	E		**Senior Design Project** *Prince, Jerry Ladd*	3.00	4	TBA
EN.520.499	04	E		**Senior Design Project** *Andreou, Andreas*	3.00	4	TBA
EN.520.499	05	E		**Senior Design Project** *Etienne Cummings, Ralph*	3.00		TBA
EN.520.499	06	E		**Senior Design Project** *Tran, Trac Duy*	3.00		TBA
EN.520.499	07	E		**Senior Design Project** *Tarraf, Danielle*	3.00		TBA
EN.520.499	08	E		**Senior Design Project** *West, James E*	3.00	4	TBA
EN.520.499	09	E		**Senior Design Project** *Cooper, A Brinton, III.*	3.00		TBA
EN.520.499	10	E		**Senior Design Project** *Foster, Mark A*	3.00		TBA

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.660.100	01	S		**Hopkins Leadership Challenge Seminar** *Smedick, William D* The Hopkins Leadership Challenge is a one credit pass/fail seminar and is designed specifically for first year undergraduates at JHU who are interested in developing their leadership skills and applying those skills to Hopkins life. The seminar includes both a classroom component and an experiential component. The classroom content includes leadership topics, discussions with university leaders and serves as an introduction to the history, services and involvement opportunities at Hopkins. The experiential component includes programs such as JHU history, faculty student interaction, visits to other JHU campuses and more! Interested students should register early, as there is limited space available in each section of the seminar. Freshmen only. S/U only.	1.00	19	MW 10:00-10:50AM
EN.660.105	01	S	W	**Introduction to Business** *Aronhime, Lawrence* This course is designed as an introduction to the terms, concepts, and values of business and management. The course comprises three broad categories: the economic, financial, and corporate context of business activities; the organization and management of business enterprises; and, the marketing and production of goods and services. Topic specific readings, short case studies and financial exercises all focus on the bases for managerial decisions as well as the long and short-term implications of those decisions in a global environment. No audits.	4.00	25	MWF 12:00-12:50PM; T 1:30-2:20PM
EN.660.105	02	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; T 1:30-2:20PM
EN.660.105	03	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; T 3:00-3:50PM
EN.660.105	04	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; W 3:00-3:50PM
EN.660.105	05	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; Th 1:30-2:20PM
EN.660.105	07	S	W	**Introduction to Business** *Izenberg, Illysa B*	4.00	18	MWF 9:00-9:50AM; Th 3:00-3:50PM
EN.660.105	08	S	W	**Introduction to Business**	4.00	17	MWF 9:00-9:50AM; M 1:30-2:20PM
EN.660.105	09	S	W	**Introduction to Business** *Staff*	4.00	20	MW 3:00-4:15PM; T 3:00-3:50PM
EN.660.105	10	S	W	**Introduction to Business**	4.00	20	MW 3:00-4:15PM; Th 3:00-3:50PM
EN.660.105	11	S	W	**Introduction to Business**	4.00	20	TTh 9:00-10:15AM; M 3:00-3:50PM
EN.660.105	12	S	W	**Introduction to Business**	4.00	20	TTh 9:00-10:15AM; W 3:00-3:50PM
EN.660.203	01			**Financial Accounting** *Aronhime, Lawrence*	3.00	35	MWF 10:00-10:50AM

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The course in Financial Accounting is designed for anyone who could be called upon to analyze and/or communicate financial results and/or make effective financial decisions in a for-profit business setting. No prior accounting knowledge or skill is required for successful completion of this course. Because accounting is described as the language of business, this course emphasizes the vocabulary, methods, and processes by which all business transactions are communicated. The accounting cycle, basic business transactions, internal controls, and preparation and understanding of financial statements including balance sheets, statements of income and cash flows are covered. No audits.			
EN.660.203	02			**Financial Accounting** *Leps, Annette*	3.00	35	MW 12:00-1:15PM
EN.660.203	03			**Financial Accounting**	3.00	35	TTh 12:00-1:15PM
EN.660.203	04			**Financial Accounting** *Furlong, Sean T*	3.00	30	TTh 4:30-5:45PM
EN.660.203	05			**Financial Accounting**	3.00	30	TTh 12:00-1:15PM
EN.660.250	01			**Principles of Marketing** *Kendrick, Leslie* This course explores the role of marketing in society and within the organization. It examines the process of developing, pricing, promoting and distributing products to consumer and business markets and shows how marketing managers use the elements of the marketing mix to gain a competitive advantage. Through interactive, application-oriented exercises, case videotapes, a guest speaker (local marketer), and a group project, students will have ample opportunity to observe key marketing concepts in action. The group project requires each team to research the marketing plan for an existing product of its choice. Teams will analyze what is currently being done by the organization, choose one of the strategic growth alternatives studied, and recommend why this alternative should be adopted. The recommendations will include how the current marketing plan will need to be modified in order to implement this strategy and will be presented to the instructor in written form and presented to the class. No audits.	3.00	38	MW 12:00-1:15PM
EN.660.250	02			**Principles of Marketing** *Quesenberry, Keith A*	3.00	35	TTh 10:30-11:45AM
EN.660.250	03			**Principles of Marketing** *DeVries, Marci*	3.00	35	TTh 12:00-1:15PM
EN.660.250	04			**Principles of Marketing** *Jones, Theresa*	3.00	35	W 6:15-9:00PM
EN.660.250	05			**Principles of Marketing** *Manns, Kimberly*	3.00	35	T 6:15-9:00PM
EN.660.250	06			**Principles of Marketing** *Kendrick, Leslie*	3.00	38	MW 1:30-2:45PM
EN.660.300	01			**Managerial Finance** *Priolo, Marcus*	3.00	25	T 6:15-9:00PM

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is designed to familiarize the student with the basic concepts and techniques of financial management practice. The course begins with a review of accounting, securities markets, and the finance function. The course then moves to discussion of financial planning, financial statement analysis, time value of money, interest rates and bond valuation, stock valuation, and concludes with capital budgeting and project analysis. A combination of classroom discussions, problem sets, and case studies will be used. Note: not open to students who have taken EN.660.302 Corporate Finance. No audits.			
EN.660.303	01			**Managerial Accounting** *Leps, Annette* This course introduces management accounting concepts and objectives including planning, control, and the analysis of sales, expenses, and profits. Major topics include cost behavior, cost allocation, product costing (including activity based costing), standard costing and variance analysis, relevant costs, operational and capital budgeting, and performance measurement. Note: not open to students who have taken EN.660.204 Managerial Accounting. No audits.	3.00	30	TTh 10:30-11:45AM
EN.660.308	01	S		**Business Law I** *Fisher, David* This course is designed to provide students an introduction to legal reasoning and analysis. Content distinguishes forms of business, civil versus criminal law, and agency principles; intellectual property concepts, contract Law, the UCC (Uniform Commercial Code) and consumer protection are explored and discussed in the context of assigned legal cases which are intended to develop a student's ability to analyze and apply law. Note: not open to students who have taken 660.205 Business Law I. No audits.	3.00	35	M 6:15-9:00PM
EN.660.308	02	S		**Business Law I** *Rakes, William Bryan*	3.00	35	W 6:15-9:00PM
EN.660.310	01	H		**Case Studies in Business Ethics** *Franceschini, Mark* This course is designed as a workshop using case studies to introduce students to the ethical concepts that are relevant to resolve moral issues in contemporary business and social settings—both global and personal in nature. Students will learn the reasoning and analytical skills needed to apply ethical concepts to their own decision-making, to identify moral issues involved in the management of specific problem areas in business and society, and to understand the social and natural environments which give rise to moral issues. The course focus is on performance articulated by clear reasoning and effective verbal and written communication concerning ethical issues in business and society. Not open to students who have taken EN.660.231 Case Studies in Business Ethics. No audits.	3.00	30	W 6:15-9:00PM
EN.660.311	01	S		**Law and the Internet**	3.00	30	T 6:15-9:00PM

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Sandhaus, Douglas Sometimes called “Cyber law,” this course uses the case study method to examine some of the most significant and compelling legal aspects, issues, and concerns involved with operating a business enterprise in an Internet environment. Some of the issues likely to be covered include jurisdiction, resolution of online disputes, trademarks, copyright, licenses, privacy, defamation, obscenity, the application of traditional concepts of tort liability to an Internet context, computer crime, information security, taxation, international considerations, and an analysis of other recent litigation and/or statutes. Note: not open to students who have taken EN.660.306 Law and the Internet. No audits.			
EN.660.332	01	S	W	**Leadership Theory** *Smedick, William D* Students will be introduced to the history of Leadership Theory from the “Great Man” theory of born leaders to Transformational Leadership theory of non-positional learned leadership. Transformational Leadership theory postulates that leadership can be learned and enhanced. The course will explore the knowledge base and skills necessary to be an effective leader in a variety of settings. Students will assess their personal leadership qualities and develop a plan to enhance their leadership potential. Recommended Course Background: EN.660.105 or EN.660.220/EN.660.340. No audits.	3.00	30	MW 2:00-3:15PM
EN.660.332	02	S	W	**Leadership Theory**	3.00	30	TTh 2:00-3:15PM
EN.660.333	01		W	**Leading Change** *Smedick, William D* In this course, we will use a combination of presentation, discussion, experiential learning, research and self-reflection to investigate issues surrounding leadership and change in communities and the economy. While considering both for-profit and non-profit entities, we will pursue topics including understanding and using theories of change; finding competitive advantage and creating strategic plans; making decisions, even in uncertain times; valuing differences; employing leadership styles; giving and receiving feedback; understanding employee relations; creating performance measures; and developing organizational cultures; and using the dynamics of influence. Not open to students who have taken EN.660.235. No audits. Recommended Course Background: EN.660.105	3.00	24	TTh 4:00-5:15PM
EN.660.340	01			**Principles of Management** *Izenberg, Illysa B*	3.00	35	W 1:30-4:15PM

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course introduces the student to the management process. The course takes an integrated approach to management by examining the role of the manager from a traditional and contemporary perspective while applying decision-making and critical-thinking skills to the challenges facing managers in today's globally diverse environment. The course examines the techniques for controlling, planning, organizing resources and leading the workforce. Not open to students who have taken EN.660.220 Principles of Management. No audits.			
EN.660.341	01		W	**Business Process and Quality Management** *Reiter, Joshua* This course focuses on both quantitative and qualitative analytical skills and models essential to operations process design, management, and improvement in both service and manufacturing oriented companies. The objective of the course is to prepare the student to play a significant role in the management of a world-class company which serves satisfied customers through empowered employees, leading to increased revenues and decreased costs. The material combines managerial issues with both technical and quantitative aspects. Practical applications to business organizations are emphasized. Prerequisites: EN.660.105 Introduction to Business or EN.660.241 IT Management. No audits.	3.00	35	M 1:30-4:15PM
EN.660.352	01			**New Product Development** *Agronin, Michael L* New product development is the ultimate interdisciplinary entrepreneurial art, combining marketing, technical, and managerial skills. A successful product lies at the intersection of the user's need, a technical solution, and compelling execution. This class will bootstrap your experience in the art through exercises and team projects. We will examine products and services, consumer and industrial, simple and technologically complex. Case studies will feature primary sources and the instructor's personal experiences as an inventor for a major consumer products company. Topics will span the product development cycle: identifying user needs, cool-hunting, brainstorming, industrial design, prototyping techniques, market research to validate new ideas, and project management -- especially for managing virtual teams and foreign manufacturers. No audits.	3.00	24	M 6:15-9:00PM
EN.660.404	01	S		**Business Law II** *Fisher, David* Building on the material from Business Law I, topics examined include entrepreneurship, business entities and business formation, principles of agency, real property, personal property, bailments, bankruptcy, secured transactions, employment discrimination, business financing, investor protection, antitrust and environmental law. No audits.	3.00	35	T 6:15-9:00PM
EN.660.420	01		W	**Marketing Strategy** *Kendrick, Leslie*	3.00	19	TTh 10:30-11:45AM

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This writing intensive course helps students develop skills in formulating, implementing, and controlling a strategic marketing program for a given product-market entry. Using a structured approach to case analysis, students will learn how to make the kinds of strategic marketing decisions that will have a long-term impact on the organization and support these decisions with quantitative analyses. Through textbook readings, students will learn how to identify appropriate marketing strategies for new, growth, mature, and declining markets and apply these strategies as they analyze a series of marketing cases. The supplementary readings, from a broad spectrum of periodicals, are more applied and will allow students to see how firms are addressing contemporary marketing challenges. In addition to analyzing cases individually, each student will be part of a team that studies a case during the latter half of the semester, developing marketing strategy recommendations, including financial projections, and presenting them to the class. No audits.			
EN.660.450	01			**Advertising & Integrated Marketing Communication** *Kendrick, Leslie* This course builds on the promotional mix concepts covered in Principles of Marketing (EN.660.250)—advertising, public relations, sales promotion and personal selling. Students will learn how marketers are changing the ways they communicate with consumers and the ways in which promotional budgets are allocated—and how this impacts the development of marketing strategies and tactics. Working with a client (provided by EdVenture Partners) that has chosen this JHU class as its “advertising agency” and an actual budget provided by the firm, the class will form small teams to mirror the functional organization of an actual ad agency (market research, media strategy/planning, copywriting/design, public relations, etc.). Student teams will then develop a promotional plan and corresponding budget to reach the desired target market (JHU undergrads who meet the client’s criteria), implement the plan and then evaluate its effectiveness through pre- and post campaign market research conducted on the target consumer. Note: Not open to students who have taken EN.660.450 as Advertising and Promotion. No audits. (Formerly Advertising and Promotion.)	3.00	40	TTh 12:00-1:15PM
EN.660.453	01		W	**Social Media and Marketing** *Quesenberry, Keith A*	3.00	19	TTh 12:00-1:15PM

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course explores strategies for monitoring and engaging consumers in digital media. Students will gain practical knowledge about developing, implementing and measuring social media marketing campaigns. They will learn how to analyze what consumers are saying and connect with them by leveraging word of mouth, viral and buzz marketing through sites like Facebook, Twitter and YouTube. A series of assignments build upon each other toward a final social media marketing plan for a selected consumer product or service. Co-listed with EN.661.453.			
EN.660.461	01	E		**Engineering Business and Management** *Izenberg, Illysa B* An introduction to the business and management aspects of the engineering profession, project management, prioritization of resource allocation, intellectual property protection, management of technical projects, and product/production management. Preference will be given to Mechanical Engineering students. No audits. Recommended Course Background: EN.660.105	3.00	20	TTh 10:30-11:45AM

General Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.500.401	01			**Research Laboratory Safety** *Kuespert, Daniel* An introduction to laboratory safety including chemical, biological, radiation, and physical hazards. Includes information on hazard assessment techniques, laboratory emergencies, and general lab standards for Whiting School of Engineering. The class will feature hands-on exercises with real-life experiments. Intended for students who have not yet begun working in a research laboratory.	1.00	25	TBA
EN.500.401	02			**Research Laboratory Safety**	1.00	25	M 12:00-1:15PM
EN.560.141	01	EQ	W	**Perspectives on the Evolution of Structures** *Schafer, Benjamin* Why do buildings and bridges look the way they do today? Students will be provided the tools to answer this question for themselves through a study of the history of the design of buildings and bridges throughout the world from both engineering and architectural/aesthetic perspectives. Only simple mathematics is required (no calculus). Students will participate in individual and group critique of structures from engineering, architectural, and social points of view.	3.00	100	TTh 3:00-4:15PM

Geography & Environmental Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.570.110	01	HS		**Introduction to Engineering for Sustainable Development** *Schoenberger, Erica* For engineering students who want to work on problems of poverty, and social and environmental dislocation, this course introduces major debates about development and explores cases of engineering interventions in developing countries to identify factors that shape success in achieving project goals and avoiding undesirable outcomes.	3.00	50	TTh 1:30-2:45PM
EN.570.210	01	EQ		**Computation/Math Modeling** *Guikema, Seth* An introduction to the use of computers in developing mathematical models. A structured approach to problem definition, solution, and presentation using spreadsheets and mathematical software. Modeling topics include elementary data analysis and model fitting, numerical modeling, dimensional analysis, optimization, simulation, temporal and spatial models. Recommended Course Background: AS .110.108 or equivalent.	3.00	40	WF 1:30-2:45PM
EN.570.239	01	EN		**Emerging Environmental Issues** *Roberts, A Lynn* Scientific principles underpinning environmental issues, with an emphasis on potential impacts of anthropogenic perturbation on human and ecosystem health. Recommended Course Background: two semesters of Chemistry.	3.00	30	TTh 9:00-10:15AM
EN.570.302	01	EN		**Water & Wastewater Treatment** *Ball, William P* Theory and design of water and wastewater treatment processes including coagulation, sedimentation, filtration, adsorption, gas transfer, aerobic and anaerobic biological treatment processes, disinfection, and hydraulic profiles through treatment units.	3.00	40	MWF 9:00-9:50AM
EN.570.304	01	EN		**Environmental Engineering Laboratory** *Roberts, A Lynn* Introduction to laboratory measurements relevant to water supply and wastewater discharge, including pH and alkalinity, inorganic and organic contaminants in water, reactor analysis, bench testing for water treatment, and measurement and control of disinfection by-products. Recommended Course Background: EN.570.210 or Instructor Permission; Corequisite: EN.570.302.	3.00	12	Th 1:30-5:15PM; TTh 12:00-1:15PM
EN.570.304	02	EN		**Environmental Engineering Laboratory**	3.00	12	TTh 12:00-1:15PM; F 1:30-5:15PM
EN.570.328	01	N		**Geography & Ecology of Plants** *Brush, Grace S* Patterns of aquatic and terrestrial plant species; historical changes in patterns using paleobotanical techniques; emphasis on biological and physical mechanisms controlling the patterns; the role of climate and man on plant distributions; several field trips; project required.	3.00	35	TTh 10:30-11:45AM
EN.570.395	01	EN		**Principles of Estuarine Environment: Chesapeake Bay** *Brush, Grace S*	3.00	35	Th 1:30-3:50PM

Geography & Environmental Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Topics include the physical, chemical, and biological components of the Chesapeake Bay ecosystem from the time it started to form some 10,000 to 12,000 years ago, when sea level began to rise as the continental glaciers receded; the geology, geomorphology, and biology of the watershed drained by the estuary; relationships between the watershed and the estuary through the millennia and the effect of climate, geomorphology, and humans on the ecology of the ecosystem and its economic productivity.			
EN.570.421	01	E		**Environmental Engineering Design II** *Bouwer, Edward J* Engineering design process from problem definition to final design. Team projects include written/oral presentations. Students will form small teams that work with local companies or government agencies in executing the project. Recommended Course Background: EN.570.302, EN.570.352, and EN.570.419	3.00	30	T 4:30-7:00PM
EN.570.428	01	S	W	**Problems in Applied Economics** *Hanke, Steve H* This course brings the principles of economic theory to bear upon particular problems in the fields of economics, finance and public policy. Micro, macro and international problems, from both the private and public sectors, are addressed. A heavy emphasis is placed on research and writing. Students learn how to properly conduct substantive economic research, utilizing statistical techniques and lessons from economic history. Findings are presented in the form of either memoranda or working papers. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.	3.00	25	TBA
EN.570.441	01	N		**Environmental Inorganic Chemistry** *Stone, Alan T* Advanced undergraduate/graduate course that explores the chemical transformations of elements of the periodic table. Thermodynamic, kinetic, and mechanistic tools needed to address the multiple chemical species and interfaces that are present in natural waters and water-based technological processes are emphasized. Ligand exchange, metal ion exchange, adsorption/desorption, precipitation/dissolution, electron and group transfer reactions, and other concepts from coordination chemistry will be covered. Applications include elemental sources and sinks in ocean waters, reactive transport in porous media, weathering and soil genesis, nutrient and toxic element uptake by organisms, water treatment chemistry, and rational design of synthetic chemicals.	3.00	20	MWF 12:00-12:50PM

Geography & Environmental Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.570.446	01	EN		**Biological Process of Wastewater Treatment** *Bouwer, Edward J* Fundamentals and application of aerobic and anaerobic biological unit processes for the treatment of municipal and industrial wastewater. Recommended Course Background: EN.570.411	3.00	25	MWF 9:00-9:50AM
EN.570.448	01	E		**Physical and Chemical Processes II** *Chen, Kai Loon* Fundamentals and applications of physical and chemical processes used in water and wastewater treatment. This class will cover particle interactions, coagulation, flocculation, granular media filtration, membrane processes, and emerging water treatment processes. Recommended Course Background: EN.570.445 or Permission Required.	3.00	30	TTh 9:00-10:15AM
EN.570.449	01	HS	W	**Social Theory for Engineers** *Schoenberger, Erica* Engineers work in a social context. This course addresses a number of questions about that social context. How should we understand how societies come about, how they evolve,and why the rules of the game are what they are? What is the relationship between the individual and society, what does it mean to be 'modern,' are there different forms of rationality? How might all this impinge on what it means to be an engineer?	3.00	35	W 1:30-3:50PM
EN.570.452	01	EN	W	**Exper Meth Env Eng Chem** *Stone, Alan T* An advanced laboratory covering principles of modern analytical techniques and their applications to problems in environmental sciences. Topics include electrochemistry, spectrometry, gas and liquid chromatography. The course is directed to graduate students and advanced undergraduates in engineering and natural sciences.	4.00	12	M 1:30-5:20PM; F 1:30-2:45PM
EN.570.452	02	EN	W	**Exper Meth Env Eng Chem**	4.00	10	W 1:30-5:20PM; F 1:30-2:45PM
EN.570.470	01	QS	W	**Applied Econ & Finance** *Hanke, Steve H* This course focuses on company valuations, using the proprietary Hanke-Guttridge Discounted Free Cash Flow Model. Students use the model and data from financial statements filed with the Securities and Exchange Commission to calculate the value of publicaly-traded companies. Using Monte Carlo simulations, students also generate forecast scenarios, project likely share-price ranges and assess potential gains/losses. Stress is placed on using these simulations to diagnose the subjective market expectations contained in current objective market prices, and the robustness of these expectations. During the weekly seminar, students' company valuations are reviewed and critiqued.	3.00	20	F 1:30-4:30PM
EN.570.487	01	S	W	**Financial Market Research** *Hanke, Steve H*	3.00	20	TBA

Geography & Environmental Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course investigates the workings of financial, foreign exchange, and commodity futures markets. Research is focused on price behavior, speculation, and hedging in these markets. Extensive research and writing is required. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise.			
EN.570.491	01	E		**Hazardous Waste Engineering and Management** *Alavi, Hedy V* This course addresses traditional and innovative technologies, concepts, and principles applied to the management of hazardous waste and site remediation to protect human health and the environment.	3.00	40	W 3:00-5:40PM
EN.570.492	01			**M. Gordon Wolman Seminar** *Chen, Kai Loon* Undergraduates only with permission of instructor.	1.00	60	T 3:00-4:50PM; F 1:30-2:45PM
EN.570.496	01	EQ		**Urban and Environmental Systems** *Williams, Justin* The mathematical techniques learned in EN.570.305 and EN.570.495 are applied to realistic problems in urban and environmental planning and management. Examples of such problems include the siting of public-sector and emergency facilities; natural areas management, protection and restoration; solid waste collection, disposal, and recycling; public health; the planning and design of energy and transportation systems; and cost allocation in environmental infrastructure development.	3.00	30	MW 3:00-4:15PM

Information Security Institute

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.600.424	01	E		**Network Security** *Nielson, Seth J* This course focuses on communication security in computer systems and networks. The course is intended to provide students with an introduction to the field of network security. The course covers network security services such as authentication and access control, integrity and confidentiality of data, firewalls and related technologies, Web security and privacy. Course work involves implementing various security techniques. A course project is required. [Systems] EN.600.120 (or equivalent) recommended.	3.00	30	TTh 3:00-4:15PM
EN.600.444	01	E		**Computer Networks** *DeSimone, Antonio* This course considers intersystem communications issues. Topics covered include layered network architectures; the OSI model; bandwidth, data rates, modems, multiplexing, error detection/correction; switching; queuing models, circuit switching, packet switching; performance analysis of protocols, local area networks; and congestion control. Recommended Course Background: EN.600.333 or EN.600.433 or permission. Students can only receive credit for EN.600.344 or EN.600.444, not both.	3.00	30	TTh 4:30-5:45PM
EN.600.451	01	E		**Introduction to Bitcoin and Other Crypto-currencies** *Ateniese, Giuseppe* This course covers the basics of Bitcoin and the underlying technologies driving it. The course is intended for students interested in the cryptographic techniques devised to make digital currencies and payment systems secure. Topics include Bitcoin transactions, the blockchain, mining, and decentralized consensus. The course will include a brief introduction to public-key cryptography, digital signatures, hash functions, proof of work/space, multisignatures, and elliptic curve cryptography. The course concludes with an overview of the Bitcoin scripting language and Bitcoin 2.0 platforms. [Systems] Recommended Course Background: EN.600.344/444 (Computer Networks) and EN.550.171 (Discrete Math)	3.00	30	MW 12:00-1:15PM
EN.600.463	01	EQ		**Algorithms I** *Braverman, Vladimir* Graduate version of EN.600.363. Students may receive credit for EN.600.363 or EN.600.463, but not both. Recommended Course Background: EN.600.226 and EN.550.171 or instructor permission required.	3.00	30	TTh 9:00-10:15AM

Information Security Institute

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.650.445	01			**Practical Cryptographic Systems** *Green, Matthew* This semester long course will teach skill of how cryptographic systems work and fail - as part of a complete hardware and software system. The skills will be taught by examples I.e., by studyng and identifying flows in widely deployed crypto systems. We will place a particular emphasis on the failure of "security by obscurity" and the feasibility of reverse-engineering undocumented crypto systems. Co-listed with EN.600.454.	3.00	20	MW 3:00-4:15PM
EN.650.471	01	EQ		**Cryptography & Coding** *Fishkind, Donniell* A first course in the mathematical theory of secure and reliable electronic communication. Cryptology is the study of secure communication: How can we ensure the privacy of messages? Coding theory studies how to make communication reliable: How can messages be sent over noisy lines? Topics include finite field arithmetic, error-detecting and error-correcting codes, data compressions, ciphers, one-time pads, the Enigma machine, one-way functions, discrete logarithm, primality testing, secret key exchange, public key cryptosystems, digital signatures, and key escrow. Students should have computing experience. Recommended Course Background: AS.110.201	4.00	15	MWF 1:30-2:20PM; Th 10:30-11:20AM

Institute for NanoBio Technology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.670.497	01			**Animation in Nanotechnology & Medicine** *Rietveld, Martin* This course involves the use of animation to visualize scientific processes in nanotechnology and medicine. Animation is becoming an increasingly important tool in both research and education, especially in fields such as nanobiotechnology that involve complex processes and occur at multiple length scales. Understanding of the subject matter is gained through interaction with faculty and graduate students in research groups in the Institute for NanoBioTechnology at Hopkins. The course follows the basic animation pipeline from concept to post production.	3.00	15	MTh 3:00-4:15PM

Materials Science & Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.510.107	01	N		**Modern Alchemy** *Spicer, James* Can you really turn lead into gold? Converting common substances into useful materials that play important roles in today's technologies is the goal of many modern scientists and engineers. In this course, we will survey selected topics related to modern materials, the processes that are used to make them as well as the inspiration that led to their development. Topics will include the saga of electronic paper, the sticky stuff of gecko feet and the stretchy truth of metal rubber.	3.00	100	TTh 10:30-11:45AM
EN.510.107	02	N		**Modern Alchemy**	3.00	100	TTh 1:30-2:45PM
EN.510.201	01	EN		**Introductory Materials Science for Engineers** *Ma, En* An introduction to the structure, properties, and processing of materials used in engineering applications. After beginning with the structure of materials on the atomic and microscopic scales, this course explores defects and their role in determining materials properties, the thermodynamics and kinetics of phase transformations, and ways in which structure and properties can be controlled through processing. Previously: Introduction to Engineering Materials.	3.00	30	MWF 10:00-10:50AM
EN.510.202	01	EN		**Computation and Programming for Materials Scientists and Engineers** *Ulmschneider, Martin* This course will introduce students to the basics of programming in the MATLAB environment. Students will build skills in algorithmic problem solving by programming assignments regarding a range of biological and non-biological materials systems. Students will learn to write function definitions and deploy basic operations of selection and iteration as well as MATLAB specific vectorization methods and the construction of graphical user interfaces. Applications may include materials structure, phase equilibrium, propagating reactions, and other relevant scientific and engineering applications.	3.00	35	MW 1:30-2:45PM
EN.510.313	01	EN		**Mechanical Properties of Materials** *Weihs, Timothy P* Third of the Introduction to Materials Science series, this course is devoted to a study of the mechanical properties of materials. Lecture topics include elasticity, anelasticity, plasticity, and fracture. The concept of dislocations and their interaction with other lattice defects is introduced.	3.00	60	MWF 9:00-9:50AM
EN.510.314	01	EN		**Electronic Properties of Materials** *Poehler, Theodore O* Fourth of the Introduction to Materials Science series, this course is devoted to a study of the electronic, optical and magnetic properties of materials. Lecture topics include electrical and thermal conductivity, thermoelectricity, transport phenomena, dielectric effects, piezoelectricity, and magnetic phenomena.	3.00	40	MWF 11:00-11:50AM
EN.510.315	01	EN		**Physical Chemistry of Materials II**	3.00	48	MWF 10:00-10:50AM

Materials Science & Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Mueller, Timothy K Fifth of the Introduction to Materials Science series, this course covers diffusion and phase transformations in materials. Topics include Fick's laws of diffusion, atomic theory of diffusion, diffusion in multi-component systems, solidification, diffusional and diffusionless transformations, and interfacial phenomena.			
EN.510.400	01	EN		**Introduction to Ceramics** *Mcguiggan, Patricia* This course will examine the fundamental structure and property relationships in ceramic materials. Areas to be studied include the chemistry and structure of ceramics and glasses, microstructure and property relationships, ceramic phase relationships, and ceramic properties. Particular emphasis will be placed on the physical chemistry of particulate systems, characterization, and the surface of colloid chemistry of ceramics. Recommended Course Background: EN.510.311, EN.510.312, or permission of instructor.	3.00	50	MWF 10:00-10:50AM
EN.510.407	01	EN		**Biomaterials II: Host response and biomaterials applications** *Mao, Hai-Quan* This course focuses on the interaction of biomaterials with the biological system and applications of biomaterials. Topics include host reactions to biomaterials and their evaluation, cell-biomaterials interaction, biomaterials for tissue engineering applications, biomaterials for controlled drug and gene delivery, biomaterials for cardiovascular applications, biomaterials for orthopedic applications, and biomaterials for artificial organs. Also listed as EN.510.607.	3.00	60	MWF 9:00-9:50AM
EN.510.422	01	EN		**Micro and Nano Structured Materials & Devices** *Katz, Howard E* Almost every material's property changes with scale. We will examine ways to make micro- and nano-structured materials and discuss their mechanical, electrical, and chemical properties. Topics include the physics and chemistry of physical vapor deposition, thin film patterning, and microstructural characterization. Particular attention will be paid to current technologies including computer chips and memory, thin film sensors, diffusion barriers, protective coatings, and microelectromechanical (MEMS) devices.	3.00	75	TTh 10:30-11:45AM
EN.510.424	01	EN		**Physical Science of Paper** *Baty, John W*	3.00	20	TTh 9:00-10:15AM

Materials Science & Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				An exploration of paper's past, present, and possible future from the physical science and engineering perspectives. Includes an in-depth analysis of the defining physical, chemical, and electronic properties of paper since its origins in China as early as 202 BCE and the periodic technological innovations that improved quality, lowered price, and expanded use. Applications include paper as a medium for historic and artistic works, packaging, transformer insulation, architectural elements, medical diagnostics, and printed sensors. Topics include technologies such as email and e-books which may disrupt traditional paper formats, environmental concerns of industrial manufacture, transferrable knowledge from pulping such as the manufacture of feeds and fuels from cellulosic biomass, and paper's legacy as found in cultural heritage artifacts and their conservation. Recommended: AS.030.205 Organic Chemistry I			
EN.510.429	01	EN	W	**Materials Science Laboratory II** *Wilson, Orla* This laboratory concentrates on the experimental investigation of electronic properties of materials using basic measurement techniques. Topics include thermal conductivity of metal alloys, electrical conductivity of metals/metal alloys and semiconductors, electronic behavior at infrared wavelengths, magnetic behavior of materials, carrier mobility in semiconductors and the Hall effect in metals and semiconductors. Lab Assignment is by Professor. Recommended Course Background: EN.510.311 or Permission Required.	3.00	25	T 12:00-1:15PM; T 1:30-3:50PM
EN.510.429	02	EN	W	**Materials Science Laboratory II**	3.00	25	Th 12:00-1:15PM; Th 1:30-3:50PM
EN.510.430	01	EN	W	**Biomaterials Lab** *Hristova, Kalina A* This laboratory course concentrates on synthesis, processing and characterization of materials for biomedical applications, and characterization of cell-materials interaction. Topics include synthesis of biodegradable polymers and degradation, electrospinning of polymer nanofibers, preparation of polymeric microspheres and drug release, preparation of plasmid DNA, polymer-mediated gene delivery, recombinant protein synthesis and purification, self-assembly of collagen fibril, surface functionalization of biomaterials, cell culture techniques, polymer substrates for cell culture, and mechanical properties of biological materials. Recommended Course Background: EN.510.407	3.00	10	M 1:30-4:30PM
EN.510.434	01	EN	W	**Senior Design/Research II** *Wilson, Orla*	3.00	30	W 3:00-4:15PM; W 1:30-2:20PM

Materials Science & Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is the second half of a two-semester sequence required for seniors majoring or double majoring in materials science and engineering. It is intended to provide a broad exposure to many aspects of planning and conducting independent research. Recommended Course Background: EN.510.311-EN.510.312, EN.510.428 -EN.510.429, and EN.510.433 Co-listed with EN.510.439 and EN.510.441			
EN.510.439	01	EN	W	**Biomaterials Senior Design II** *Wilson, Orla* This course is the second half of a two-semester sequence required for seniors majoring in materials science and engineering with the Biomaterials Concentration. It is intended to provide a broad exposure to many aspects of planning and conducting independent research with a focus on biomatreials. During this semester, verbal reporting of project activities and status is emphasized, culminating in student talks presented to a special session of students and faculty. Students also prepare a poster and a written final report summarizing their design and research results. Co-listed with EN.510.434 and EN.510.441	3.00	25	W 1:30-2:20PM; W 3:00-4:15PM
EN.510.441	01	EN	W	**Nanomaterials Senior Design II** *Wilson, Orla* This course is the second half of a two-semester sequence required for seniors majoring in materials science and engineering with the Nanotechnology Concentration. It is intended to provide a broad exposure to many aspects of planning and conducting independent research with a focus on nanotechnology and nanomatreials. During this semester, verbal reporting of project activities and status is emphasized, culminating in student talks presented to a special session of students and faculty. Students also prepare a poster and a written final report summarizing their design and research results. Co-listed with EN.510.434 and EN.510.439	3.00	25	W 1:30-2:20PM; W 3:00-4:15PM

Mechanical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.520.353	01	E		**Control Systems** *Tarraf, Danielle* Modeling, analysis, and an introduction to design for feedback control systems. Topics include state equation and transfer function representations, stability, performance measures, root locus methods, and frequency response methods (Nyquist, Bode).	3.00	35	TTh 1:30-2:45PM
EN.530.102	01	E		**Freshman Experiences in Mechanical Engineering** *Belkoff, Stephen M* An overview of the field of mechanical engineering along with topics that will be important throughout the mechanical engineering program. This is the second half of a one-year course that includes applications of mechanics, elementary numerical analysis, programming in Matlab, use of computer data acquisition, analysis, design, and visualization; technical drawing, the design process and creativity, report preparation, teamwork, and engineering ethics.	2.00	72	MW 3:00-3:50PM
EN.530.104	01	EN		**Introduction to Mechanics II** *Thomas, John A* This is the second half of a one-year course offering in-depth study of elements of mechanics, including linear statics and dynamics, rotational statics and dynamics, thermodynamics, fluids, continuum mechanics, transport, oscillations, and waves. This is an alternate to AS.171.101, designed specifically for Mechanical Engineering and Engineering Mechanics students taking EN.530.102 concurrently.	2.00	72	MW 1:30-2:20PM
EN.530.106	01	E		**Mechanical Engineering Freshman Laboratory II** *Belkoff, Stephen M* Hands-on laboratory complementing EN.530.102 and EN.530.104, including experiments, mechanical dissections, and design experiences distributed throughout the year. Experiments are designed to give student background in experimental techniques as well as to reinforce physical principles. Mechanical dissections connect physical principles to practical engineering applications. Design projects allow students to synthesize working systems by combining mechanics knowledge and practical engineering skills.	1.00	18	T 4:00-6:50PM
EN.530.106	02	E		**Mechanical Engineering Freshman Laboratory II**	1.00	18	W 4:00-6:50PM
EN.530.106	03	E		**Mechanical Engineering Freshman Laboratory II**	1.00	18	Th 4:00-6:50PM
EN.530.106	04	E		**Mechanical Engineering Freshman Laboratory II**	1.00	18	F 4:00-6:50PM
EN.530.150	01	E		**Engineering Design Graphics, Visualization, and Fundamentals of CAD** *Marra, Steven P*	3.00	20	TTh 9:00-10:15AM

Mechanical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will serve as an introduction to the foundational representational techniques for design, and help students to develop design literacy and three-dimensional visualization skills. Students will explore the range of tools utilized in design practice, beginning with the skills of hand-drawing, exploring ways to articulate visual ideas, and concluding with the standards of presentation and CAD tools typical in professional practice. This class will enable students to better develop, express and communicate their ideas as engineers.			
EN.530.202	01	E		**Mechanical Engineering Dynamics** *Kraemer, David Robert Burke* Basic principles of classical mechanics applied to the motion of particles, system of particles and rigid bodies. Kinematics, analytical description of motion; rectilinear and curvilinear motions of particles; rigid body motion. Kinetics: force, mass, and acceleration; energy and momentum principles. Introduction to vibration. Includes laboratory experience.	4.00	18	TTh 10:30-11:45AM; TBA
EN.530.202	02	E		**Mechanical Engineering Dynamics**	4.00	18	TTh 10:30-11:45AM; TBA
EN.530.202	03	E		**Mechanical Engineering Dynamics**	4.00	18	TTh 10:30-11:45AM; TBA
EN.530.202	04	E		**Mechanical Engineering Dynamics**	4.00	18	TTh 10:30-11:45AM; TBA
EN.530.215	01	E		**Mechanics-Based Design** *Nguyen, Thao D* Stresses and strains in three dimensions, transformations. Combined loading of components, failure theories. Buckling of columns. Stress concentrations. Introduction to the finite element method. Design of fasteners, springs, gears, bearings, and other components.	3.00	72	TTh 1:30-2:45PM
EN.530.216	01	E		**Mechanics Based Design Laboratory** *Marra, Steven P* This is the laboratory that supports EN.530.215 Mechanics Based Design.	1.00	12	M 4:00-5:50PM; T 6:00-6:50PM
EN.530.216	02	E		**Mechanics Based Design Laboratory**	1.00	12	M 6:00-7:50PM; T 6:00-6:50PM
EN.530.216	03	E		**Mechanics Based Design Laboratory**	1.00	12	T 3:30-5:50PM; T 6:00-6:50PM
EN.530.216	04	E		**Mechanics Based Design Laboratory**	1.00	12	W 3:30-5:20PM; T 6:00-6:50PM
EN.530.216	05	E		**Mechanics Based Design Laboratory**	1.00	12	Th 3:30-5:20PM; T 6:00-6:50PM
EN.530.216	06	E		**Mechanics Based Design Laboratory**	1.00	12	Th 6:00-7:50PM; T 6:00-6:50PM
EN.530.241	01	E		**Electronics & Instrumentation** *Kraemer, David Robert Burke* Introduction to basic analog electronics and instrumentation with emphasis on basic electronic devices and techniques relevant to mechanical engineering. Topics include basic circuit analysis, laboratory instruments, discrete components, transistors, filters, op-amps, amplifiers, differential amplifiers, power amplification, power regulators, AC and DC power conversion, system design considerations (noise, precision, accuracy, power, efficiency), and applications to engineering instrumentation.	4.00	24	MWF 1:30-2:20PM; TBA
EN.530.241	02	E		**Electronics & Instrumentation**	4.00	24	MWF 1:30-2:20PM; TBA
EN.530.241	03	E		**Electronics & Instrumentation**	4.00	24	MWF 1:30-2:20PM; TBA
EN.530.334	01	E		**Heat Transfer** *Herman, Cila*	3.00	72	MWF 10:00-10:50AM

Mechanical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Steady and unsteady conduction in one, two, and three dimensions. Elementary computational modeling of conduction heat transfer. External and internal forced convection. Performance and design of heat exchangers. Boiling and condensation. Black-body and gray-body radiation, Stefan-Boltzmann law view factors and some applications.			
EN.530.335	01	E		**Heat Transfer Laboratory** *Marra, Steven P* This is the laboratory that supports EN.530.334 Heat Transfer.	1.00	18	TBA; W 6:00-6:50PM
EN.530.335	02	E		**Heat Transfer Laboratory**	1.00	18	W 6:00-6:50PM; TBA
EN.530.335	03	E		**Heat Transfer Laboratory**	1.00	18	TBA; W 6:00-6:50PM
EN.530.335	04	E		**Heat Transfer Laboratory**	1.00	18	TBA; W 6:00-6:50PM
EN.530.343	01	E		**Design and Analysis of Dynamical Systems** *Marra, Steven P* Modeling and analysis of damped and undamped, forced and free vibrations in single and multiple degree-of-freedom linear dynamical systems. Introduction to stability and control of linear dynamical systems.	4.00	18	MWF 9:00-9:50AM; M 6:00-8:50PM
EN.530.343	02	E		**Design and Analysis of Dynamical Systems**	4.00	18	MWF 9:00-9:50AM; Th 2:30-5:20PM
EN.530.343	03	E		**Design and Analysis of Dynamical Systems**	4.00	18	MWF 9:00-9:50AM; F 1:30-4:20PM
EN.530.343	04	E		**Design and Analysis of Dynamical Systems**	4.00	18	MWF 9:00-9:50AM; TBA
EN.530.354	01	E		**Manufacturing Engineering** *Ronzhes, Yury* An introduction to the various manufacturing processes used to produce metal and nonmetal components. Topics include casting, forming and shaping, and the various processes for material removal including computer-controlled machining. Simple joining processes and surface preparation are discussed. Economic and production aspects are considered throughout. Special Notes: Labs and field trips will be scheduled with class separately. Mechanical Engineering and Engineering Mechanics Sophomores and Juniors only.	3.00	40	MWF 11:00-11:50AM
EN.530.381	01	E		**Engineering Design Process** *Scott, Nathan William* Goal of the course is to teach students the iterative process of design from requirement establishment, to generation of (many) concepts, to decision making and criteria based concept selection. The four C's of design; Creativity, Complexity, Choice, and Compromise will be explored. The processes of functional decomposition, modeling and simulation and assessment of Risk, Reliability and Safety will be covered. Modern tools of design and their interfaces with manufacturing and Product Lifecycle Management (PLM) tools will be presented. Throughout the course teams of students will maintain a record of design process as it relates to a specific term project. The progress of the design will be reported according the principles of project management. This course will equip students with tools needed for success in Senior Design.	3.00	35	TTh 1:30-2:45PM

Mechanical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.530.404	01	E	W	**Engineering Design Project II** *Scott, Nathan William* The Senior Design Project, a unique two-semester course, is the capstone of Johns Hopkins's Mechanical Engineering Program. In the class, students working in small teams tackle specific design challenges presented by industry, government, and nonprofit organizations. The sponsors provide each team with a budget, access to world-class resources, and technical contacts. Ultimately, each team conceptualizes a novel solution to the sponsor's problem and then designs, constructs, and tests a real-world prototype before presenting the finished product and specifications to the sponsor. The course requires students to draw upon the four years of knowledge and experience they've gained in their engineering studies and put it to practical use. Throughout the year, they produce progress reports as they design, build, and test the device they are developing. Combining engineering theory, budget and time management, and interactions with real clients, the senior design project is critical to students' preparation for the transition from school to the workplace.	4.00	65	TBA
EN.530.410	01	EN		**Biomechanics of the Cell** *Sun, Sean X* Mechanical aspects of the cell are introduced using the concepts in continuum mechanics. Discussion of the role of proteins, membranes and cytoskeleton in cellular function and how to describe them using simple mathematical models.	3.00	50	MWF 4:00-4:50PM
EN.530.421	01	E		**Mechatronics** *Staff* Students from various engineering disciplines are divided into groups of two to three students. These groups each develop a microprocessor-controlled electromechanical device, such as a mobile robot. The devices compete against each other in a final design competition. Topics for competition vary from year to year. Class instruction includes fundamentals of mechanism kinematics, creativity in the design process, an overview of motors and sensors, and interfacing and programming microprocessors.	3.00	14	M 1:30-4:20PM; W 8:00-8:50AM
EN.530.421	02	E		**Mechatronics**	3.00	14	T 1:30-4:20PM; W 8:00-8:50AM
EN.530.421	03	E		**Mechatronics**	3.00	14	W 1:30-4:20PM; W 8:00-8:50AM
EN.530.432	01	E		**Jet & Rocket Propulsion** *Katz, Joseph*	3.00	60	TTh 12:00-1:15PM

Mechanical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The course covers associated aircraft and spacecraft and power generation. The first part reviews the relevant thermodynamics and fluid mechanics, including isentropic compressible flow, Rayleigh and Fanno lines, shock and expansion waves. Subsequently, the performance of various forms of aviation gas turbines, including turbo-jet, turbo-fan, turbo-prop and ram-jet engines are discussed, followed by component analyses, including inlet nozzles, compressors, combustion chambers, turbines and afterburners. Axial and centrifugal turbomachines are discussed on detail, including applications in aviation, power generation and liquid transport. The section on foundations of combustion covers fuels, thermodynamics of combustion, and energy balance. The last part focuses on rockets, including classification, required power for space flight, chemical rocket components, and combustion involving liquid and solid fuels.			
EN.530.441	01	E		**Introduction to Biophotonics** *Barman, Ishan* The primary aim for this course is to explore the unique and diverse properties of light that makes it suited for diagnosis, imaging, manipulation and control of biological structure and function from the nanoscale to the tissue level. The course will focus on different optical spectroscopic and microscopic modalities that provide biochemical and morphological information, while introducing new ideas on analysis and interpretation of the acquired data. We will also discuss manipulation methods, including optical tweezers and laser scissors, and low-level light therapy. In all of these areas, the idea is to develop a basic understanding of the subject and to use it for finding solutions to real-world problems in healthcare. Discussions and open exchanges of ideas will be strongly emphasized.	3.00	20	TTh 1:30-2:45PM
EN.530.452	01	E		**Cell & Tissue Engineering Laboratory** *Haase, Eileen B* This laboratory course will consist of three experiments that will provide students with valuable hands-on experience in cell and tissue engineering. Experiments include the basics of cell culture techniques, gene transfection and metabolic engineering, basics of cell-substrate interactions I, cell-substrate interactions II, and cell encapsulation and gel contraction. $100 lab fee will be charged. Co-listed with EN.580.452	2.00	4	TF 12:00-1:50PM
EN.530.452	02	E		**Cell & Tissue Engineering Laboratory** *Wang, Jeff T*	2.00	4	TF 2:00-3:50PM
EN.530.464	01	E		**Energy Systems Analysis** *Gayme, Dennice F*	3.00	15	TTh 4:30-5:45PM

Mechanical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course discusses the grid integration of renewable energy systems. The main emphasis is on grid level effects of renewable energy, particularly wind power systems. It begins with an introduction to basic power system concepts along with power flow analysis (and optimization). Then, important concepts for wind power systems are discussed. Following that, integration issues for wind power at the transmission level and solar cell integration at the distribution level are introduced. The last part of the course will focus on current research in these areas. Students will choose a system to research and present a project or literature review at the end of the term. Prior knowledge of optimization is helpful, but not required.			
EN.530.470	01	E		**Space Vehicle Dynamics & Control** *Ozimek, Martin T* In this course we study applied spacecraft orbital and attitude dynamics and their impact on other subsystems. In the orbital dynamics part of the course, we discuss some the issues associated with orbital insertion, control and station keeping. Focus is on the two-body problem regime where conic solutions are valid. Orbit perturbations are also considered. For attitude dynamics, different attitude representations such as of direction cosines, quaternions, and angles are introduced. Then we look at the forces and moments acting on space vehicles. Attitude stability and control considerations are introduced.	3.00	40	TTh 4:30-5:45PM
EN.660.461	01	E		**Engineering Business and Management** *Izenberg, Illysa B* An introduction to the business and management aspects of the engineering profession, project management, prioritization of resource allocation, intellectual property protection, management of technical projects, and product/production management. Preference will be given to Mechanical Engineering students. No audits. Recommended Course Background: EN.660.105	3.00	20	TTh 10:30-11:45AM

Professional Communication

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.661.110	01		W	**Professional Communication for Science, Business and Industry** *Thompson, Jay R* This course teaches students to communicate effectively with a wide variety of specialized and non-specialized audiences. Projects include production of resumes, cover letters, proposals, instructions, reports, and other relevant documents. Class emphasizes writing clearly and persuasively, creating appropriate visuals, developing oral presentation skills, working in collaborative groups, giving and receiving feedback, and simulating the real world environment in which most communication occurs. Not open to students who have taken EN.661.110 as Technical Communication or EN.661.120 Business Communication. No audits. (formerly as both Technical Communication and Business Communication)	3.00	19	TTh 9:00-10:15AM
EN.661.110	02		W	**Professional Communication for Science, Business and Industry**	3.00	19	TTh 10:30-11:45AM
EN.661.110	03		W	**Professional Communication for Science, Business and Industry** *Graham, Robert M.*	3.00	19	TTh 10:30-11:45AM
EN.661.110	04		W	**Professional Communication for Science, Business and Industry** *Reiser, Julie*	3.00	19	TTh 12:00-1:15PM
EN.661.110	05		W	**Professional Communication for Science, Business and Industry** *Jerr, Nicole*	3.00	19	TTh 1:30-2:45PM
EN.661.110	06		W	**Professional Communication for Science, Business and Industry**	3.00	19	TTh 3:00-4:15PM
EN.661.110	07		W	**Professional Communication for Science, Business and Industry** *Bernstein, Jenny*	3.00	19	MW 12:00-1:15PM
EN.661.110	08		W	**Professional Communication for Science, Business and Industry** *Wilkins, Caroline A*	3.00	19	MW 10:30AM-11:45PM
EN.661.110	09		W	**Professional Communication for Science, Business and Industry**	3.00	19	MW 1:30-2:45PM
EN.661.111	01		W	**Professional Communication for International Students** *Davis, Laura G* This course teaches ESL students to communicate effectively with a wide variety of specialized and non-specialized audiences and will provide ESL-specific help with grammar, pronunciation, and idiomatic expression in these different contexts. Projects include production of resumes, cover letters, proposals, instructions, reports, and other relevant documents. Class emphasizes writing clearly and persuasively, creating appropriate visuals, developing oral presentation skills, working in collaborative groups, giving and receiving feedback, and simulating the real world environment in which most communication occurs. Note: not open to students who have taken EN.661.110 as Technical Communication or Professional Communication for Science, Business, and Industry or EN.661.120 Business Communication. No audits.	3.00	19	TTh 4:30-5:45PM

Professional Communication

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.661.250	01		W	**Oral Presentations** *Dungey, Kevin R* This course is designed to help students push through any anxieties about public speaking by immersing them in a practice-intensive environment. They learn how to speak with confidence in a variety of formats and venues - Including extemporaneous speaking, job interviewing, leading a discussion, presenting a technical speech, and other relevant scenarios. Students learn how to develop effective slides that capture the main point with ease and clarity, hone their message, improve their delivery skills, and write thought-provoking, well-organized speeches that hold an audience's attention. No audits. Not open to students that have taken EN.661.150.	3.00	13	M 3:00-5:45PM
EN.661.250	02		W	**Oral Presentations**	3.00	13	M 6:15-9:00PM
EN.661.250	03		W	**Oral Presentations** *Reiser, Julie*	3.00	13	T 1:30-4:15PM
EN.661.250	04		W	**Oral Presentations** *Heiserman, Jason*	3.00	13	T 4:30-7:15PM
EN.661.250	05		W	**Oral Presentations** *Graham, Robert M.*	3.00	13	W 1:30-4:15PM
EN.661.250	06		W	**Oral Presentations** *O'Donnell, Charlotte Alyssa*	3.00	13	W 5:00-7:45PM
EN.661.250	07		W	**Oral Presentations** *Kulanko, Andrew*	3.00	13	Th 1:30-4:15PM
EN.661.250	08		W	**Oral Presentations**	3.00	13	Th 5:00-7:45PM
EN.661.251	01		W	**Oral Presentations for International Students** *Davis, Laura G* This course is designed to help students push through any anxieties about public speaking by immersing them in a practice-intensive environment. They learn how to speak with confidence in a variety of formats and venues - Including extemporaneous speaking, job interviewing, leading a discussion, presenting a technical speech, and other relevant scenarios. Students learn how to develop effective slides that capture the main point with ease and clarity, hone their message, improve their delivery skills, and write thought-provoking, well-organized speeches that hold an audience's attention. Special attention will be placed on diction, pronunciation, tone, pace and emphasis of language. Additional attention also will be given to syntax as well as non-verbal communication patterns. No audits. Not open to students that have taken EN.661.151	3.00	13	W 4:30-7:15PM
EN.661.315	01	S	W	**Culture of the Engineering Profession** *Rice, Eric*	3.00	24	TTh 12:00-1:15PM

Professional Communication

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course focuses on building understanding of the culture of engineering while preparing students to communicate effectively with the various audiences with whom engineers interact. Working from a base of contemporary science writing (monographs, non-fiction, popular literature and fiction), students will engage in discussion, argument, case study and project work to investigate: the engineering culture and challenges to that culture, the impacts of engineering solutions on society, the ethical guidelines for the profession, and the ways engineering information is conveyed to the range of audiences for whom the information is critical. Additionally, students will master many of the techniques critical to successful communication within the engineering culture through a series of short papers and presentations associated with analysis of the writings and cases. No audits. For Engineering juniors and seniors only. Sophomores by permission of instructor.			
EN.661.315	02	S	W	**Culture of the Engineering Profession** *Sheff, Pamela*	3.00	30	TTh 12:00-1:15PM
EN.661.317	01	S	W	**Culture of the Medical Profession** *Sheff, Pamela* This course builds understanding of the culture of medicine as well as the ways in which different strata within society have access to and tend to make decisions about health and health related services while preparing students to communicate effectively with the various audiences with whom medical professionals interact. Working from a base of contemporary science writing (monographs, non-fiction, popular literature and fiction), students engage in discussion, argument, case study and project work to investigate topics such as the medical culture, the ways medicine is viewed by different segments of society, issues associated with access to health care, ethical dilemmas and guidelines for medical decisions, the impacts of medical and engineering solutions on society, decision making within client/patient groups, social and cultural differences that effect behavioral change, and the ways medical information is conveyed to the range of audiences for whom the information is critical. Additionally, students will master many of the techniques critical to successful communication through a series of short papers and presentations associated with analysis of the writings and cases. For sophomores, juniors, and seniors or by permission of instructor. No audits.	3.00	19	TTh 3:00-4:15PM
EN.661.370	01			**Visual Rhetoric** *O'Donnell, Charlotte Alyssa*	3.00	15	T 1:30-4:15PM

Professional Communication

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				A course that aims to help students design clearer, more visually engaging graphics for a wide variety of business and technical documents. Students will learn to manage essential principles of graphic design through a variety of graphic programs (Adobe Creative Suite) and MS Office software. Topics will include logos, letterhead, event posters, brochures, data graphics and some basic web design. No audits. Not open to students that have taken EN.661.170.			
EN.661.380	01			**Business Analytics** *Ozdemir, Sinan U* In this course students learn the procedures and processes that researchers use to determine answers to questions such as how to price a product, how to differentiate one product from another, and how to evaluate customer response to an offering. The materials combine fundamentals of research design with statistics procedures to answer the questions that entrepreneurs and marketing managers must answer as they write business plans, develop their product mix, set prices, create advertising and test products. The course combines case study, simulated situations, lecture, discussion and real-time projects to produce answers using the techniques, tools and procedures typically used in North American enterprises.	3.00	19	Th 6:15-9:00PM
EN.661.380	02			**Business Analytics**	3.00	19	T 6:15-9:00PM
EN.661.390	01		W	**Jay Street 2.0: A Student-run Magazine** *O'Donnell, Charlotte Alyssa* Jay Street, a student-run publication last put out in 2010, was once the university's only student-run publication that focused on entrepreneurship. Now in 2015, students in this class will redesign the magazine to fit changing readership needs. The first portion of the course will teach basic journalistic writing and interviewing techniques and familiarize students with newsroom procedure. They will learn to pitch, write and edit a variety of story types, from basic news pieces, to profiles, features and reviews. Later in the semester, students will look at contemporary models for online journalism with a view toward redesigning Jay Street's content and focus. Students will publish their work in a new version of the magazine at the end of the spring semester.	3.00	19	M 1:30-4:15PM
EN.661.454	01		W	**Blogging and Digital Copywriting** *Quesenberry, Keith A*	3.00	19	MW 12:00-1:15PM

Professional Communication

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Learn how to develop, write and manage content for marketing communication on the Web and build an online presence through search engine optimization (SEO) and search engine marketing (SEM). Each student will create his/her own professional WordPress blog and gain knowledge on how to market it. They will also learn copywriting for various digital formats including Email marketing, website copy and social media while gaining an understanding of web analytics, conversion optimization, writing for keywords and mobile marketing. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars). No audits.			