THE JOHNS HOPKINS UNIVERSITY

2013-2014

SPRING TERM
UNDERGRADUATE

SCHEDULE OF COURSES

as of October 28, 2013

ARTS AND SCIENCES

AND

ENGINEERING

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Anthropology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.070.132	01	HS		**Invitation to Anthropology** *Poole, Deborah* Is there a distinctive anthropological mode of studying human societies? Examining different kinds of spaces – houses, streets, markets, forests – we learn how human sociality is expressed in and through the way these spaces are constituted. Cross-listed with Humanities Center and PLAS.	3.00	101	TTh 1:30-2:45PM
AS.070.262	01	HS		**Cuban Intellectuals, Cinema, and the State** *Humphreys, Laura Zoe* This course examines the relationship between intellectuals and the Cuban state, focusing on how cinema and other arts have been mobilized both as propaganda and as sites for social criticism. Screenings are required for this course and will take place on Tuesdays from 7 pm to 9:30 pm. Cross-list: Film and Media Studies, PLAS, Romance Languages.	3.00	20	W 4:00-6:20PM; T 7:00-9:30PM
AS.070.277	01	HS	W	**Indigenous Agency and Innovation** *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	40	TTh 12:00-1:15PM
AS.070.290	01	HS		**Modern South Asia: Bangladesh/Pakistan** *Khan, Naveeda* Bangladesh and Pakistan, two major regional players in South Asia, originate in the 1947 Partition of India and shared nationhood between 1947 and 1971, ending with the War of Independence in 1971 in which Bangladesh separated from Pakistan. Since that time the two nation-states have been on different paths that have sometimes mirrored each other. This course brings together contemporary works of national histories, social movements and cultural production to consider the politics of self-differentiation and the points of convergences.	3.00	35	TTh 10:30-11:45AM
AS.070.294	01	HS		**Political Anthropology of Africa** *Obarrio, Juan M* The course will explore classical and contemporary ethnographies of the political in Africa, examining how their authors address issues of power, hierarchy and symbol. We will study various articulations of state, ethnicity and community that are analyzed by observing relations between power and resistance or between law, economy and violence through war, custom and ritual. The seminar will also address the way in which Africa has been constituted as a key source of the sub-field of political anthropology through colonial trajectories, postcolonial detours and the political imagination of the past and the future.	3.00	30	MW 3:00-4:15PM
AS.070.317	01	HS	W	**Junior/Senior Seminar** *Haeri, Niloofar*	3.00	15	W 1:30-3:50PM

Anthropology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Topic: Understanding Baltimore. This course aims to teach basic fieldwork skills: Choosing and entering a community; establishing contacts; learning to listen and to ask questions and locating archival material that might be relevant. It is a hands-on course that will focus on the Arts District North Station in Baltimore.			
AS.070.346	01	HS		**Cinema and Ethnography** *Pandian, Anand* Films, like ethnographies, stage encounters with foreign worlds. We will investigate this parallel by examining, side-by-side, cinematic and anthropological representations of subjects like environmental conflict, urban poverty, religious pilgrimage and media culture.	3.00	20	F 1:30-3:50PM
AS.070.347	01	HS		**Anthropology and Public Action** *Guyer, Jane* Anthropologists have used their expertise in public debates, legal cases, advisory roles and so on, and have studied the “public sphere”. General and case studies, following of our professional association, shows how anthropological knowledge has been mobilized.	3.00	25	MF 12:00-1:15PM
AS.070.348	01	HS		**Anthropology of Mental Illness** *Han, Clara* Mental illness and madness have been powerful lenses for anthropologists to study the individual’s relationship to the social and how societies may secure the boundaries of the normal and the abnormal. We will examine genealogies of anthropological thought on mental illness and study the cross-pollination of anthropology and psychiatry.	3.00	55	MW 1:30-2:45PM
AS.070.352	01	HS		**Evolution, Ecology, Becoming** *Khan, Naveeda* The concept of evolution is central to social theory. Originating in the question of the species, it has moved into questions of human ecology, cultural forms and modes of thought. While it remains a deeply contested, often criticized concept, particularly in its neo-Darwinian manifestation, it orients anthropological thinking in ways that are as yet to be examined. Reaching into the archives of anthropology and other cognate disciplines, this course will examine the writings of Lyell, Darwin, Marx, Morgan, Boas, Steward, Bateson, Ingold among others. Co-listed with AS.070.610	3.00	20	Th 1:30-3:50PM

Anthropology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.070.414	01	HS		**Kinship at the Core** *Goodfellow, Aaron* It is often said that the study of kinship defines anthropology as a distinct discipline within the social sciences. This course tracks the emergence of kinship as a subject and object of anthropological inquiry, and traces some of the transformations that mark the effort to develop theories of kinship (genealogical method, social contract, structural-functionalism, structuralism, psychoanalysis, etc). A sample of authors to be read include: Morgan, Rivers, Malinowski, Radcliff-Brown, Leach, Levi-Strauss, Pateman, Schneider, Trawick, and Povinelli. Open to Graduate Students.	3.00	15	TTh 9:00-10:15AM
AS.070.430	01	HS	W	**Anthropology and the Local** *Han, Clara* Attention to “the local” may be one defining feature of the discipline of anthropology today. This seminar examines pictures of the local within anthropological thought and ethnography as a genre. It will track how “the local” emerges within wider debates on scale and perspective; diversity and pluralism; and self-making in anthropological thought.	3.00	15	M 4:00-6:20PM
AS.211.174	01	H		**Media of Propaganda** *Wegenstein, Bernadette* Today, promoting a particular political or personal point of view is not viewed as "propaganda," but rather as building a community of equally minded people. But where do we draw the line, and when does the use of a medium in service of a certain message become intrusive and misleading? What role do democracy and cultural values play in this use or abuse of media? In this class the term "propaganda" will be evaluated carefully and applied to such historical media case studies as the informational use of the radio in World War One, Leni Riefenstahl's Nazi propaganda films, the legendary success of advertisement campaigns in the 1950s and 1960s, the AIDS movement and other mobilization strategies from the 1980s to the 1990s, and the new values of friendship and propaganda in our current facebook nation.	3.00	20	M 3:00-5:30PM
AS.211.394	01	H	W	**Brazilian Cult & Civ** *Bensabat Ott, Mary M*	3.00	25	M 2:00-4:30PM

Anthropology

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				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	5	M 2:00-4:30PM
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. Students will learn to use digital tools to view and analyze original illustrated musical manuscripts of Machaut's work.	3.00	8	F 1:30-4:00PM
AS.300.399	01	H		**Cinema and Philosophy** *Marrati, Paola* Do movies have anything to say about philosophical problems? Why is contemporary philosophy so interested in cinema? What are the most productive ways of bringing films and philosophy into conversation? Why is contemporary philosophy so interested in cinema?	3.00	25	Th 1:30-4:00PM
AS.361.350	01			**Mestizaje and Race in Latin America** *Reyes Kipp, Anaid Citlalli* The course problematizes how race and mestizaje became socio-political realities and forms of lived experience in Latin America, shaping such things as governmental practices, spatial configurations, interpersonal relations, and political mobiliations. PLAS Teaching Fellowship.	3.00	18	M 4:00-6:20PM
AS.363.300	01		W	**Thirty Years of AIDS: Fatigue, Failure and Fantasies** *Saria, Vaibhav* This course is designed to study the emergence of the concept of "AIDS Fatigue" that is being used to describe the current moment of this epidemic. Cross-listed with Anthropology	3.00	20	W 2:00-4:30PM

Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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 11:00AM-2:20PM
AS.371.139	01			**Still Life/Interior/Landscape** *Hankin, Craig* This intermediate drawing class will examine three grand traditions in representational art. We will explore problems in still life that have occupied artists from Chardin to Morandi; in interiors from Vermeer to Giacometti; in landscape from Corot to Diebenkorn. We will also look at where the boundaries between these genres blur and how they overlap.	2.00	15	Th 1:30-4:50PM
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 1:30-4:20PM
AS.371.151	01	H		**Photoshop/Dig Darkroom** *Ehrenfeld, Howard*	3.00	10	M 10:00AM-12:50PM

Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
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.371.154	01			**Introduction to Watercolor** *Ober, Caroline* Watercolor is simultaneously the most accessible of all painting media and the most misunderstood. This course provides experience and instruction in observational and expressive watercolor techniques, materials, concepts, and vocabulary. Topics to be reviewed include line, perspective, value, texture,composition, color, and pictorial space. There will be an introduction to contemporary practices in watercolor, as well as experimental and abstract exercises, collage, and conceptual work.	2.00	12	T 1:30-4:30PM
AS.371.155	01			**Introduction to Sculpture** *Premo, Larcia C.* A studio course introducing students to sculptural concepts and methods. Emphasis is on the process of creating. Even the simplest materials can effectively activate space, convey meaning, and elicit emotion when used thoughtfully and imaginatively. Students will learn different methods including additive and reductive techniques, construction, modeling, and mold-making. No prerequisites except a willingness to experiment, make mistakes... and clean up when you are done. Seniors only or permission required.	2.00	12	M 1:30-4:30PM
AS.371.162	01	H		**Black and White: Digital Darkroom** *Berger, Phyllis A*	3.00	10	W 10:00AM-12:50PM

Art

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				In this digital course, students explore the black-and-white aesthetic. They develop camera skills on numerous field trips, including Cylburn Arboretum and the John Brown Liberty Ship. Students meet frequently for critiques and discussions based on historic and contemporary imagery. Techniques such as high dynamic range, panorama and infrared are covered. Emphasis is on composition and developing a photographic style via shooting and post-processing. Students are encouraged to make work that is meaningful to them and which communicates its intent to their audience. Digital SLR cameras are provided. Attendance at first class is mandatory.			
AS.371.162	02	H		**Black and White: Digital Darkroom**	3.00	10	W 2:00-4:50PM
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.371.172	01	H		**DIY Art: You Are the Medium** *Staff* 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.371.303	01	H		**Documentary Photography** *Berger, Phyllis A* In this upper-level course, we will explore different genres of documentary photography, including the fine art document, photojournalism, social documentary photography, the photo essay and photography of propaganda. Numerous field trips provide opportunities to explore the city and its neighborhoods. Students will work on a semester-long photo-documentary project on a subject of their choice. Digital SLR cameras are provided. Attendance at first class is mandatory.	3.00	10	F 10:00AM-1:00PM
AS.371.303	02	H		**Documentary Photography**	3.00	10	F 2:00-4:50PM

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	100	TTh 10:30-11:45AM
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. Cross listed with Behavioral Biology. Prerequisite: AS.200.212. Junior and senior Psychology, Behavioral Biology and Cognitive Science majors only OR instructor approval.	3.00	25	M 6:00-8:20PM
AS.200.343	01	S		**Motivation** *Petri, Herbert* Current biological, behavioral, and cognitive research and theory concerning the motivation of behavior are examined. Both human and non-human animal research is reviewed. Topics include the role of genetics, arousal, biological regulatory systems, incentives, expectancies, attributions, social processes and self-actualization in the general of behavior. Recommended Course Background: AS.200.101 and AS.200.146 or instructor permission.	3.00	25	M 1:30-3:50PM
AS.200.370	01	NS		**Functional Human Neuroanatomy** *Courtney-Faruqee, Susan*	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.290.303	01			**Brain, Communication & Evolution** *Madison, Farrah* The study of animal communication involves the study of neural and hormonal mechanisms mediating the production of communication signals and the evolutionary function of the different signals animals produce to communicate with one another. In this course, information from both of these approaches to the study of behavior will be integrated to provide a comprehensive examination of the causes and functions of different animal communication systems. Topics will include both a consideration of the mechanisms of signal production and of signal perception. The course will review the basic features of communication and features of signaling systems. We will also discuss neural and endocrine functioning and the fundamentals of evolutionary theory relevant to the study of animal communication. Finally, this course will include a field component where students will quantify different aspects of communicative behaviors including song, mating, and parental behavior in several species.	3.00	19	WF 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
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	16	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.020.123	01	N		**Genetics, Genomics and Evolution** *Spencer, Forrest* An introduction of key principles of genetics, genomics, and evolution. Lectures will alternate lab exercises and discussion of primary literature. Freshmen only. Recommended Course Background: Score of 4 or 5 on AP Biology Exam.	3.00	24	MW 11:00AM-12:45PM
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	MF 2:30-5:30PM
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	74	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* The Biology Workshop covers applications and current trends in biology, through guest lectures from researchers and hands□on computer programs. Credit will be awarded for EITHER AS.020.152 or AS.020.162, but not both. Recommended Course Background: Score of 4 or 5 on AP Biology exam	1.00	35	T 12:00-12:50PM

Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.020.306	01	N		**Cell Biology** *Hoyt, Myles Andrew* 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.020.312	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	40	M 1:30-4:20PM; W 1:30-2:20PM
AS.020.316	02	N		**Cell Biology Lab**	2.00	40	W 1:30-2:20PM; T 2:30-5:20PM
AS.020.316	03	N		**Cell Biology Lab**	2.00	40	W 2:30-5:20PM; W 1:30-2:20PM
AS.020.316	04	N		**Cell Biology Lab**	2.00	40	W 1:30-2:20PM; Th 1:30-4:20PM
AS.020.316	05	N		**Cell Biology Lab**	2.00	40	M 1:30-4:20PM; W 1:30-2:20PM
AS.020.316	06	N		**Cell Biology Lab**	2.00	40	T 1:30-4:20PM; W 1:30-2:20PM
AS.020.316	07	N		**Cell Biology Lab**	2.00	40	W 2:30-5:20PM; W 1:30-2:20PM
AS.020.316	08	N		**Cell Biology Lab**	2.00	40	Th 1:30-4:20PM; W 1:30-2:20PM
AS.020.332	01	N		**Photosynthesis by Land and Aquatic Organisms** *Moudrianakis, E N*	2.00	25	Th 9:00-10:30AM

Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.020.337	01	N		**Stem Cells & the Biology of Aging & Disease** *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.	2.00	99	W 3:00-4:45PM
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. Recommended Course Background: AS.020.330, AS.020.305, AS.020.306	3.00	300	MWF 10:00-10:50AM
AS.020.367	01	N		**Primate Behavior and Ecology** *Perry, Jonathan M G* A close look at our closest relatives, the primates. Topics include: evolutionary theory, primate evolution, primate behavior and ecology, human evolution, and modern human variation.	3.00	50	TTh 10:30-11:45AM
AS.020.371	01	N	W	**Emerging Strategies in Understanding Innate Behaviors** *Hattar, Samer*	3.00	50	WF 3:00-4:15PM

Biology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The hypothalamus is the central regulator of a broad range of homeostatic behaviors essential to survival, and plays a key role in controlling emotional and appetitive behaviors. This course offers an overview of both historical and recent work on this vital brain region. Topics covered will include the evolution and development of the hypothalamus, control of circadian rhythms and sleep, regulation of hunger and body temperature, as well as hypothalamic regulation of sexual, defensive, and affiliative behavior.			
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.020.375	01	N		**Human Gross Anatomy** *Deleon, Valerie B* Juniors and Seniors only This course is meant to be an introduction to human gross anatomy. It will seek to give students enough background in anatomical knowledge and vocabulary to help them in their initial training in medical school, however, it will not be a substitute for anatomy courses in medical school. It will focus on normal adult anatomy, and it will cover each of the main regions of the body – i.e., thorax, abdomen and pelvis, back and limbs, and head-&-neck. Lectures will cover descriptive and functional anatomy, ultimately leaving students with a better understanding of anatomical terminology and 3D relationships of structures within the human body, and better problem-solving skills as they begin to relate symptoms to causes, again at the gross anatomical level.	3.00	150	TTh 3:00-4:15PM
AS.020.390	01	N	W	**Model Systems in Biology** *Staff* This course will provide an in-depth overview of the influence of model systems on human health and their role in answering current research problems.	3.00	25	MW 1:30-2:45PM
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	W 6:00-9:00PM
AS.020.420	01	N		**Build-a-Genome** *Boeke, Jef D*	4.00	10	MWF 5:00-6:20PM

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.020.431	31	N		**JHU Oxford: Advanced Biochemistry & Molecular Biology** *Schildbach, Joel F* Open to JHU Oxford participants only.	4.00	6	TBA
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
AS.020.451	01	N		**Build-a-Genome Mentor** *Boeke, Jef D*	4.00	5	MWF 5:00-6:20PM

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. 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.			

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.250.205	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. Juniors and seniors instructor permission required. Course offered Fall and Spring semesters.	3.00	36	MW 1:30-2:45PM
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.250.265	01	N		**Introduction to Bioinformatics** *Fleming, Patrick*	3.00	36	TTh 10:30-11:45AM

Biophysics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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. .			
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.250.306	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.250.316	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.250.372	01	N		**Introduction to Biophysical Chemistry** *Barrick, Doug*	3.00	40	MWF 9:00-9:50AM; T 2:30-3:20PM

Biophysics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Course provides working understanding of physical chemistry of the cell, emphasizing problem solving. Topics include classical and statistical thermodynamics, thermodynamics of proteins and nucleic acids, protein folding, calorimetry, ligand binding thermodynamics, linkage, cooperativity and anticooperativity, allosteric models, lattice statistics, helix-coil transition, and polymer theory. When appropriate, students visit the laboratory to set up data collection and learn to analyze the resulting data computationally, using nonlinear least-squares methods. Recommended Course Background: Calculus, Organic Chemistry, and Introductory Physics			
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. Prerequisite: Protein Engineering Lab (250.253) or Biochemistry Lab (020.315), Biochemistry (250.315 or 020.305), and Introduction to Biophysical Chemistry (250.372). Preference given to Biophysics majors.	3.00	24	Th 1:30-5:30PM

Center for Africana Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.100.122	01	HS	W	**Intro to History of Africa (since 1880)** *Larson, Pier M* An introduction to the African past. First term: to 1880. Second term: to since 1880. Cross-listed with Africana Studies	3.00	20	MW 10:00-10:50AM; TBA
AS.100.122	02	HS	W	**Intro to History of Africa (since 1880)**	3.00	20	MW 10:00-10:50AM; TBA
AS.100.122	03	HS	W	**Intro to History of Africa (since 1880)**	3.00	20	MW 10:00-10:50AM; F 9:00-9:50AM
AS.100.122	04	HS	W	**Intro to History of Africa (since 1880)**	3.00	20	MW 10:00-10:50AM; F 9:00-9:50AM
AS.211.394	01	H	W	**Brazilian Cult & Civ** *Bensabat Ott, Mary M* 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	25	M 2:00-4:30PM
AS.211.394	02	H	W	**Brazilian Cult & Civ**	4.00	5	M 2:00-4:30PM
AS.361.350	01			**Mestizaje and Race in Latin America** *Reyes Kipp, Anaid Citlalli* The course problematizes how race and mestizaje became socio-political realities and forms of lived experience in Latin America, shaping such things as governmental practices, spatial configurations, interpersonal relations, and political mobiliations. PLAS Teaching Fellowship.	3.00	18	M 4:00-6:20PM
AS.362.175	01	HS	W	**Black Power Movement** *Hayes, Floyd, III.* This course critically examines trends, developments, contradictions, and dilemmas related to the Black Power Movement for black identity and self-determination in the late 1960s and 1970s.	3.00	15	TTh 1:30-2:45PM
AS.362.204	01	H	W	**Women in African History** *Romero, Patricia* Selected readings written by or about notable African women from the 17th century to the present. Themes explored include slavery, power and religion, economics, health and politics.	3.00	15	Th 2:00-4:30PM
AS.362.206	01	HS	W	**Research Seminar: Baltimore History from the AFRO Newspaper Archives-Community Based Learning** *Hinderer, Moira*	3.00	10	W 1:30-3:50PM

Center for Africana Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This small, project-oriented class will introduce you to methods in historical research while exploring major topics in twentieth century Baltimore history. We will use the rich reporting of Baltimore's Afro-American Newspapers, to explore Baltimore's place in the larger history of Black urban experience. Students will analyze images and exhibits related to African-American history, as well as research and curate small online exhibits of primary source materials including photographs, newspaper clippings, correspondence, pamphlets, flyers, and maps. We will be among the first scholars to work in the Afro's rich archival collections, which include over a million images.			
AS.362.374	01	H		**Black Cinema** *Robbins, Hollis* Close examination of films directed by African American filmmakers as well as a focus on historical and cultural representation of African Americans in American film.	3.00		Th 3:00-5:00PM; S 7:30-10:00PM
AS.362.401	01			**Comparative Slavery in the Americas** *Staff* This course examines the development of slavery and racial thought in Latin America and the Atlantic World from the fifteenth century until its demise in the middle and late nineteenth century. Readings in social and cultural history are intended to focus on the life and labor of slaves, while readings from economic and legal history evaluate slavery as an institution. Intellectual histories are also assigned in an attempt to map the development of slavery as an institution typified by racial caste. The primary goal of this course is to give students a background in the major historical debates that have shaped the production of the history of slavery, including questions of identity (creolization vs. "African survivals"), slave agency and control, and economic vs. racial causes of slavery and the slave trade. All of these topics will be examined through the overarching theme of the course, which is the Tannenbaum thesis: namely, to what extent slavery was experienced differently in Latin America, Anglo-America, and in Africa itself.	3.00		W 1:00-3:30PM
AS.362.416	01	HS		**Black Nationalism and its Critics** *Culver, Adam Romanowski* This seminar will pursue an in-depth, critical analysis of the history and philosophy of black nationalism and its relationship to other trends in black political thought. Readings from Alexander Crummell, Martin Delany, Frederick Douglass, W. E. B. DuBois, Marcus Garvey, Malcolm X, James Baldwin, and others.	3.00	15	T 2:00-4:30PM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.373.112	01			**First Year Heritage Chinese II** *Lievens, Liman* 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 11:00-11:50AM
AS.373.112	02			**First Year Heritage Chinese II**	3.00	15	MWF 12:00-12:50PM
AS.373.116	01			**First Year Chinese II** *Chiang, Yi-Chen* 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 9:00-9:50AM
AS.373.116	02			**First Year Chinese II**	4.50	18	MWF 11:00-11:50AM; TTh 9:00-9:50AM
AS.373.116	03			**First Year Chinese II**	4.50	18	MWF 12:00-12:50PM; TTh 3:00-3:50PM
AS.373.116	04			**First Year Chinese II**	4.50	18	MWF 3:00-3:50PM; 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, Aiguo* 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	4.50	18	MWF 9:00-9:50AM; TTh 12:00-12:50PM
AS.373.216	02	H		**Second Year Chinese II**	4.50	23	MWF 11:00AM-11:50PM; TTh 3:00-3:50PM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.373.216	03	H		**Second Year Chinese II**	4.50	23	MWF 12:00-12:50PM; 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** *Lievens, Liman* 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 10:00-10:50AM
AS.373.416	01	H		**Fourth Year Chinese II** *Lievens, Liman* 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 3:00-3:50PM
AS.373.451	01	H		**Topics in Chinese Media** *Zhao, Nan* The main focus of this course is to expand the student's knowledge of four essential skills in Chinese language and to deepen the student's knowledge of Chinese culture. The course is taught based on various written and visual materials (including newspapers, journals, TV, movies, and short novels) to improve students' reading comprehension, maintain conversation skills through class discussion, increase understanding of the culture and society of China, and enhance writing ability through short compositions and a writing project. Recommended Course Background: Completion of four years of Chinese language or permission required.	3.00	18	TTh 10:30-11:45AM
AS.375.116	01			**First Year Arabic II** *Tahrawi, Khalil*	4.50	18	MWF 8:00-8:50AM; TTh 9:00-9:50AM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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			
AS.375.116	02			**First Year Arabic II**	4.50	18	MTWThF 9:00-9:50AM
AS.375.116	03			**First Year Arabic II**	4.50	18	MWF 10:00-10:50AM; TTh 10:00-10:50AM
AS.375.216	01	H		**Second Year Arabic II** *Abdallah, Fadel* 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** *Abdallah, Fadel* 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 1:30-2:50PM
AS.375.402	01	H		**Fourth Year Arabic II** *Tahrawi, Khalil* 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* 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.	4.00	25	MTWF 9:00-9:50AM
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

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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: 20th Century Masterpieces** *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* 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	4.50	16	MWF 10:00-10:50AM; TTh 10:30-11:45AM
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*	4.50	16	MWF 11:00-11:50AM; TTh 10:30-11:20AM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
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** *Katagiri, Satoko* 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 1:30-2:20PM
AS.378.416	01	H		**Fourth Year Japanese II** *Nakao, Makiko Pennington* 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	TTh 9:00-10:15AM
AS.380.102	01			**First Year Korean II** *Kang, Choonwon* 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.380.202	01	H		**Second Year Korean II** *Kang, Choonwon* 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** *Kang, Choonwon* 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 8:00-8:50AM
AS.381.102	01			**First Year Hindi II** *Saini, Uma*	3.00	15	TTh 10:30-11:45AM

Center for Language Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
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	MW 4:30-5:45PM
AS.381.302	01	H		**Third Year Hindi II** *Datla, Radhi* 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	MW 5:45-7:00PM
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	TBA
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. Cross-listed with Jewish Studies.	4.00	10	TBA
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	TBA

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.030.106	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	F 1:30-2:20PM; M 1:30-4:20PM
AS.030.106	02	N		**Introductory Chemistry Laboratory II**	1.00	100	Th 1:30-2:20PM; T 1:30-4:20PM
AS.030.106	03	N		**Introductory Chemistry Laboratory II**	1.00	100	F 1:30-2:20PM; W 1:30-4:20PM
AS.030.106	04	N		**Introductory Chemistry Laboratory II**	1.00	100	Th 1:30-2:20PM; Th 2:30-5:20PM
AS.030.106	05	N		**Introductory Chemistry Laboratory II**	1.00	100	F 1:30-2:20PM; F 2:30-5:20PM
AS.030.113	01			**Chemistry with Problem Solving II** *Staff* 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.			TBA
AS.030.204	01	N		**Chemical Structure and Bonding w/Lab** *Mcqueen, Tyrel* 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.	4.00	32	MWF 9:00-9:50AM; M 1:30-6:30PM
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*	4.00	290	MWF 9:00-9:50AM; Th 9:00-10:20AM

Chemistry

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
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		**Advanced Organic Chemistry** *Lectka, Thomas* Must have done well in the first semester (AS.030.205). 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 2D NMR, 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	Th 9:00-10:20AM; MWF 10:00-10:50AM
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 9am. Freshmen are not eligible to register. Students may not simultaneously enroll for 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** *Greco, Jane* 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	3.00	16	T 9:00-9:50AM; W 1:30-6:30PM
AS.030.227	02	N		**Chemical Chirality: An Introduction in Organic Chem. Lab, Techniques**	3.00	16	T 9:00-9:50AM; Th 1:30-6:30PM
AS.030.228	01			**Intermediate Organic Chemistry Laboratory**	3.00	32	WF 1:30-6:30PM

Chemistry

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Greco, Jane 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			
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* 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	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.030.402	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	TTh 12:00-1:15PM
AS.030.421	01			**Uses of Coordination Chemistry in Medicine** *Hematian, Shabnam*	3.00	20	MWF 11:00-11:50AM

Chemistry

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will introduce basic concepts of Medicinal Inorganic Chemistry and the variety of roles that metals play in contemporary medicine and their applications to both diagnosis and therapy. Students with potential future interests in chemistry, biochemistry, cell biology, pharmacology, and/or toxicology will find this course of great value. This interdisciplinary course is an excellent choice for undergraduates who aim to learn both sides of the coin, chemistry as an academic subject and medicine as an application; study of the combination, in addition to providing knowledge in new subject matter, may also equip students with insights which can aid the evaluation of their future professional career directions. This course begins with an introduction to coordination chemistry as a primary basis for the subsequent topics on diagnosis and therapy including the roles of metal-based drugs in modern medicine and the future development of clinically efficacious metal-complexes.			
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

Classics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.208	01	H	W	**The Disappearing Wall: Roman Frescoes in Context** *O'Connell, Shana Doreen* The course introduces ancient Roman wall painting from Pompeii and Rome as images painted on “disappearing walls.” We will analyze these and other murals in historical, archaeological and museum contexts.	3.00	19	MWF 11:00-11:50AM
AS.010.324	01	H		**Art and Architecture in the Augustan Age** *Tucci, Pier Luigi* Investigates Roman art and architecture during the Augustan age (31 BC – AD 14). Augustus' cultural program influenced many aspects of Roman life, leading to the creation of a new visual language that transformed Roman society. Methodologically, the focus will be on the integration of diverse sources to reconstruct and discuss the images and the built environment of the Augustan age.	3.00	25	TTh 1:30-2:45PM
AS.040.106	01			**Elementary Ancient Greek** *Kauffman, Nicholas Earl* 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** *Lamont, Jessica Laura* 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	20	MWF 10:00-10:50AM
AS.040.108	02			**Elementary Latin** *Mueller, Maren Kristina*	3.50	20	MWF 11:00-11:50AM
AS.040.121	01	H		**Ancient Greek Mythology: Art, Literature, and Mythmaking** *Yatromanolakis, Dimitrios* This course examines major myths as they are reflected in compelling ancient visual and textual narratives. Being one of the greatest treasure troves of the ancient world, these myths will further be considered in light of their rich reception in the medieval and modern world.	3.00	30	MW 1:30-2:20PM; F 1:30-2:20PM
AS.040.142	01	H		**Spartacus, Caesar, and Cleopatra: Notorious Characters from Roman History and Hollywood Cinema** *Gessert, Genevieve Simandl*	3.00	50	TTh 10:30-11:45AM

Classics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Since the invention of cinema, the ancient world has been an important vehicle for both lavish visual spectacles and the exploration of contemporary social issues. This course analyzes the depiction of the infamous figures of the late republic in both ancient sources and modern media, to examine how ancient Rome and contemporary America have used these characters to contemplate race, class, gender, and imperialism.			
AS.040.206	01	H		**Intermediate Ancient Greek** *Dooley, Daniel Christopher* 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	20	TTh 10:30-11:45AM
AS.040.208	01	H		**Intermediate Latin** *Smith, Timothy Bryan* 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.040.218	01	H	W	**Celebration and Performance in Early Greece** *Anderson, Emily S.K.* Surviving imagery suggests that early Aegean societies engaged in diverse celebratory performances, including funerals and palatial feasts, puberty rites and ecstatic dance. We investigate archaeological evidence of such celebrations, focusing on sociocultural roles, bodily experience, and interpretive challenges.	3.00	15	TTh 9:00-10:15AM
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: Theocritus' Idylls. 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** *Piana, Danilo* (Same course as AS.040.707) 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 Petronius. Recommended Course Background: AS.040.207-AS.040.208 or equivalent.	3.00	8	MW 12:00-1:15PM
AS.040.366	01	H	W	**The Archaeology of Ancient Cyprus: Investigating a Mediterranean Island World in the JHU Museum** *Anderson, Emily S.K.* This course explores the visual and material worlds of ancient Cyprus from the earliest human evidence through the Iron Age. Class involves regular analysis of artifacts based in the Archaeological Museum.	3.00	12	TTh 12:00-1:15PM
AS.130.258	01	H		**Ceramic Analysis in Archaeology** *Osborne, James F*	3.00	14	T 2:00-4:30PM

Classics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				At archaeological sites following the invention of pottery roughly 10,000 BCE, ceramics are the single most frequent and ubiquitous class of artefact that archaeologists uncover. This class, which will be conducted in the Hopkins Archaeological Museum as a combination of lectures, discussions, and hands-on interactions with ancient and modern ceramics, surveys the methods and interpretive techniques that archaeologists use when studying this important category of material culture. Specific topics include manufacturing techniques, craft specialization, typology and chronology, production and exchange, scientific analyses, stylistic and functional analysis, and socio-political organization.			
AS.389.205	01	H		**Examining Archaeological Objects** *Balachandran, Sanchita* This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles, and visit artists' studios to gain an understanding of historical manufacturing processes. M&S practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art. Class meets in the Archaeological Museum (Gilman 150).	3.00	12	Th 1:30-3:50PM

Cognitive Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.050.102	01	NS		**Language and Mind** *Omaki, Akira* Introductory course dealing with theory, methods, and current research topics in the study of language as a component of the mind. What it is to "know" a language: components of linguistic knowledge (phonetics, phonology, morphology, syntax, semantics) and the course of language acquisition. How linguistic knowledge is put to use: language and the brain and linguistic processing in various domains. This course is restricted to freshmen and sophomores. Juniors and seniors must seek instructor approvel to enroll. Cross-listed with Neuroscience and Psychology.	3.00	50	TTh 9:00-10:15AM
AS.050.203	01	NS		**Cognitive Neuroscience: Exploring the Living Brain** *Rapp, Brenda C* 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, VEP, 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 WADA, cortical stimulation, animal lesion studies, and the study of brain-damaged individuals. (Co-listed as AS.080.203 in Neuroscience.)	3.00	250	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).	3.00	75	TTh 12:00-1:15PM

Cognitive Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.050.318	01	NS		**Practicum in Language Disorders-Community Based Learning** *Rapp, Brenda C* 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. Junior or Senior status. Co-listed with Neuroscience (AS.080.400). Please see additional instructions on the Neuroscience Department website at: http://krieger.jhu.edu/neuroscience/courses/index.html>the Neuroscience Department 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. Also offered as AS.050.620.	3.00	20	TTh 1:30-2:45PM
AS.050.326	01	NS	W	**Foundations In Cognitive Science** *Smolensky, Paul* This course explores general issues and methodologies in cognitive science through the reading of classic works (from Plato and Kant through Skinner and Turing) and recent research articles to begin construction of a coherent picture of many seemingly divergent perspectives on the mind/brain. Recent brain-based computational models serve to focus discussion. Recommended Course Background: at least one course at the 300-level or higher in cognitive science, computer science, neuroscience, philosophy, or psychology. Co-listed with AS.050.626.	3.00	25	MW 3:00-4:15PM
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. Also listed as AS.050.639. Cross-listed with Neuroscience.	3.00	30	T 3:00-5:30PM
AS.080.203	01	NS		**Cognitive Neuroscience** *Rapp, Brenda C*	3.00	250	TTh 10:30-11:45AM

Cognitive Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course surveys theory and research concerning how the human brain carries out mental processes. Co-listed as AS.050.203 in Cognitive Science.			
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
AS.376.372	01	NS		**Introduction to Music Cognition II** *Lopez-Gonzalez, Monica* Continuing from Topics in Music Cognition I, this course explores further the similarities and differences between music and language, the effects of musical training on cognitive development, and the expressive power of music, with an introduction to music and its role in film. We will read relevant research and theory on these topics from cognitive science, neuroscience, psychology, musicology, and philosophical perspectives.	3.00	15	Th 4:30-6:50PM

Dean's Teaching Fellowship Courses

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.208	01	H	W	**The Disappearing Wall: Roman Frescoes in Context** *O'Connell, Shana Doreen* The course introduces ancient Roman wall painting from Pompeii and Rome as images painted on “disappearing walls.” We will analyze these and other murals in historical, archaeological and museum contexts.	3.00	19	MWF 11:00-11:50AM
AS.010.213	01	H	W	**Medieval Renaissances** *Danford, Rachel Elizabeth* A course on the appropriation, citation, and imitation of classical antiquity in the art and architecture of the Middle Ages (ca. 300-1300), emphasizing the active transformation of earlier models rather than passive copying.	3.00	15	MW 12:00-1:15PM
AS.060.329	01	H	W	**Prophecy after Science** *Miller, William Cook* Prophets and their prophecies are everywhere: whether preached by evangelical visionaries of Rapture, opined by primetime sports forecasters, or sold at hourly rates by countless fortunetellers and astrologers. Our dizzying era, predicated economically, technologically, and politically on objective methods of prediction, comfortably accommodates and even welcomes pre-scientific, prophetic modes of futurity. We look up our horoscopes on our smartphones. How did we come to balance these futures so blithely? Do we – and should we – think of these modes as continuous or separate, complementary or conflicting? This course explores the history of prophecy, from ancient Greek and Judaic sources to current intimations of technological singularity and ecological doom, with a focus on the effect of the rise of science in shaping the course of prophetic writings. The majority of texts in this course come from the literature of 1600-1800 – centuries that witnessed the emergence of our modern scientific disciplines, and the recasting of prophecy in terms of the human imagination.	3.00	18	MW 3:00-4:15PM
AS.060.343	01	H	W	**Milton and Liberty: Public and Private** *Buckham, Rebecca Lynn* This course examines John Milton’s commitment to liberty in its many varieties, both public and private, as articulated in his early prose writings and as imagined in his poetic works. Dean’s Teaching Fellowship Course. Pre 1800 course.	3.00	18	TTh 12:00-1:15PM
AS.100.232	01	HS		**Gender in Latin American History** *Andrews, Norah Linda* From Maya codices to Castro’s speeches, this class examines the opportunities and constraints gendered labels supplied and their relationships to hierarchies of class and race.	3.00	25	TTh 3:00-4:15PM
AS.150.129	01	H		**The Theory of Knowledge: Classic and Contemporary** *Waterman, John Philip*	3.00	19	M 3:00-5:30PM

Dean's Teaching Fellowship Courses

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				How do we learn about things like Knowledge or Reason when they don't have physical properties? Can there be a science of them if we can't directly observe them? In this course we'll investigate these questions and others by examining classic and contemporary philosophical works, from Plato to modern cognitive science. Freshmen only.			
AS.150.202	01	H		**Philosophy of Medicine** *Miller, Bryan Temples* This course explores philosophical issues that are of central importance to medicine. Topics to be covered include: history of medicine, relationship between medicine and science, distinction between health and disease. Recommended Course Background: At least one philosophy course or permission from the instructor.	3.00	19	W 1:30-4:00PM
AS.150.306	01	H		**The Epicurians, the Stoics, & the Skeptics on How to Live** *Stojanovic, Pavle* The question “How to live?” is eternal. The Epicureans said that pleasure is the goal of life that is to be pursued, thus paving the way to modern Utilitarianism. The Stoics argued that the goal of life is virtue, which consists in living in agreement with nature; in this, they anticipated contemporary virtue ethics. Both schools thought that although we live in a material and causally determined universe, our moral actions and characters are nevertheless “up to us” and that we have moral freedom and responsibility. The Skeptics, on the other hand, tried to demonstrate that no moral principles have sufficient rational justification and that, because of this, the only option is some kind of moral relativism and the pursuit of freedom from emotional disturbance. In this, they anticipated moral relativism and moral nihilism. By examining of the arguments of the Epicureans, the Stoics, and the Skeptics in this course, you will not only learn about them, but also have an opportunity to do philosophy yourself, and perhaps clarify how you should live your own life.	3.00	19	TTh 10:30-11:45AM
AS.150.312	01	H		**Philosophy and Complexity** *Guralp, Genco* This course aims to engage with philosophical problems that stem from sciences of complexity in an interdisciplinary way. We will pose questions concerning how disciplines such as biology, economics, neuroscience, astrophysics etc. deal with the problem of complexity, and we will look at the basic problems philosophers of science single out in this context. After introducing the general problematic of the course, we will have two main parts under which we examine the philosophy of complex systems. The first part will be devoted to the epistemological aspects of the problem such as models, laws, explanation and evidence, and the second part will examine the metaphysical aspects of emergence and reduction.	3.00	19	TTh 1:30-2:45PM

Dean's Teaching Fellowship Courses

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.180.276	01	S		**Economics of the Internet** *Tiererova, Lucia* This course explores the Internet from an economist's perspective, with the objective of understanding the effects on pricing and competitive behavior brought about by lower search and transaction costs in online markets. Unique features of information goods, product differentiation, market dynamics, reputation, and online auctions are among the topics examined. Dean's Teaching Fellowship course.	3.00	25	F 1:30-4:00PM
AS.214.341	01	H	W	**The Book of Nature, the Nature of Books: The Origins of Literary Ecology** *Tower, Troy* This course investigates how ecological factors inspired storytellers, influenced modes of literary publication, and determined reader responses in Europe before 1700.Students enrolling in section 2 will attend a supplementary one hour session at a time to be mutually decided and complete the work in Italian.	3.00	8	W 5:00-7:30PM
AS.214.341	02	H	W	**The Book of Nature, the Nature of Books: The Origins of Literary Ecology**	4.00	4	W 5:00-7:30PM
AS.230.372	01	S	W	**Social Protest in Contemporary China** *Li, Yao* This class introduces popular resistance in post-1978 China, examining its socioeconomic, political, and cultural background, various types of protests by multiple social groups, and outcomes of protests. Cross listed with Dean's Teaching Fellowship.	3.00	19	MW 4:30-5:45PM
AS.362.416	01	HS		**Black Nationalism and its Critics** *Culver, Adam Romanowski* This seminar will pursue an in-depth, critical analysis of the history and philosophy of black nationalism and its relationship to other trends in black political thought. Readings from Alexander Crummell, Martin Delany, Frederick Douglass, W. E. B. DuBois, Marcus Garvey, Malcolm X, James Baldwin, and others.	3.00	15	T 2:00-4:30PM

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	W 3:00-4:00PM
AS.270.113	01	N		**Freshman Seminar: Environmental Poisons** *Sverjensky, Dimitri* An exploration of the occurrence and potential effects of poisons in the environment, from naturally occurring ones such as arsenic to those that may be introduced by mankind such as nuclear waste.	1.00	12	M 3:00-4:00PM
AS.270.114	01	N		**Guided Tour: The Planets** *Marsh, Bruce D* 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.270.222	01	N		**Earth Materials** *Ferry, John* An introduction to the properties, occurrence, and origin of the basic constituents of the Earth, including minerals and rocks. Introductory training in the recognition of minerals and rocks in the laboratory and the field.	4.00	11	MWF 11:00-11:50AM; T 1:30-4:20PM
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	15	MWF 1:30-2:20PM
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.270.323	01	N		**Ocean Biogeochemical Cycles** *Gnanadesikan, Anand* This course will examine the cycling of trace chemicals in the ocean, consider what we can learn from the distributions of these chemicals about the ocean circulation, and ocean ecosystems. Topics covered will include oceanic biological productivity, open water cycling of nutrients and oxygen, ocean acidification and sediment cycling.	3.00	10	MWF 3:00-3:50PM
AS.270.330	01	N		**Atmospheric Chemistry** *Stolarski, Richard*	3.00	15	MW 1:30-2:45PM

Earth & Planetary Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will examine the structure and composition of the atmosphere and the processes that determine how the composition has changed in the past and might change in the future. Emphasis will be on the chemistry of the stratospheric ozone layer. The chemistry of the troposphere and air pollution will also be covered. Prerequisites: AS.110.106 Calculus I and AS.110.109 Calculus II			
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
AS.270.377	01	N		**Climates Of The Past** *Hinnov, Linda* Earth's climate history through study of forcing mechanisms, climate proxies, and paleoclimate modeling. Presentation of climate-sensitive archives will be followed by discussion of geochemical principles, climates through time, recent advances and emerging problems. For upper-level undergraduate and graduate students in the natural sciences. Recommended Coures Background: AS.270.220 or instructor permission.	3.00	30	TTh 1:30-2:45PM
AS.270.410	01	N		**Planetary Surface Processes** *Barnouin, Olivier*	3.00	15	MW 2:00-3:15PM
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.270.496	02		W	**Senior Thesis**	4.00	10	TBA
AS.270.496	03		W	**Senior Thesis** *Passey, Benjamin H*	4.00	30	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		TTh 10:30-11:45AM
AS.271.403	01			**Environmental Policymaking and Policy Analysis**	3.00		Th 6:00-9:00PM

Earth & Planetary Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time

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.

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.353	01	H	W	**Key Moments in East Asian Politics & Visual Culture** *Brown, Rebecca Mary* Examines key political moments in China, Japan, and Korea from 1850 to the present, focusing on the way visual imagery shapes these events. Includes: Japanese occupation of Korea, Hiroshima and Nagasaki bombings, 1989 Tiananmen square protests, North Korean propaganda.	3.00	15	Th 1:30-4:00PM
AS.100.330	01	HS		**National Identity in 20th Century China & Japan** *Meyer-Fong, Tobie* Using primary sources, including literature and film, we will explore the changing ways in which ideologues, intellectuals, and ordinary citizens defined national identity in 20th century China and Japan. Cross-listed with East Asian Studies	3.00	20	MW 12:00-1:15PM
AS.100.348	01	HS	W	**20th-Century China** *Rowe, William T* Cross listed with East Asian Studies	3.00	75	TTh 10:30-11:45AM
AS.100.422	01	HS		**Society & Social Change in 18th Century China** *Rowe, William T* Reading knowledge of Chinese recommended but not required. Cross listed with East Asian Studies	3.00	15	Th 1:30-3:50PM
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	17	T 1:30-3:50PM
AS.190.341	01	S	W	**Korean Politics** *Chung, Erin* This course introduces students to the historical and institutional foundations of modern South Korean politics. Topics include nationalism, political economic development, civil society, globalization, and ROK-DPRK relations. (CP)	3.00	25	TTh 1:30-2:45PM
AS.230.285	01	S	W	**Maritime East Asia** *Kuo, Huei-Ying*	3.00	20	TTh 12:00-1:15PM

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. In this class, we will explore how diplomatic ties, trade and migration between the thirteenth and eighteenth centuries contribute to the making of cosmopolitan cities such as Quanzhou, Macau, Nagasaki, Fort Zeelandia (Formosa), Malacca, Singapore and Batavia. The course will also address the role that transnational trade and migration networks played in the incorporation of East and Southeast Asia into the Western-led capitalism in the nineteenth century. The course will close with an examination of how the legacies of the long-standing trasnantional maritime connections continue to shape contemporary inter-state competition and negotiation in the region. Key concepts to be introduced include tribute trade system, rice economy, pan-Asianism, and ASEAN free trade zone. Cross listed with East Asia Studies.			
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.310.303	01	HS		**A World Upturned: Cultures of Catastrophe in Japan** *Staff*	3.00	25	TTh 12:00-1:15PM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.310.304	01	HS	W	**The Architectonics of Tokyo: The Anthropology of City Life in Japan and Abroad** *Staff* 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	W 2:00-4:30PM
AS.310.306	01	HS	W	**Domestic Politics of Contemporary China** *Staff* 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 12:00-1:15PM
AS.310.316	01	H		**First Year Classical Chinese, Second Semester: 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.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** *Lievens, Liman*	3.00	15	MWF 11:00-11:50AM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.373.112	02			**First Year Heritage Chinese II**	3.00	15	MWF 12:00-12:50PM
AS.373.116	01			**First Year Chinese II** *Chiang, Yi-Chen* 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 9:00-9:50AM
AS.373.116	02			**First Year Chinese II**	4.50	18	MWF 11:00-11:50AM; TTh 9:00-9:50AM
AS.373.116	03			**First Year Chinese II**	4.50	18	MWF 12:00-12:50PM; TTh 3:00-3:50PM
AS.373.116	04			**First Year Chinese II**	4.50	18	MWF 3:00-3:50PM; 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, Aiguo* 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	4.50	18	MWF 9:00-9:50AM; TTh 12:00-12:50PM
AS.373.216	02	H		**Second Year Chinese II**	4.50	23	MWF 11:00AM-11:50PM; TTh 3:00-3:50PM
AS.373.216	03	H		**Second Year Chinese II**	4.50	23	MWF 12:00-12:50PM; TTh 3:00-3:50PM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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** *Lievens, Liman* 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 10:00-10:50AM
AS.373.416	01	H		**Fourth Year Chinese II** *Lievens, Liman* 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 3:00-3:50PM
AS.373.451	01	H		**Topics in Chinese Media** *Zhao, Nan* The main focus of this course is to expand the student's knowledge of four essential skills in Chinese language and to deepen the student's knowledge of Chinese culture. The course is taught based on various written and visual materials (including newspapers, journals, TV, movies, and short novels) to improve students' reading comprehension, maintain conversation skills through class discussion, increase understanding of the culture and society of China, and enhance writing ability through short compositions and a writing project. Recommended Course Background: Completion of four years of Chinese language or permission required.	3.00	18	TTh 10:30-11:45AM
AS.378.116	01			**First Year Japanese II** *Katagiri, Satoko*	4.50	16	MWF 10:00-10:50AM; TTh 10:30-11:45AM

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** *Katagiri, Satoko* 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 1:30-2:20PM
AS.378.416	01	H		**Fourth Year Japanese II** *Nakao, Makiko Pennington* 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	TTh 9:00-10:15AM

East Asian Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.380.102	01			**First Year Korean II** *Kang, Choonwon* 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.380.202	01	H		**Second Year Korean II** *Kang, Choonwon* 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** *Kang, Choonwon* 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 8:00-8:50AM

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.180.171	01	S		**Topics in Political Economy** *Karakas, Leyla Derin* Societies make their key economic decisions under the constraints imposed by their political institutions. This course studies the interaction between economics and politics in public policy design, with topics ranging from fiscal policy to international development. Some recurring questions include why inefficient policies get enacted and how different political institutions give rise to different policy outcomes.	3.00	25	W 3:00-5:30PM
AS.180.203	01			**Faculty Research in Economics** *Hamilton, Bruce W*	1.00	40	T 1:30-3:00PM

Economics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
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	TTh 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.180.266	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
AS.180.276	01	S		**Economics of the Internet** *Tiererova, Lucia* This course explores the Internet from an economist's perspective, with the objective of understanding the effects on pricing and competitive behavior brought about by lower search and transaction costs in online markets. Unique features of information goods, product differentiation, market dynamics, reputation, and online auctions are among the topics examined. Dean's Teaching Fellowship course.	3.00	25	F 1:30-4:00PM
AS.180.302	01	S		**Macroeconomic Theory** *Staff*	4.50	42	TTh 1:30-2:45PM; W 7:00-8:30PM

Economics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.180.302	02	S		**Macroeconomic Theory**	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.180.334	01	QS		**Econometrics** *Balat, Jorge F* 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.	3.00	30	TTh 10:30-11:45AM; F 4:00-4:50PM
AS.180.334	02	QS		**Econometrics**	3.00	30	TTh 10:30-11:45AM; Th 3:00-3:50PM
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	25	Th 1:00-3:30PM
AS.180.351	01	S		**Labor Economics** *Staff* 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 10:30-11:45AM
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*	3.00	20	MW 1:30-2:45PM

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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?			
AS.180.385	01	S		**Evolution and Economics** *Korinek, Anton* This course provides an introduction to evolutionary theory and its applications to modern economics. We start by introducing formal models of the driving forces of evolution: mutation, selection, and survival of the fittest. Next we investigate how these forces have shaped human preferences and behaviors that are typically taken as given in economic models. Finally, we discuss the evolution of social systems like the economy we live in.	3.00	28	TTh 3:00-4:15PM
AS.180.389	01	S		**Social Policy Implications of Behavioral Economics** *Papageorge, Nick W* 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.	3.00	25	TTh 9:00-10:15AM
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
EN.570.428	01	S	W	**Problems in Applied Economics** *Hanke, Steve H*	3.00	20	TBA

Economics

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.Permission Required.			
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. Permission Required.	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. Permission Required.	3.00	20	TBA

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.060.100	01	H	W	**Introduction to Expository Writing** *Staff* 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 3:00-4:15PM
AS.060.100	02	H	W	**Introduction to Expository Writing**	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** *Kramnick, Jonathan B* See section descriptions.	3.00	20	TTh 1:30-2:45PM
AS.060.107	02	H	W	**Introduction to Literary Study** *Grener, Adam*	3.00	20	TTh 10:30-11:45AM
AS.060.110	01	H	W	**The African American Novel** *Tye, Douglas Allen* This course will survey classic novels by African-American writers. From slavery to freedom, from subjection to the qualified triumph of integration, we'll examine several examples of black writers writing about what it means to be "black" in America, and what it means to be "white" from a "black" perspective.	3.00	18	MW 3:00-4:15PM
AS.060.114	01	H	W	**Expository Writing:** *Staff* “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:**	3.00	15	MWF 10:00-10:50AM
AS.060.114	03	H	W	**Expository Writing:**	3.00	15	MWF 11:00-11:50AM
AS.060.114	04	H	W	**Expository Writing:**	3.00	15	MWF 11:00-11:50AM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.060.114	05	H	W	**Expository Writing:**	3.00	15	MW 12:00-1:15PM
AS.060.114	06	H	W	**Expository Writing:**	3.00	15	MW 12:00-1:15PM
AS.060.114	07	H	W	**Expository Writing:**	3.00	15	MW 1:30-2:45PM
AS.060.114	08	H	W	**Expository Writing:**	3.00	15	MW 1:30-2:45PM
AS.060.114	09	H	W	**Expository Writing:**	3.00	15	MW 3:00-4:15PM
AS.060.114	10	H	W	**Expository Writing:**	3.00	15	TTh 9:00-10:15AM
AS.060.114	11	H	W	**Expository Writing:**	3.00	15	TTh 10:30-11:45AM
AS.060.114	12	H	W	**Expository Writing:**	3.00	15	TTh 10:30-11:45AM
AS.060.114	13	H	W	**Expository Writing:**	3.00	15	TTh 12:00-1:15PM
AS.060.114	14	H	W	**Expository Writing:**	3.00	15	TTh 12:00-1:15PM
AS.060.114	15	H	W	**Expository Writing:**	3.00	15	TTh 1:30-2:45PM
AS.060.114	16	H	W	**Expository Writing:**	3.00	15	TTh 1:30-2:45PM
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 3:00-4:15PM
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 1:30-2:45PM
AS.060.114	21	H	W	**Expository Writing:**	3.00	15	MWF 11:00-11:50AM
AS.060.114	22	H	W	**Expository Writing:**	3.00	15	MW 1:30-2:45PM
AS.060.114	23	H	W	**Expository Writing:**	3.00	15	TTh 10:30-11:45AM
AS.060.114	24	H	W	**Expository Writing:**	3.00	15	TTh 3:00-4:15PM
AS.060.139	01	H	W	**Expository Writing: The Essay** *Kain, Patricia* Since its invention in the 1500s, the essay has proven itself to be an unusually flexible form of thinking. Writers as different as Francis Bacon and Leo Tolstoy, Alice Walker and Stephen Jay Gould have adapted the essay form to manifold purposes, including personal essays, critical arguments, and scientific articles. This course aims to teach students how the essay can be shaped around any kind of subject and how this shaping uses the conventions of expository writing to achieve its effects. Classes are organized around four major writing assignments. Each course includes discussions, workshops, and tutorials with the instructor as it guides students' practice through pre-writing, drafting, and revising. "The Essay" is designed for students who already have experience with expository writing but is available to freshmen, sophomores, juniors, and seniors.	3.00	12	MW 1:30-2:45PM
AS.060.146	01	H	W	**Detective Fiction** *Rosenthal, Jesse Karl* This course will look at the history of English-language detective fiction through the nineteenth and twentieth centuries. We will pay special attention to the way clues and suspense operate, the role of the reader in figuring out the mystery, and the complicated relationship of the detective with official authority. Authors will likely include some selection of Wilkie Collins, Edgar Allan Poe, Arthur Conan Doyle, Agatha Christie, Dashiell Hammet, and Raymond Chandler. This class is for non-majors.	3.00	15	TTh 10:30-11:45AM
AS.060.212	01	H		**British Literature II: 18th Century to the Present** *Mao, Douglas*	3.00	20	MWF 10:00-10:50AM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				A survey of major authors such as Wordsworth, Keats, Austen, Tennyson, Dickens, Wilde, Woolf, Joyce, and Rushdie. Substantial attention to formal conventions as well as stylistic innovation, to aesthetic value as well as social meaning.			
AS.060.212	02	H		**British Literature II: 18th Century to the Present**	3.00	20	MWF 10:00-10:50AM
AS.060.212	03	H		**British Literature II: 18th Century to the Present**	3.00	20	MWF 10:00-10:50AM
AS.060.212	04	H		**British Literature II: 18th Century to the Present**	3.00	20	MWF 10:00-10:50AM
AS.060.308	01	H	W	**The Novelty of the Novel** *Maioli dos Santos, Roger* The English novel has been traditionally regarded as having originated in the eighteenth century, with the works of Defoe, Richardson, and Fielding. This view of the novel's origins owes much to the influence of Ian Watt's The Rise of the Novel (1957). Watt claims that the prose fiction written by these three authors is defined and distinguished from other varieties by its "formal realism" – a set of procedures that made the novel much more lifelike than picaresque tales, courtly novellas, or the romance. Watt's view of the canon is now taken to be too restrictive, but his thesis concerning what was novel about the novel remains influential. In this course students will engage with two aspects of Watt's argument that have been criticized by later critics but still retain some of their original force: the idea that eighteenth-century prose fiction marks a break with the past and that the tradition emerging at that point has English origins. We will be testing these two theses by reading and contrasting older and newer forms of prose fiction from England, France, and Spain, comparing their formal procedures, and discussing how satisfactorily Watt accounts for them. We will also be reading critiques and defenses of Watt by critics including Michael McKeon, J. Paul Hunter, Margaret Anne Doody, and Nicholas Seager. Primary sources will include excerpts from Roger Boyle's romance Parthenissa (1651) alongside Defoe's Moll Flanders (1722); the picaresque tale Lazarillo de Tormes (1554) together with Fielding's road epic Joseph Andrews (1742); and the conjugal drama of Madame de Lafayette's La Princesse de Clèves (1678) together with Richardson's treatment of a similar topic in Pamela (1740). As we read the primary sources we will be also reading the relevant chapters of The Rise of the Novel. By gaining a first-hand view of the actual changes in prose fiction students will be able to appreciate the force of Watt's thesis as well as its limitations. Toward the end of the cou	3.00	18	TTh 12:00-1:15PM
AS.060.321	01	H	W	**Victorian Poetry** *Fessenbecker, Patrick*	3.00	18	MWF 9:00-9:50AM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				In this class, we're going to briefly survey the major poets of the Victorian era: Alfred, Lord Tennyson, Robert and Elizabeth Barrett Browning, Dante Gabriel Rossetti and his sister Christina, Matthew Arnold, George Meredith, and others. Moreover, we'll try to situate them in the social, political, and intellectual contexts that gave rise to their works, and investigate the questions that stimulated them and which their works address: we will, for instance, follow Arnold in thinking about the place of religion in the modern world, Meredith in thinking about the nature of moral egoism, and Elizabeth Barrett Browning in recovering the voices of oppressed classes. We'll also try to address the various formal innovations of poetry in the Victorian era, attending to—for example— Tennyson's complex re-imagination of the verse of the Arthurian legends and Robert Browning's development of sophisticated forms of irony. Specific poems to be studied include Tennyson's "Ulysses" and "The Lady of Shalott," George Meredith's "Modern Love," and Christina Rossetti's "Goblin Market."			
AS.060.329	01	H	W	**Prophecy after Science** *Miller, William Cook* Prophets and their prophecies are everywhere: whether preached by evangelical visionaries of Rapture, opined by primetime sports forecasters, or sold at hourly rates by countless fortunetellers and astrologers. Our dizzying era, predicated economically, technologically, and politically on objective methods of prediction, comfortably accommodates and even welcomes pre-scientific, prophetic modes of futurity. We look up our horoscopes on our smartphones. How did we come to balance these futures so blithely? Do we – and should we – think of these modes as continuous or separate, complementary or conflicting? This course explores the history of prophecy, from ancient Greek and Judaic sources to current intimations of technological singularity and ecological doom, with a focus on the effect of the rise of science in shaping the course of prophetic writings. The majority of texts in this course come from the literature of 1600-1800 – centuries that witnessed the emergence of our modern scientific disciplines, and the recasting of prophecy in terms of the human imagination.	3.00	18	MW 3:00-4:15PM
AS.060.337	01	H		**James Joyce** *Mao, Douglas* A seminar covering the oeuvre of James Joyce, including but not limited to Dubliners, A Portrait of the Artist as a Young Man, Ulysses, and parts of Finnegans Wake. Selected readings in other writers and in relevant historiography; some attention to Joyce criticism.	3.00		W 1:30-3:50PM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.060.343	01	H	W	**Milton and Liberty: Public and Private** *Buckham, Rebecca Lynn* This course examines John Milton's commitment to liberty in its many varieties, both public and private, as articulated in his early prose writings and as imagined in his poetic works. Dean's Teaching Fellowship Course. Pre 1800 course.	3.00	18	TTh 12:00-1:15PM
AS.060.350	01	H	W	**Literature by Other Means: Experimental and Conceptual Fiction and Poetry** *Daniel, Andrew* This course will introduce students to experimental, conceptual, and constraint-generated literature. In some cases, the texts we will read were created through the application of some particular premise, constraint, or rule-governed system. In other cases, practices of appropriation, creative re-use, or sampling were involved in the generation of textual material (sometimes subjected to editing and transformation, sometimes presented "as is"). What happens to literary meaning, genre identification, and the author/reader contract under these conditions? Can an experiment be evaluated as a success or failure as literature? What's so "conceptual" about this practice, anyway? And why are the results- often typecast as difficult or resistant to understanding- frequently so funny? In search of answers, we will read widely in experimental and conceptual literature and in the manifestos and critical analyses that surround this work, and we will look at the overlap between experimental and avant-garde literary movements and concurrent processes of "dematerialization" in play within the related domain of the visual arts. Finally, we will consider the importance of digital tools, search engines, and databases in the construction of experimental literature at the present time. Possible authors/texts include Raymond Queneau "Exercises in Style", Raymond Roussel "How I Wrote Certain of My Books", Georges Perec "A Void", Harry Matthews "Oulipo Compendium", Walter Abish "Alphabetical Africa", Marjorie Perloff "Unoriginal Genius", William S. Burroughs "The Cut-Up Method", Charles Bernstein, "The L=A=N=G=U=A=G=E Book", Vanessa Place "Notes on Conceptualisms", Kenneth Goldsmith "The Weather", Gary Sullivan "The Flarf Files", Aaron Kunin "The Sore Throat", Christian Bok "Eunoia", and David Trinidad and D. A Powell's "By Myself, An Autobiography".	3.00	18	T 1:30-3:50PM
AS.060.357	01	H	W	**The Novels of Jane Austen** *Kramnick, Jonathan B* An intensive study of Austen's six major novels, read in their literary and historical context.	3.00	18	M 1:30-3:50PM
AS.060.395	01	H	W	**Global Tales of Transformation** *Wedekind, Kara*	3.00	18	MW 12:00-1:15PM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				A traveling salesman turns into a giant cockroach, an American adman switches bodies with his wife, a Brazilian philosopher may or may not be reincarnated as his beloved dog, and a British scientist creates half-animal humanoids on a secluded island. These are just a few examples of the fantastical, allegorical, comical, dreamlike, grotesque, and bizarre stories that were produced throughout the world during the modernist period. Modernism has often been associated with social and political change; colonial rule was waning, cosmopolitanism emerging, and new modes of production were affecting social organization. In literature, modernist authors broke from the realist style and turned instead to myths, folktales, and new forms of expression. In this class, we will consider a range of cultural and historical conditions that inform these stories of transformation. Do these stories reveal anxieties about dehumanization in an increasingly high-pressure workplace or do they reveal fantasies about idleness? Are they nostalgic for a local folkloric tradition in an age of cosmopolitanism or are they creating a kind of mythic universalism? How do these character transformations allow for reassessments of identity in terms of gender construction, sexuality, or in terms of human and animal relations? Authors include: Edgar Allan Poe, Nickolai Gogol, Franz Kafka, H. G. Wells, Virginia Woolf, Rebecca West, Machado de Assis, T. S. Eliot, Charlotte Gilman Perkins, Thorne Smith, and James Joyce. Throughout the semester, the primary texts will be supplemented with secondary reading and critical interpretations. Primary Texts: Machado de Assis, “Philosopher or Dog” T. S. Eliot, "The Wasteland" Charlotte Gilman Perkins, “Herland” Nikolai Gogol, "The Nose" Franz Kafka, “The Metamorphosis” Ovid, selections from “Metamorphoses” Edgar Allan Poe, selections Thorne Smith, “Turnabout” H. G. Wells, “Island of Dr. Moreau” Rebecca West, “The Return of the Soldier” Virginia Wo			
AS.060.397	01	H	W	**Thomas Pynchon** *Nealon, Christopher* This course is a study of the fiction of Thomas Pynchon. We will likely focus on two novels, Gravity's Rainbow (1973) and Against The Day (2009). Along the way, we will discuss Pynchon's particular interpretation of what character should look like, what the novel's relationship to history might be, and whether and how his writing examples something called "postmodernism."	3.00		Th 1:30-3:50PM
AS.060.398	01	H	W	**Obscenity and the Law in 20th-Century Literature** *Chilton, Jacob Israel*	3.00	18	TTh 9:00-10:15AM

English

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				In order to log on to JHU's GuestNet you must "agree that your activities on the Guest Network shall not…[among other things] be obscene." But what is obscene? What does the law determine as obscene today, and how has that determination changed over the past century? These questions will lead us to considerations of publicity and privacy, morality and standards of decency. This course will examine artworks and performances in a variety of media that have been publicly accused of indecency or obscenity. We will read legal judgments of obscenity and discuss their implications for figures such as Wilde, Joyce, Miller, Ginsberg, Bruce, Carlin, Prince, 2 Live Crew, and others.			
AS.214.341	01	H	W	**The Book of Nature, the Nature of Books: The Origins of Literary Ecology** *Tower, Troy* This course investigates how ecological factors inspired storytellers, influenced modes of literary publication, and determined reader responses in Europe before 1700.Students enrolling in section 2 will attend a supplementary one hour session at a time to be mutually decided and complete the work in Italian.	3.00	8	W 5:00-7:30PM
AS.214.341	02	H	W	**The Book of Nature, the Nature of Books: The Origins of Literary Ecology**	4.00	4	W 5:00-7:30PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.061.141	01	H		**Introduction to Cinema, 1941-present** *Yasinsky, Karen* 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.	3.00	45	M 3:00-5:20PM; Th 7:30-10:00PM
AS.061.150	01	H		**Introduction to Film Production** *Mann, John* This course introduces students to the basic considerations of shooting 16mm film. Through lectures and practice, the course approaches the basics of light meter readings, basic camera operations and shot composition. Each week students, working in groups of three, shoot film exercises, providing a general overview of film production. For the final project, each student shoots and edits (physical edits) a short (3-5 minutes) film on 16mm black and white reversal film stock.	3.00	12	W 1:00-3:20PM
AS.061.204	01			**Intermediate Digital Film Production** *Roche, Jimmy* This course is designed to further the filmmaking skills students have begun to develop in previous production courses. Students will acquire a more robust proficiency in directing, editing, and cinematography. During the first part of the semester, students will be presented with several “challenges” designed to allow them to hone their creative vision while also solving problems behind the camera and in editing. The second half of the course will allow each student time to produce a 6 - 12min digital film project that is either narrative, documentary, or experimental.	3.00	12	Th 1:30-3:50PM
AS.061.205	01	H	W	**Introduction to Dramatic Writing: Film** *Busó-garcía, Roberto* An examination of the screenplay as a literary text and blueprint for production. Professional screenplays will be critically analyzed, with focus on character, dialogue, plot development, conflict, pacing, dramatic foreshadowing, the element of surprise, text and subtext, and visual story-telling. Students write one complete script.	3.00	15	F 1:30-3:50PM
AS.061.220	01	H	W	**Special Topics: Silent Classics** *Bucknell, Lucy* A survey of silent era masterpieces. From Murnau's horror film Nosferatu to Keaton's slapstick comedy Sherlock Jr to Dreyer's great tragedy The Passion of Joan of Arc, these are films of exceptional beauty and artistry. Chaplin, Eisenstein, von Sternberg, and others also considered. Critical and creative written exercises. 061.140 or 061.141 or 061.145 recommended.	3.00	9	W 1:30-3:50PM; M 7:30-10:00PM
AS.061.245	01	H		**Introduction to Film Theory** *Ward, Meredith C*	3.00	18	Th 7:30-10:00PM; T 1:30-3:50PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course offers an introduction to the major paradigms of film theory, with work ranging from Andre Bazin to Sergei Eisenstein. 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.			
AS.061.323	01	H		**Masculinities** *Bucknell, Lucy* From tap dancer to gangster, assassin to anguished teen, versions of the male in popular cinema from the silent era to the present	3.00	15	Th 7:30-10:00PM; M 3:00-5:20PM
AS.061.344	01			**The Viewers in the Dark: One Hundred Years of Cinephilia, from Lumiere to Tsai Ming-Liang** *Ward, Meredith C* The movies have attracted a devoted following in their first hundred and twenty years. Here, we discuss the act of moviegoing itself, exploring the ways that film fans have traditionally considered themselves in relation to the silver screen, the movie house, and film culture, from the silent era, with its first moments of illuminated wonder at moving pictures, through early cine-clubs in the 1920s and the enthusiastic movements of film critics-turned-filmmakers with the French New Wave in the 1960s, up through the video store boom and bust. How does the way we literally engage with cinema affect the way that we love movies? With our culture now engaging with the rise of the home theater, we consider where we have come from as moviegoers as part of a genealogy of watchers in the dark, and how theorists have positioned themselves as regards the activity. This course also involves a practicum to enable students to think through questions of moviegoing in acts of moviegoing itself, and reflection on the experience. Thinking through how we have felt and thought about movies, we come to some conclusions about both the nature of film art and its most loyal spectator, the cinephile.	3.00	15	W 1:30-3:50PM; T 7:30-10:00PM
AS.061.356	01	H		**Narrative Productions** *Porterfield, Matthew*	6.00	15	M 4:00-10:00PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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. From script to casting, production to direction, design, shooting and sound recording, music and editing, students will fill all principal roles. 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 guidance as to the creative, collaborative nature of the filmmaking process. Students will be evaluated not only on the films they produce, but also on their ability to create and contribute within a team to the collaborative art of filmmaking. Lab fee: $100			
AS.061.361	01	H		**Documentary Film Theory** *Mann, John* This course explores contemporary documentaries with an emphasis on theoretical implications suggested by their work. We will look at a variety of philosophical and political issues emerging from these films.	3.00	15	F 2:00-4:20PM
AS.061.372	01			**French Crime Films, Thrillers, and Noirs** *Roos, Suzanne* An exploration of French films about crime with a particular focus on the reciprocal relations between French and American cinema: how did the French tradition of poetic realism influence the American film noir--and why is our name for the genre one invented by French critics? How did French directors respond to American genre movies, and to the films of Hitchcock? Screenings will include films by Melville, Godard, Clément, Clouzot, Audiard, and Haneke.	3.00	15	T 4:00-6:20PM; M 7:30-10:00PM
AS.061.373	01	H	W	**Intermediate Dramatic Writing: Film** *Busó-garcía, Roberto* An intensive workshop focusing on methodology: enhancing original characterization, plot development, conflict, story, pacing, dramatic foreshadowing, the element of surprise, text and subtext, act structure, and visual storytelling. Each student is expected to present sections of his/her "screenplay-in-progress" to the class for discussion. The screenplay Chinatown will be used as a basic text.	3.00	15	F 4:30-6:50PM
AS.061.381	01	H		**Sound on Film** *Yasinsky, Karen*	3.00	4	F 1:30-3:50PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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, will offer undergraduates and faculty/staff from both institutions an unprecedented opportunity to collaborate on all aspects of designing soundtracks for film. Utilizing in-progress and completed film projects, student filmmakers from the Film and Media Studies program will work with Peabody students to create soundtracks, from the initial phases of composition and scoring to the final stages of recording and sound syncing. Students will 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 final products will be mastered for DVD and online format. Lab work will be supplemented by guest lectures and faculty presentations on various aspects—practical, theoretical, and historical—of applying sound to film. Guest lecturers will include sound designers and engineers, composers, editors, historians of film sound, and filmmakers working in both live action and animated film. Screenings are provided on Wednesdays from 7:30pm-10pm.			
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.070.262	01	HS		**Cuban Intellectuals, Cinema, and the State** *Humphreys, Laura Zoe* This course examines the relationship between intellectuals and the Cuban state, focusing on how cinema and other arts have been mobilized both as propaganda and as sites for social criticism. Screenings are required for this course and will take place on Tuesdays from 7 pm to 9:30 pm. Cross-list: Film and Media Studies, PLAS, Romance Languages.	3.00	20	W 4:00-6:20PM; T 7:00-9:30PM
AS.211.174	01	H		**Media of Propaganda** *Wegenstein, Bernadette*	3.00	20	M 3:00-5:30PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Today, promoting a particular political or personal point of view is not viewed as "propaganda," but rather as building a community of equally minded people. But where do we draw the line, and when does the use of a medium in service of a certain message become intrusive and misleading? What role do democracy and cultural values play in this use or abuse of media? In this class the term "propaganda" will be evaluated carefully and applied to such historical media case studies as the informational use of the radio in World War One, Leni Riefenstahl's Nazi propaganda films, the legendary success of advertisement campaigns in the 1950s and 1960s, the AIDS movement and other mobilization strategies from the 1980s to the 1990s, and the new values of friendship and propaganda in our current facebook nation.			
AS.211.330	01	H		**Curating Media Artists in Residence at JHU** *Wegenstein, Bernadette* Curating Media Artists in Residence at JHU: students will be closely involved with JHU's Program in Museum & Society, JHU's Center for Advanced Media Studies (CAMS), and the Baltimore Museum of Art (curator KristenHileman) in efforts to research and propose new media artists in residence as well as prepare the residency for 2015. This process will include examining cutting-edge media artists whose work will be discussed both in the classroom as well as on sponsored class trips to media art exhibits in DC and NYC. Students will also assist with the CAMS media art residency of acclaimed French artist Camille Henrot in March 2014.	3.00	5	Th 1:30-4:00PM
AS.213.330	01	H		**“What is an Image?” - Technology, Art and Visual Culture around 1900** *Schade, Johannes* Taught in English. This course is an interdisciplinary introduction to the theory of the image with an emphasis on its material and conceptual transformations in the modern period.	3.00	12	TTh 3:00-4:15PM
AS.213.349	01			**Weimar Cinema: The Golden Age of German Film** *Strowick, Elisabeth* Taught in German. German cinema of the 1920s is regarded as one of the "golden ages" of world cinema. The course centers on close readings of works which belong to the canon of German film, including The Cabinet of Dr. Caligari, Nosferatu, Metropolis, The Blue Angel, The Last Laugh, and M. Focusing on the question of cinema and modernity, we will discuss topics like modern aesthetics and visual perception; Expressionism in film; technology and the metropolis; the emergence of film genres (e.g. horror film, film noir, science-fiction film, and melodrama). The film analyses will be accompanied by a discussion of the varied scholarly approaches to Weimar Cinema.	3.00	20	T 1:30-4:00PM
AS.216.412	01			**The Divine in Literature and Cinema** *Stahl, Neta*	3.00	12	Th 1:00-3:00PM

Film and Media Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.			
AS.300.399	01	H		**Cinema and Philosophy** *Marrati, Paola* Do movies have anything to say about philosophical problems? Why is contemporary philosophy so interested in cinema? What are the most productive ways of bringing films and philosophy into conversation? Why is contemporary philosophy so interested in cinema?	3.00	25	Th 1:30-4:00PM
AS.362.374	01	H		**Black Cinema** *Robbins, Hollis* Close examination of films directed by African American filmmakers as well as a focus on historical and cultural representation of African Americans in American film.	3.00		Th 3:00-5:00PM; S 7:30-10:00PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.216	01	H		**20th Century Italian Art** *Johnson, Katharine Mckenney* This course will be a critical survey of the major artistic movements in Italy during the 20th century, from Futurism to Arte Povera. Often seen as a secondary location of artistic production, the class will situate the artists working in Italy within a broader historical and global context.	3.00	20	MW 4:30-5:45PM
AS.070.262	01	HS		**Cuban Intellectuals, Cinema, and the State** *Humphreys, Laura Zoe* This course examines the relationship between intellectuals and the Cuban state, focusing on how cinema and other arts have been mobilized both as propaganda and as sites for social criticism. Screenings are required for this course and will take place on Tuesdays from 7 pm to 9:30 pm. Cross-list: Film and Media Studies, PLAS, Romance Languages.	3.00	20	W 4:00-6:20PM; T 7:00-9:30PM
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.	4.00	17	MWF 9:00-9:50AM; T 4:30-5:20PM
AS.210.102	02			**French Elements II**	4.00	17	MWF 10:00-10:50AM; T 4:30-5:20PM
AS.210.102	03			**French Elements II**	4.00	17	MWF 11:00-11:50AM; T 4:30-5:20PM
AS.210.102	04			**French Elements II**	4.00	17	T 4:30-5:20PM; MWF 12:00-12:50PM
AS.210.111	01			**Spanish Elements I** *Staff* 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.	4.00	17	MWF 10:00-10:50AM
AS.210.111	02			**Spanish Elements I**	4.00	17	MWF 11:00-11:50AM
AS.210.112	01			**Spanish Elements II** *Staff*	4.00	17	MWF 9:00-9:50AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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
AS.210.112	03			**Spanish Elements II**	4.00	17	MWF 11:00-11:50AM
AS.210.112	04			**Spanish Elements II**	4.00	17	MWF 12:00-12:50PM
AS.210.152	01			**Italian Elements II** *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).	4.00	17	MWF 9:00-9:50AM
AS.210.152	02			**Italian Elements II**	4.00	17	MWF 10:00-10:50AM
AS.210.152	03			**Italian Elements II**	4.00	17	MWF 11:00-11:50AM
AS.210.152	04			**Italian Elements II**	4.00	17	MWF 12:00-12:50PM
AS.210.162	01			**German Elements II** *Staff* 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 flexible.	4.00	17	MWF 9:00-9:50AM; T 9:00-9:50AM
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.210.163	01			**Elementary Yiddish I** *Niborski, Eliezer* Year-long course. 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.	3.00	12	TTh 10:30-11:45AM
AS.210.178	01			**Portuguese Elements II** *Bensabat Ott, Mary M*	4.00	25	MWF 11:00-11:50AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.210.202	01	H		**Intermediate French II** *Staff* 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.	3.00	17	MWF 9:00-9:50AM
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	22	MWF 11:00-11:50AM
AS.210.211	04	H		**Intermediate Spanish I**	3.00	17	MWF 12:00-12:50PM
AS.210.212	01	H		**Intermediate Spanish II** *Staff*	3.00	17	MWF 9:00-9:50AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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).			
AS.210.212	02	H		**Intermediate Spanish II**	3.00	15	MWF 10:00-10:50AM
AS.210.212	03	H		**Intermediate Spanish II**	3.00	15	MWF 10:00-10:50AM
AS.210.212	04	H		**Intermediate Spanish II**	3.00	17	MWF 11:00-11:50AM
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 10:00-10:50AM
AS.210.262	02	H		**Intermediate German II**	3.00	17	MWF 11:00-11:50AM
AS.210.262	03	H		**Intermediate German II**	3.00	17	MW 12:00-1:15PM
AS.210.278	01	H		**Intermed/Adv Portuguese** *Bensabat Ott, Mary M* 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*	3.00	17	MWF 9:00-9:50AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.210.302	02	H	W	**Advanced Writing and Speaking in French II**	3.00	17	MWF 10:00-10:50AM
AS.210.302	03	H	W	**Advanced Writing and Speaking in French II**	3.00	17	MWF 10:00-10:50AM
AS.210.302	04	H	W	**Advanced Writing and Speaking in French II**	3.00	17	MWF 11:00-11:50AM
AS.210.302	05	H	W	**Advanced Writing and Speaking in French II**	3.00	17	MWF 11:00-11:50AM
AS.210.302	06	H	W	**Advanced Writing and Speaking in French II**	3.00	17	MWF 12:00-12:50PM
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	20	MWF 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**	3.00	15	TTh 12:00-1:15PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Martinez-Velez, Naiara 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.			
AS.210.315	01	H		**Spanish for International Relations** *Del Rosario Ramos, Maria* 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** *Ruiz-Perez, Sergio* 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** *Urruticoechea Romero, Sara* 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	MW 12:00-1:15PM
AS.210.352	01	H	W	**Advanced Italian II** *Staff*	3.00	15	MWF 11:00-11:50AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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).			
AS.210.362	01	H	W	**Advanced German II: Contemporary Issues in the German Speaking World** *Staff* 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.	3.00	17	MWF 10:00-10:50AM
AS.210.362	02	H	W	**Advanced German II: Contemporary Issues in the German Speaking World**	3.00	17	MW 3:00-4:15PM
AS.210.363	01	H		**Business German** *Wheeler, Heidi L* Taught in German. Course is designed to familiarize students with the vocabulary and standards for doing business in Germany. Taking a cultural approach, students read texts and engage in discussion that elucidate the works of business, commerce & industry in Germany, the world's third largest economy. Emphasis is placed on vocabulary expansion and writing as it relates to business.	3.00	17	MW 12:00-1:15PM
AS.210.368	01	H		**Advanced Yiddish II** *Caplan, Beatrice* Continuation of Advanced Yiddish I (AS.210.367). Students will continue to hone their skills in all four language areas: reading, writing, listening, and speaking. In addition to advanced grammar study and readings in Yiddish literature, the course will take into account the interests of each individual student, allowing time for students to read Yiddish texts pertinent to their own research and writing.	3.00	15	MW 12:00-1:15PM
AS.210.392	01	H	W	**Advanced Portuguese: Language and Literature II** *Bensabat Ott, Mary M* 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. Lab work required. The course is conducted entirely in Portuguese.	3.00	15	MWF 9:00-9:50AM
AS.210.405	01	H		**Teaching French in Public School-Community Based Learning** *Guillemard, Claude H*	3.00	10	M 3:00-4:15PM; TTh 1:00-2:45PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				A Community-Based Learning (CBL) language course for upperclass students that: 1) establishes a mutually beneficial relationship between JHU students, a neighboring Elementary School, and their common community; 2) combines academic components (linguistic, pedagogical and social) with the experiential work with the community partner as a way to reinforce learning. Students participate in weekly meetings in French on campus to prepare for their classes and teach twice a week to 2nd, 3rd, or 4th graders at the Elementary school.			
AS.210.411	01	H	W	**Translation for the Professions** *Del Rosario Ramos, Maria* 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.	3.00	12	TTh 12:00-1:15PM
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	W 1:30-4:00PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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	15	MWF 11:00-11:50AM
AS.211.174	01	H		**Media of Propaganda** *Wegenstein, Bernadette* Today, promoting a particular political or personal point of view is not viewed as "propaganda," but rather as building a community of equally minded people. But where do we draw the line, and when does the use of a medium in service of a certain message become intrusive and misleading? What role do democracy and cultural values play in this use or abuse of media? In this class the term "propaganda" will be evaluated carefully and applied to such historical media case studies as the informational use of the radio in World War One, Leni Riefenstahl's Nazi propaganda films, the legendary success of advertisement campaigns in the 1950s and 1960s, the AIDS movement and other mobilization strategies from the 1980s to the 1990s, and the new values of friendship and propaganda in our current facebook nation.	3.00	20	M 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.	3.00	12	MWF 12:00-12:50PM
AS.211.330	01	H		**Curating Media Artists in Residence at JHU** *Wegenstein, Bernadette*	3.00	5	Th 1:30-4:00PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Curating Media Artists in Residence at JHU: students will be closely involved with JHU's Program in Museum & Society, JHU's Center for Advanced Media Studies (CAMS), and the Baltimore Museum of Art (curator KristenHileman) in efforts to research and propose new media artists in residence as well as prepare the residency for 2015. This process will include examining cutting-edge media artists whose work will be discussed both in the classroom as well as on sponsored class trips to media art exhibits in DC and NYC. Students will also assist with the CAMS media art residency of acclaimed French artist Camille Henrot in March 2014.			
AS.211.340	01	H		**Topics in French Cinema: The Representations of Joan of Arc in French movies** *Guillemard, Claude H* Through the study of selected movies, this series emphasizes discussion and oral presentations. This semester the course will focus on the ever changing adaptations to the screen of the fascinating figure of Joan of Arc. Since the dawn of cinema (40-second documentary by the Lumière brothers, 10 -minute color representation by Melies) to the most recent full-length features in 2012 (year of the 600th anniversary of her birth), the movie interpretations of Joan of Arc have always reflected the issues and crises of their own times. We will explore both the historical background of her life and the contemporary meanings of her representations on the big screen. Movies may give us a key to understanding why Joan of Arc is still as relevant today in French society, historically and symbolically, as she was six centuries ago.	3.00		TTh 10:30-11:45AM
AS.211.371	01	H		**Kafka and the Kafkaesque** *Krauss, Andrea B* Franz Kafka is regarded as one of the most influential writers of the 20th century. To this day, his lucid and subtle prose continues to intrigue literary critics, writers of fiction, and readers with observations that create a fictive world at once strange and familiar, hopelessly tragic and hilariously comical. The related term “kafkaesque” refers to the unique character of a literary universe that is perceived as both eerie and resistant to any classification. In this course, we will analyze texts by Franz Kafka from a variety of perspectives: as investigations into modern institutions and bureaucracy, law, punishment and family structures. Special emphasis will be given to the exploration of Kafka’s poetic practice, i.e. to the material, rhetorical and performative quality of his writing. In addition to reading a selection of Kafka’s prose and analyzing several film adaptations, we will also discuss some influential commentaries on his work and discuss Kafka’s impact on the conceptualization of modernity. Students will gain an in-depth understanding of Kafka’s oeuvre while developing skills in critical analysis and literary close reading.	3.00	25	MW 1:30-2:45PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.211.380	01	H		**Modern Latin American Culture** *Staff* 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.	3.00	17	TTh 3:00-4:15PM
AS.211.394	01	H	W	**Brazilian Cult & Civ** *Bensabat Ott, Mary M* 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	25	M 2:00-4:30PM
AS.211.394	02	H	W	**Brazilian Cult & Civ**	4.00	5	M 2:00-4:30PM
AS.211.402	01	H		**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	MWF 9:00-9:50AM
AS.211.402	02	H		**La France Contemporaine II**	3.00	15	TTh 10:30-11:45AM
AS.211.402	03	H		**La France Contemporaine II**	3.00	15	TTh 1:30-2:45PM
AS.211.410	01	H	W	**Toward Modernity: France 1848-1885** *Neefs, Jacky G*	3.00		M 1:30-4:00PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The second half of the Nineteenth Century in France is a period of dramatic political, social, historical, and technical experiments and profound changes. It is as well a fascinating period of artistic creativity in Literature and Art, considered as the rise of Modernity. We'll read texts by Hugo, Flaubert, Zola, Jules Verne, Baudelaire, Rimbaud, Mallarmé, Tocqueville, Michelet, and study works by Courbet, Manet, Monet, Berlioz, Saint-Saëns, Fauré.			
AS.212.312	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.	3.00	12	MWF 12:00-12:50PM
AS.212.314	01	H		**Rivalry, Complementarity, Emulation: Writers and Artists in Contemporary French Fiction** *Leleve, Loise Maud* How does modern French literature deal with its traditional rival, painting, in an age where both text and image have been wholly redefined? By what means, and to what end, do writers pay homage to specific artists (Giaccometti, Gentileschi) or integrate historic masterworks in their fiction? Whether real, re-imagined, or forged, the artwork becomes an alluring and often deceitful means of questioning the powers and purposes of literature as well as of inventing new modes of reading.	2.00	12	TTh 9:00-10:15AM
AS.212.334	01	H	W	**Introduction à la littérature française II** *Roman, Hanna* This second part of the introductory course will cover readings and discussion of texts of various genres from the French Revolution to the 20th century. The two semesters may be taken in either order. This sequence is a prerequisite to all further literature courses. Students may co-register with an upper-level course during their second semester.	3.00	20	TTh 12:00-1:15PM
AS.212.334	02	H	W	**Introduction à la littérature française II**	3.00	20	MW 10:30-11:45AM
AS.212.410	01	H	W	**Toward Modernity: France 1848-1885** *Neefs, Jacky G*	3.00	8	M 1:30-4:00PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The second half of the Nineteenth Century in France is a period of dramatic political, social, historical, and technical experiments and profound changes. It is as well a fascinating period of artistic creativity in Literature and Art, considered as the rise of Modernity. We'll read texts by Hugo, Flaubert, Zola, Jules Verne, Baudelaire, Rimbaud, Mallarmé, Tocqueville, Michelet, and study works by Courbet, Manet, Monet, Berlioz, Saint-Saëns, Fauré. Co-listed with AS.211.410			
AS.212.417	01	H	W	**Texts of/on the Terror from the French Revolution** *Anderson, Wilda* During the first half of the semester we will take advantage of the renewed interest in scholarship on the Terror to deal with some of the most famous examples of Revolutionary rhetoric, focusing especially on the trial of Louis XVI and the late speeches of Robespierre. During the second half of the semester we will read literary works produced during the Terror and accounts of the Terror from authors such as Balzac, Dumas, and Michelet. We will be asking questions such as: What was the Reign of Terror and to what extent was its project dependent on public discourse? Why and how does the nature of public oratory change? What happens to definitions of "the literary" and of authorship in a terroristic context?	3.00	15	T 1:30-4:00PM
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** *Schilling, Derek* 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	15	W 1:30-3:45PM
AS.212.466	01	H	W	**The Pleasures of Tragedy** *Russo, Elena*	3.00	20	TTh 12:00-1:15PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Why do we experience pleasure in watching representations of bad things happening to people on stage? Are the emotions aroused by tragedy ethical or immoral? These are just some of tragedy's many paradoxes, which have been explored by philosophers over time, from Plato to Augustine, to Rousseau, to Hume. This course proposes to explore some of the enigmas and conundrums raised by a genre which everybody agrees cannot be defined by common formal and thematic features, but which we all feel able to recognize when we see it. Is there an essence of tragedy that endures from 5th century Greece to today? Or are the things that make us call a play tragedy radically different according to time and place? How is tragedy related to philosophy, religion and politics? Tragedy has been declared in turn "dead" (killed by Christian notions of redemption, by political utopianism, by philosophical optimism, by the dissolution of language, etc.) and renewed, regenerated (through the sense of the absurd, postmodern immanence, irredeemable violence) – and indeed, there has been a flourishing of the genre in France in the late XXth century. Through readings of a selection of plays, both ancient and modern, and theoretical works, we'll examine the metamorphosis of the tragic hero and heroine, the issues of gender, moral responsibility and the management of the spectator's emotions. Readings from Sophocles, Aristotle, Corneille, Racine, Hegel, Kierkegaard, Anouilh, Sartre, Césaire, Koltès, Gabily. Course in French.			
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. Students will learn to use digital tools to view and analyze original illustrated musical manuscripts of Machaut's work.	3.00	8	F 1:30-4:00PM
AS.213.309	01	H		**Walter Benjamin and His World** *Caplan, Marc* All readings and class discussions in English. This course will provide an introduction to the thought, writing, and world of Walter Benjamin—one of the most interesting and influential German writers of the early 20th century. Although he died in exile having published only a single book in his lifetime, in the past three decades his ideas and preoccupations have changed the way we think about Cultural Studies, Media Studies, Literary Studies, German thought, Jewish mysticism, and the philosophy of history. We will be examining some of his major writings in tandem with precursors such as Charles Baudelaire and Louis Aragon; contemporaries such as Theodor Adorno and Gershom Scholem; and the legacy of his work among contemporary theorists, critics, and artists.	3.00	50	TTh 10:30-11:45AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.213.318	01	H		**The Making of Modern Gender** *Pahl, Katrin* Taught in English. Gender as we know it is not timeless. Today, gender roles and the assumption that there are only two genders are diligently contested and debated. With the binary gender system thus perhaps nearing its end, we might wonder if it had a beginning. In fact, the idea that there are two sexes and that they not only assume different roles in society but also exhibit different character traits, has emerged historically around 1800. Early German Romanticism played a seminal role in the making of modern gender and sexuality. For the first time, woman was considered not a lesser version of man, but a different being with a value of her own. The idea of gender complementation emerged, and this idea, in turn, put more pressure than ever on heterosexuality. In this course, we will explore the role of literature and the other arts in the making and unmaking of gender.	3.00	30	TTh 12:00-1:15PM
AS.213.330	01	H		**“What is an Image?” - Technology, Art and Visual Culture around 1900** *Schade, Johannes* Taught in English. This course is an interdisciplinary introduction to the theory of the image with an emphasis on its material and conceptual transformations in the modern period.	3.00	12	TTh 3:00-4:15PM
AS.213.349	01			**Weimar Cinema: The Golden Age of German Film** *Strowick, Elisabeth* Taught in German. German cinema of the 1920s is regarded as one of the "golden ages" of world cinema. The course centers on close readings of works which belong to the canon of German film, including The Cabinet of Dr. Caligari, Nosferatu, Metropolis, The Blue Angel, The Last Laugh, and M. Focusing on the question of cinema and modernity, we will discuss topics like modern aesthetics and visual perception; Expressionism in film; technology and the metropolis; the emergence of film genres (e.g. horror film, film noir, science-fiction film, and melodrama). The film analyses will be accompanied by a discussion of the varied scholarly approaches to Weimar Cinema.	3.00	20	T 1:30-4:00PM
AS.213.371	01	H		**Kafka and the Kafkaesque** *Krauss, Andrea B*	3.00	25	MW 1:30-2:45PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Taught in English. Franz Kafka is regarded as one of the most influential writers of the 20th century. To this day, his lucid and subtle prose continues to intrigue literary critics, writers of fiction, and readers with observations that create a fictive world at once strange and familiar, hopelessly tragic and hilariously comical. The related term “kafkaesque” refers to the unique character of a literary universe that is perceived as both eerie and resistant to any classification. In this course, we will analyze texts by Franz Kafka from a variety of perspectives: as investigations into modern institutions and bureaucracy, law, punishment and family structures. Special emphasis will be given to the exploration of Kafka’s poetic practice, i.e. to the material, rhetorical and performative quality of his writing. In addition to reading a selection of Kafka’s prose and analyzing several film adaptations, we will also discuss some influential commentaries on his work and discuss Kafka’s impact on the conceptualization of modernity. Students will gain an in-depth understanding of Kafka’s oeuvre while developing skills in critical analysis and literary close reading.			
AS.213.376	01	H		**Art in Literature** *Tobias, Rochelle* Discussion in German. Since the Enlightenment, works of art have played a prominent role in literary texts, providing an occasion for texts to reflect on their status as art and to explore the possibilities and challenges unique to aesthetics. In this course we will examine novellas and poems that refer to paintings or other works of art to illuminate the nature of art and to reflect on phenomena that have no place in any other discourse. Readings to include works by Lessing, Eichendorff, Storm, Mörike, Adrian, Freud, and Hofmannsthal.	3.00	15	TBA 10:30-11:45AM
AS.214.261	01	H	W	**The World of Dante** *Forni, Pier Massimo* An Introduction to the Divine Comedy	3.00	15	M 1:30-4:00PM
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.214.341	01	H	W	**The Book of Nature, the Nature of Books: The Origins of Literary Ecology** *Tower, Troy* This course investigates how ecological factors inspired storytellers, influenced modes of literary publication, and determined reader responses in Europe before 1700.Students enrolling in section 2 will attend a supplementary one hour session at a time to be mutually decided and complete the work in Italian.	3.00	8	W 5:00-7:30PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.214.341	02	H	W	**The Book of Nature, the Nature of Books: The Origins of Literary Ecology**	4.00	4	W 5:00-7:30PM
AS.214.374	01	H	W	**Perspectives on Islam in the Age of Dante** *Stephens, Walter E* What does it mean to be Italian rather than French, American, or anything else? What's the difference between being Tuscan, Milanese, or Sicilian? Between being Christian, Jewish, Muslim, or "other"? How does the reality of Being Italian differ from the clichés that prejudice, commercialism, or mass media fads help to spread? Considering these questions can be important whether you want to use your Italian in business, in academia, or for sheer pleasure, whether you want to watch films, read books, or see the sights.	3.00	15	T 1:30-4:00PM
AS.214.393	01	H		**Italian Opera and the Art of Adaptation** *Coleman, James* Italian opera, from its very inception, has developed in close dialogue with other art forms. The pioneering operas of Peri and Monteverdi based on the figure of Orpheus are part of a larger cultural movement that saw Renaissance philosophers (Marsilio Ficino), visual artists (Bronzino) and humanists (Angelo Poliziano) resurrect and transform the ancient Orpheus myth. The subsequent evolution of opera was influenced by (and influenced) innovations in stage comedy, the novel, and other art forms. In this course, we will explore these connections between the development of opera and other facets of Italian culture. No knowledge of Italian is required. The course will be taught in English; an additional Italian language discussion section will be offered for majors.	3.00	25	Th 2:30-5:00PM
AS.215.231	01	H	W	**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. Course coordinator: Eduardo Gonzalez	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.215.336	01	H		**Don Quijote** *Sieber, Harry* A close reading and discussion primarily in Spanish of Cervantes' masterpiece, with concentration on its major themes and contributions to the formation of the modern novel. We will use A. Murillo's edition of the novel, Editorial Castalia.	3.00	12	T 4:00-6:30PM
AS.215.343	01	H		**Nación criolla: cultura y literatura en el siglo XIX** *Altschul, Nadia*	3.00	20	TTh 1:30-4:00PM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				El curso examina la formación de nuevas identidades hispanoamericanas y la búsqueda de un pasado que las haga legítimas, especialmente en el Cono Sur (Chile, Argentina, Uruguay). Consideraremos en particular las relaciones con el pasado español y con el pasado amerindio en textos políticos, críticos y literarios de figuras clave del siglo diecinueve, e.g. Domingo Faustino Sarmiento, Andrés Bello, Simón Bolívar, Esteban Echeverría, y José Victorino Lastarria.			
AS.215.422	01	H		**Amor y romanticism en una Novella y tres películas** *Gonzalez, Eduardo* Lectura en contexto histórico cultural de la novela del novelista argentino Andrés Neuman, El viajero de siglo (Premio Alfaguara 2009). La obra será estudiada en detalle en el contexto de la música del romanticismo europeo y el pensamiento filosófico y moral sobre el amor y la pasión. Cuatro cintas de la directora Jane Campion serán igualmente estudiadas: : The Piano (1993), The Portrait of a Lady (1996), Holy Smoke (1999) and Bright Star 2009. Curso impartido enteramente en español	3.00	25	Th 1:30-4:00PM
AS.216.300	01	H		**Contemporary Israeli Poetry** *Stahl, Neta* This course examines the works of major Israeli poets such as Yehuda Amichai, Nathan Zach, David Avidan, Dan Pagis, Dalia Rabikovitch,Yona Wollach, Yair Horwitz, Maya Bejerano, and Yitzhak Laor. Through close reading of the poems, the course traces the unique style and aesthetic of each poet, and aims at presenting a wide picture of contemporary Hebrew poetry.	3.00	15	T 1:30-4:00PM
AS.216.398	01			**Zionism, Post-Zionism and Modern Hebrew Literature** *Stahl, Neta* This course studies the development of modern Hebrew literature through its relation to Zionism and Post-Zionism. Based on a close reading of both literary and non-literary Zionist and Post-Zionist texts, we will explore the thematic, social, political, aesthetic and stylistic influences that these two movements have had on modern Hebrew literature. Writers to be discussed include: Hertzel, Nordau, Achad ha-am, Jabotinsky, Kluasner, Brenner, Berdyczewski, Agnon, Greenberg, Kahana-Carmon, Oz, Yehoshua, Grossman, Castel-Bloom, and Laor.	3.00	15	TTh 10:30-11:45AM

German & Romance Languages & Literatures

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.216.412	01			**The Divine in Literature and Cinema** *Stahl, Neta* This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.	3.00	12	Th 1:00-3:00PM

History

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.100.103	01	HS		**Occidental Civilization: Early Modern Europe and the Wider World** *Paquette, Gabriel* 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 11:00-11:50AM; F 11:00-11:50AM
AS.100.103	02	HS		**Occidental Civilization: Early Modern Europe and the Wider World**	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.100.103	03	HS		**Occidental Civilization: Early Modern Europe and the Wider World**	3.00	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.100.103	05	HS		**Occidental Civilization: Early Modern Europe and the Wider World**	3.00	20	MW 11:00-11:50AM; F 10:00-10:50AM
AS.100.103	06	HS		**Occidental Civilization: Early Modern Europe and the Wider World**	3.00	20	F 12:00-12:50PM; MW 11:00-11:50AM
AS.100.104	01	HS		**Occidental Civilization: Modern Europe and the Wider World** *Shepard, Todd* European history since the French Revolution. Topics include: revolutions and democratization, industrialization, nationalism, imperialism, two World Wars, fascism, decolonization, Soviet communism, and formation of the European Union.	3.00	20	MW 3:00-3:50PM; F 3:00-3:50PM
AS.100.104	02	HS		**Occidental Civilization: Modern Europe and the Wider World**	3.00	20	F 3:00-3:50PM; MW 3:00-3:50PM
AS.100.104	03	HS		**Occidental Civilization: Modern Europe and the Wider World**	3.00	20	F 2:00-2:50PM; MW 3:00-3:50PM
AS.100.104	04	HS		**Occidental Civilization: Modern Europe and the Wider World**	3.00	20	F 2:00-2:50PM; MW 3:00-3:50PM
AS.100.104	05	HS		**Occidental Civilization: Modern Europe and the Wider World**	3.00	20	F 12:00-12:50PM; MW 3:00-3:50PM
AS.100.104	06	HS		**Occidental Civilization: Modern Europe and the Wider World**	3.00	20	F 12:00-12:50PM; MW 3:00-3:50PM
AS.100.111	01	HS		**Making America: The History of Black Americans, I** *Connolly, Nathan D* This course explores the history of African descended people in North America since the seventeenth century to the early twentieth century.	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.100.111	02	HS		**Making America: The History of Black Americans, I**	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.100.111	03	HS		**Making America: The History of Black Americans, I**	3.00	20	MW 10:00-10:50AM; F 9:00-9:50AM
AS.100.111	04	HS		**Making America: The History of Black Americans, I**	3.00	20	MW 10:00-10:50AM; F 9:00-9:50AM
AS.100.122	01	HS	W	**Intro to History of Africa (since 1880)** *Larson, Pier M* An introduction to the African past. First term: to 1880. Second term: to since 1880. Cross-listed with Africana Studies	3.00	20	MW 10:00-10:50AM; TBA
AS.100.122	02	HS	W	**Intro to History of Africa (since 1880)**	3.00	20	MW 10:00-10:50AM; TBA
AS.100.122	03	HS	W	**Intro to History of Africa (since 1880)**	3.00	20	MW 10:00-10:50AM; F 9:00-9:50AM
AS.100.122	04	HS	W	**Intro to History of Africa (since 1880)**	3.00	20	MW 10:00-10:50AM; F 9:00-9:50AM

History

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.100.194	01	HS	W	**Undergraduate Seminar In History** *Rustow, Marina* The second semester of the two-semester sequence required for majors, this course further introduces students to the theory and practice of history. Students undertake original research and write an extended essay.	3.00	20	W 1:30-3:50PM
AS.100.194	02	HS	W	**Undergraduate Seminar In History** *Paquette, Gabriel*	3.00	20	W 1:30-3:50PM
AS.100.204	01	HS	W	**Freshman Seminar: Abraham Lincoln and his America** *Johnson, Michael P* Freshman seminar that explores the life and times of Abraham Lincoln though contemporary sources and texts by historians.	3.00	15	Th 1:30-3:50PM
AS.100.216	01	HS		**Freshman Seminar: The Tudors: Reforming England** *Walker, Jessica Brooke* This freshman seminar will examine England under Tudor rule (including Henry VIII, Edward VI, Mary I, and Elizabeth I) and the intellectual and cultural movements of the Reformation and the Renaissance.	3.00	18	TTh 3:00-4:15PM
AS.100.230	01	HS	W	**Bones, Blood, and Ecstasy: Religious Culture in Western Christendom, 1100-1700** *Rowe, Erin* Explores religious culture in medieval and early modern Europe, with an emphasis on spiritual beliefs and practices, relics, miracles, pilgrimage, and saint-making. Emphasis on reading and discussing written sources and visual culture.	3.00	35	TTh 9:00-10:15AM
AS.100.232	01	HS		**Gender in Latin American History** *Andrews, Norah Linda* From Maya codices to Castro's speeches, this class examines the opportunities and constraints gendered labels supplied and their relationships to hierarchies of class and race.	3.00	25	TTh 3:00-4:15PM
AS.100.233	01	HS		**History of Modern Germany** *Balz, Hanno* This course will offer a concise introduction to the political, social, and cultural history of Germany from the founding of the Empire in 1871 until the present.	3.00	35	MWF 3:00-3:50PM
AS.100.330	01	HS		**National Identity in 20th Century China & Japan** *Meyer-Fong, Tobie* Using primary sources, including literature and film, we will explore the changing ways in which ideologues, intellectuals, and ordinary citizens defined national identity in 20th century China and Japan. Cross-listed with East Asian Studies	3.00	20	MW 12:00-1:15PM
AS.100.340	01	HS	W	**Russian Imagination** *Brooks, Jeffrey P* Culture, Politics, and Society in Russia's great age of creativity, 1850s to 1950s.	3.00	20	W 1:30-3:50PM
AS.100.346	01	HS	W	**Soviet-American Cold War** *Brooks, Jeffrey P*	3.00	20	TTh 1:30-2:45PM

History

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				The focus will be on Soviet-American interactions, Cold-War Cultures, and the impact on both societies.			
AS.100.348	01	HS	W	**20th-Century China** *Rowe, William T* Cross listed with East Asian Studies	3.00	75	TTh 10:30-11:45AM
AS.100.351	01	HS	W	**God, Self, Nation and Revolution in East European Jewish Life and Thought, 1860-1939** *Moss, Kenneth* The divided Jewish community of modern Eastern Europe defined many of the key modern forms of Jewish identity, politics, culture, and religion and forged bewildering array of syntheses, hybrids, and even negations of Jewishness in relation to the unprecedented political, cultural, and social dilemmas of life in Eastern Europe. Focus on key texts of Jewish religious and secular thought created in Imperial Russia and interwar Poland.	3.00	15	M 1:30-3:50PM
AS.100.354	01	HS		**History of Israel, 1948-1970** *Moss, Kenneth* The political, social, and culture history of the State of Israel and its inhabitants during its pivotal first two decades, as reconstructed in recent historiography.	3.00	20	W 1:30-3:50PM
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	20	MW 11:00-11:50AM; F 11:00-11:50AM
AS.100.365	02	HS	W	**Culture & Society in the High Middle Ages**	3.00	20	MW 11:00-11:50AM; F 12:00-12:50PM
AS.100.377	01	HS		**Colonial North America in Hemispheric Context** *Heerman, Matthew Scott* This course will place diverse colonial projects in North America into a wider transnational context to understand the interplay between Indians, settlers, and slaves.	3.00	18	TTh 3:00-4:15PM
AS.100.388	01	HS	W	**European Intellectual History from Adam Smith To Nietzsche** *Jelavich, Peter* A survey of major thinkers who supported or opposed capitalism and democracy.	3.00	50	TTh 9:00-10:15AM
AS.100.397	01	HS	W	**American Histories, Male and Female** *Ryan, Mary* This seminar will be devoted to exploring gender differences as they have been expressed in a sequence of autobiographies and autobiographical fiction set in a shifting social and historical context.	3.00	20	T 1:30-3:50PM

History

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.100.422	01	HS		**Society & Social Change in 18th Century China** *Rowe, William T* Reading knowledge of Chinese recommended but not required. Cross listed with East Asian Studies	3.00	15	Th 1:30-3:50PM
AS.100.442	01	HS	W	**The Intellectual History of Capitalism, 1900 to present** *Burgin, Angus* This course examines shifting understandings of the philosophical foundations, political implications, and social effects of the market economy since the early twentieth century.	3.00	18	W 1:30-3:50PM
AS.130.328	01	H	W	**Ancient Egypt /Africa** *Bryan, Betsy Morrell* Recent excavation and research have shed light on several ancient cultures of the Nile and its tributaries. We will look at the available archaeological and textual (all Egyptian) evidence for these societies and their interactions with Egypt between 3500 and 300 B.C. We will also discuss research aims and methods employed now and in the past in Egypt and the Sudan.	3.00	25	MW 1:30-2:45PM
AS.140.304	01	HS	W	**Medicine for and by Women in Early Modern Europe** *Pomata, Gianna* This course will examine women's role in early modern European medicine through the reading of early modern medical texts written for or by women. The course is meant for students interested in women's history, the history of medicine, European history.	3.00	20	WF 4:30-5:45PM
AS.211.394	01	H	W	**Brazilian Cult & Civ** *Bensabat Ott, Mary M* 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	25	M 2:00-4:30PM
AS.211.394	02	H	W	**Brazilian Cult & Civ**	4.00	5	M 2:00-4:30PM
AS.310.103	01	HS		**Modern Japan - 1800 to the Present** *Bronson, Adam*	3.00	50	MWF 1:30-2:20PM

History

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.362.175	01	HS	W	**Black Power Movement** *Hayes, Floyd, III.* This course critically examines trends, developments, contradictions, and dilemmas related to the Black Power Movement for black identity and self-determination in the late 1960s and 1970s.	3.00	15	TTh 1:30-2:45PM
AS.362.204	01	H	W	**Women in African History** *Romero, Patricia* Selected readings written by or about notable African women from the 17th century to the present. Themes explored include slavery, power and religion, economics, health and politics.	3.00	15	Th 2:00-4:30PM
AS.362.206	01	HS	W	**Research Seminar: Baltimore History from the AFRO Newspaper Archives-Community Based Learning** *Hinderer, Moira* This small, project-oriented class will introduce you to methods in historical research while exploring major topics in twentieth century Baltimore history. We will use the rich reporting of Baltimore's Afro-American Newspapers, to explore Baltimore's place in the larger history of Black urban experience. Students will analyze images and exhibits related to African-American history, as well as research and curate small online exhibits of primary source materials including photographs, newspaper clippings, correspondence, pamphlets, flyers, and maps. We will be among the first scholars to work in the Afro's rich archival collections, which include over a million images.	3.00	10	W 1:30-3:50PM
AS.389.275	01	HS		**Interpreting Collections: An Introduction to Museum Education-Community Based Learning** *Maloney, Elizabeth* Part public history, part introduction to museum practices, this hands-on course invites students into a local collection to develop interpretive materials for diverse audiences. Students consider the issues and ideas that inform object-based learning and learn about the history, theory and practice of museum education. Course culminates in the creation of pop-up exhibits interpreting the history of the Homewood grounds. M&S practicum course.	3.00	12	W 1:30-3:50PM

History of Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.102	01	H		**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		**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		**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		**Introduction to History of European Art II**	4.00	25	F 12:00-12:50PM; MW 12:00-1:15PM
AS.010.110	01	H		**Art of the Islamic World** *Brown, Rebecca Mary* An Introduction to art of the Islamic world, from the beginnings of Islam in the seventh century to the present, and from the Mediterranean to Southeast Asia. Architecture, ceramics, painting, textiles, metalwork, photography, installation, and performance art.	3.00	25	TTh 9:00-10:15AM
AS.010.203	01	H		**Abstraction** *Warnock, Molly* Introduction to major works and discourses of, and key debates surrounding, abstraction in the visual arts of Europe and the United States throughout the twentieth century. Visits to the BMA.	3.00	25	MW 3:00-4:15PM
AS.010.208	01	H	W	**The Disappearing Wall: Roman Frescoes in Context** *O'Connell, Shana Doreen* The course introduces ancient Roman wall painting from Pompeii and Rome as images painted on “disappearing walls.” We will analyze these and other murals in historical, archaeological and museum contexts.	3.00	19	MWF 11:00-11:50AM
AS.010.213	01	H	W	**Medieval Renaissances** *Danford, Rachel Elizabeth* A course on the appropriation, citation, and imitation of classical antiquity in the art and architecture of the Middle Ages (ca. 300-1300), emphasizing the active transformation of earlier models rather than passive copying.	3.00	15	MW 12:00-1:15PM
AS.010.216	01	H		**20th Century Italian Art** *Johnson, Katharine Mckenney* This course will be a critical survey of the major artistic movements in Italy during the 20th century, from Futurism to Arte Povera. Often seen as a secondary location of artistic production, the class will situate the artists working in Italy within a broader historical and global context.	3.00	20	MW 4:30-5:45PM
AS.010.219	01	H	W	**Constantinople from Founding to Fall: Art of the Byzantine Empire** *Raucher, Meredith Devorah* The course examines Byzantine art - from the founding to fall of Constantinople, both in Byzantium and beyond its borders - through its religious, political and aesthetic power.	3.00	25	TTh 10:30-11:45AM
AS.010.312	01	H	W	**Surrealism** *Warnock, Molly*	3.00	25	T 3:00-5:30PM

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Topics include: art and the unconscious; "psychic automatism" and its implications for theories of medium, genre, and composition; objects, journals, and exhibitions. Visits to Special Collections and the BMA.			
AS.010.319	01	H		**Medieval Art and Architecture of the Holy Land** *Zchomelidse, Nino* Discusses political and religious contexts in the Middle East, where specific territories (Jerusalem) were claimed by all three monotheistic religions for cult practices. Resulting conflicts influenced Jewish, Medieval, and Islamic art and architecture in the region.	3.00	25	TTh 12:00-1:15PM
AS.010.324	01	H		**Art and Architecture in the Augustan Age** *Tucci, Pier Luigi* Investigates Roman art and architecture during the Augustan age (31 BC – AD 14). Augustus' cultural program influenced many aspects of Roman life, leading to the creation of a new visual language that transformed Roman society. Methodologically, the focus will be on the integration of diverse sources to reconstruct and discuss the images and the built environment of the Augustan age.	3.00	25	TTh 1:30-2:45PM
AS.010.334	01	H	W	**Problems in Ancient American Art** *Deleonardis, Lisa* Selected topics which may include collecting the pre-Columbian past and connoisseurship, the formation of national museums, post-Columbian appropriations. Collections study in museums. May also be used toward credit for the Archaeology major. Cross-listed with PLAS and Program in Museum and Society	3.00	25	TTh 10:30-11:45AM
AS.010.353	01	H	W	**Key Moments in East Asian Politics & Visual Culture** *Brown, Rebecca Mary* Examines key political moments in China, Japan, and Korea from 1850 to the present, focusing on the way visual imagery shapes these events. Includes: Japanese occupation of Korea, Hiroshima and Nagasaki bombings, 1989 Tiananmen square protests, North Korean propaganda.	3.00	15	Th 1:30-4:00PM
AS.010.364	01	H		**Babylon: Myth and Reality** *Feldman, Marian* "Babylon - the name resonates, from the Biblical whore of Revelations to sci-fi. But what do we really know about the ancient city and its civilization?"	3.00	25	MW 1:30-2:45PM
AS.010.370	01	H	W	**History of Art: Histories, Methods, Theories** *Pereda, Felipe* This course will be a short introduction to the construction of the discipline and to the different methodologies developed in the analysis of works of art, as a way to understand the basic challenges faced today by Art History.	3.00	25	MW 12:00-1:15PM
AS.010.405	01	H	W	**Depicting the Invisible God in the Middle Ages** *Zchomelidse, Nino*	3.00	10	W 4:00-6:30PM

History of Art

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Discusses conditions of medieval image making and theory. Each meeting focuses on how to represent God in the visual arts and introduces iconographic concepts and their reception.			
AS.010.407	01	H		**Ancient Americas Metallurgy** *Deleonardis, Lisa* This course addresses the technology, iconography and social significance of metals and draws on case studies from Colombia, Peru, Hispaniola and Panama. Collections study in museums. May also be used as credit toward the Archaeology major. Cross-listed with PLAS	3.00	25	TTh 3:00-4:15PM
AS.010.408	01	H		**Venetian Art and the Mediterranean 1440-1560** *Campbell, Stephen* How Venetian art 1450-1580 was informed by the city's unique ecological environment and its status as a nexus of cultural interaction in the Mediterranean. Emphasis on recent scholarship.	3.00	10	M 4:00-6:30PM
AS.010.419	01	H	W	**Passion Cult, Passion Image, Passion Drama** *Merback, Mitchell* A set of interdisciplinary explorations of the Passion of Christ theme, viewed as a mythic paradigm within European visual culture, religious consciousness and cultic practice since the High Middle Ages.	3.00	10	W 1:30-4:00PM
AS.040.218	01	H	W	**Celebration and Performance in Early Greece** *Anderson, Emily S.K.* Surviving imagery suggests that early Aegean societies engaged in diverse celebratory performances, including funerals and palatial feasts, puberty rites and ecstatic dance. We investigate archaeological evidence of such celebrations, focusing on sociocultural roles, bodily experience, and interpretive challenges.	3.00	15	TTh 9:00-10:15AM
AS.040.366	01	H	W	**The Archaeology of Ancient Cyprus: Investigating a Mediterranean Island World in the JHU Museum** *Anderson, Emily S.K.* This course explores the visual and material worlds of ancient Cyprus from the earliest human evidence through the Iron Age. Class involves regular analysis of artifacts based in the Archaeological Museum.	3.00	12	TTh 12:00-1:15PM
AS.389.205	01	H		**Examining Archaeological Objects** *Balachandran, Sanchita* This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles, and visit artists' studios to gain an understanding of historical manufacturing processes. M&S practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art. Class meets in the Archaeological Museum (Gilman 150).	3.00	12	Th 1:30-3:50PM

History of Science & Technology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.140.106	01	HS		**History of Modern Medicine** *Todes, Daniel P* 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 11:00-11:50AM; F 11:00-11:50AM
AS.140.106	02	HS		**History of Modern Medicine**	3.00	17	MW 11:00-11:50AM; F 11:00-11:50AM
AS.140.106	03	HS		**History of Modern Medicine**	3.00	17	MW 11:00-11:50AM; F 11:00-11:50AM
AS.140.106	04	HS		**History of Modern Medicine**	3.00	17	MW 11:00-11:50AM; F 11:00-11:50AM
AS.140.111	01	HS		**Freshman Seminar: When Worlds Collide** *Portuondo, Maria M* This Freshmen Seminar explores instances of first contact between different world cultures and western science (16th-20th c.). Some cases considered include Jesuits in the Chinese imperial court, Spanish missionaries and the Maya, etc.	3.00	15	TTh 9:00-10:15AM
AS.140.123	01	HS	W	**Johns Hopkins: The Idea of a University** *Leslie, Stuart W* Who was Ira Remsen and why is he interred in the building bearing his name? Was the School of Medicine's best surgeon really a life-long drug addict? This freshman seminar will explore the history of our university since its founding in 1876, including its schools of medicine, public health, nursing, the Applied Physics Laboratory and SAIS. We'll look carefully at the archives and develop a thematic class exhibit. Research and writing intensive.	3.00	15	TTh 12:00-1:15PM
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
AS.140.304	01	HS	W	**Medicine for and by Women in Early Modern Europe** *Pomata, Gianna* This course will examine women's role in early modern European medicine through the reading of early modern medical texts written for or by women. The course is meant for students interested in women's history, the history of medicine, European history.	3.00	20	WF 4:30-5:45PM
AS.140.327	01	HS		**Science and Utopia** *Kargon, Robert H* Seminar examines the changing role of science in planning the ideal community from the 17th century to the present. Readings include works by Campanella, Bellamy, H.G. Wells, Orwell, B.F. Skinner and Walt Disney.	3.00	15	W 1:30-3:50PM

History of Science & Technology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.140.368	01	HS		**Technological Transformations** *Portuondo, Maria M* Course explores the historical development of revolutionary technologies and their transformations of the individual and society. Focus on computing, biotech, consumer goods, warfare, manufacturing, agriculture, imaging, energy, transportation, and sustainability.	3.00	20	MW 9:00-9:50AM; F 9:00-9:50AM
AS.140.368	02	HS		**Technological Transformations**	3.00	20	MW 9:00-9:50AM; F 9:00-9:50AM
AS.140.376	01	HS		**A Second World Within the World of Nature: The History of Geographic Thought** *Franco, Matthew Eli* This course traces the development of the science of geography from antiquity through the mid-nineteenth century. Readings explore the legal, political, cultural and theological resonances of geography during this period.	3.00	15	W 3:00-5:20PM
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	17	T 1:30-3:50PM
AS.140.412	01	HS	W	**Research Seminar** *Portuondo, Maria M* Departmental Majors Writing a Senior Thesis Only	2.00	10	TBA
AS.389.275	01	HS		**Interpreting Collections: An Introduction to Museum Education-Community Based Learning** *Maloney, Elizabeth* Part public history, part introduction to museum practices, this hands-on course invites students into a local collection to develop interpretive materials for diverse audiences. Students consider the issues and ideas that inform object-based learning and learn about the history, theory and practice of museum education. Course culminates in the creation of pop-up exhibits interpreting the history of the Homewood grounds. M&S practicum course.	3.00	12	W 1:30-3:50PM

Humanities Center

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.300.322	01	H		**Reason, Religion, and Modernism in fin de siècle France** *McGrath, Larry Sommer* Amidst the rise in psychological research in France and the secular reforms of the Third Republic, French philosophical and religious thinkers upended their Catholic tradition in the late nineteenth century. This seminar explores the Modernist turn in Catholicism, which drew on scientific advancements in order to challenge Church hierarchies and fundamentally transform Catholics' personal relationship to God. Our objective is to examine the intersection of science, faith, and society in historical and philosophical perspective.	3.00	20	TTh 12:00-1:15PM
AS.300.326	01	H	W	**Comparative Modernisms** *Galvin, Rachel* Dynamic, unprecedented literary innovation marks the first part of the 20th century. This course moves from Dadaism, Surrealism, and the Harlem Renaissance, through Anglo-American, Caribbean, and Brazilian modernisms, and the Latin American vanguard. We'll investigate literary experimentation in connection with the visual arts, modernization, colonialism, race, gender, and war. We will read novels, poetry, and essays from major writers who may include Apollinaire, André Breton, Marcel Proust; Gertrude Stein, HD, Djuna Barnes, Elsa von Freytag-Loringhoven, Mina Loy, T.S. Eliot; James Joyce, W.B. Yeats; Langston Hughes, Zora Neale Hurston, Jean Toomer; Claude McKay, Aimé Césaire, Louise Bennett, Jean Rhys, Nicolás Guillén; Oswald de Andrade, Julio Cortázar, Oliverio Girondo, Jorge Luis Borges.	3.00	15	MW 12:00-1:15PM
AS.300.350	01	H		**Skepticism on Stage and Page** *Boyce, Kristin* This course explores influential interpretations of and responses to skepticism in literature, philosophy and theater. Case Studies will include: Descartes, Ibsen, James, Kafka, Kierkegaard, Poe, Shakespeare, and Wittgenstein.	3.00	15	M 1:30-3:50PM

Humanities Center

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.300.362	01	H		**Beauty and the Predicate Calculus** *Boyce, Kristin* Frege's development of a predicate calculus made possible the evolution of a distinctively "analytic" tradition in philosophy. But arguably that tradition has failed to fully appreciate the implications of this important development. The course will begin by examining how Frege himself understood the importance of his advance. It will then consider arguments to the effect that some of the most influential accounts of mind and action—namely those shaped by Donald Davidson—fail by failing to take this advance adequately into account. In light of these arguments in philosophy of mind and action, we will reconsider the implications of Frege's advance for aesthetics. The principle aim of the course will be to construct an account of art and criticism that takes those implications fully into account. Efforts to construct alternatives that overcome this purported failing will be examine	3.00	15	W 6:00-9:00PM
AS.300.395	01	H	W	**Stages of Comedy: Theory & Practice** *Macksey, Richard A* A comparative survey of dramatic and cinematic events, with some attention to the various attempts to present a theory of comedy. Seminar will include some food and drinks to support the discussions.	3.00	12	Th 5:00-7:30PM
AS.300.399	01	H		**Cinema and Philosophy** *Marrati, Paola* Do movies have anything to say about philosophical problems? Why is contemporary philosophy so interested in cinema? What are the most productive ways of bringing films and philosophy into conversation? Why is contemporary philosophy so interested in cinema?	3.00	25	Th 1:30-4:00PM
AS.300.411	01	H		**Animal Minds** *Leys, Ruth* An examination of some of the scientific and philosophical literature on the nature of animal minds and the way(s) in which they differ from the human mind. The most important of these apparent differences are the use of language, the exercise of concepts, and instrumental reasoning, including the use of instruments. Co-list with AS.150.490	3.00	12	W 1:30-3:50PM
AS.300.416	01	H		**Wittgenstein, Religion, and Ethics** *de Vries, Hent* Starting out from the Lecture on Ethics, this course will investigate Wittgenstein's approaches to religion and ethics, mysticism and the spiritual, and contrast these with those of his contemporaries and later interpreters. Readings will include Ludwig Wittgenstein, Martin Heidegger, Elizabeth Anscombe, C.S. Lewis, Hilary Putnam, Richard Rorty, Stanley Cavell, Martin Stokhof, and others.	3.00	20	T 1:30-3:50PM
AS.371.140	01	H		**Cartooning** *Chalkley, Thomas*	3.00	15	M 1:30-4:20PM

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 Cylburn Arboretum and the John Brown Liberty Ship. Students meet frequently for critiques and discussions based on historic and contemporary imagery. Techniques such as high dynamic range, panorama and infrared are covered. Emphasis is on composition and developing a photographic style via shooting and post-processing. Students are encouraged to make work that is meaningful to them and which communicates its intent to their audience. Digital SLR cameras are provided. Attendance at first class is mandatory.	3.00	10	W 10:00AM-12:50PM

Humanities Center

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.371.162	02	H		**Black and White: Digital Darkroom**	3.00	10	W 2:00-4:50PM
AS.371.303	01	H		**Documentary Photography** *Berger, Phyllis A* In this upper-level course, we will explore different genres of documentary photography, including the fine art document, photojournalism, social documentary photography, the photo essay and photography of propaganda. Numerous field trips provide opportunities to explore the city and its neighborhoods. Students will work on a semester-long photo-documentary project on a subject of their choice. Digital SLR cameras are provided. Attendance at first class is mandatory.	3.00	10	F 10:00AM-1:00PM
AS.371.303	02	H		**Documentary Photography**	3.00	10	F 2:00-4:50PM

Interdepartmental

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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.Permission Required.	3.00	20	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. Permission Required.	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. Permission Required.	3.00	20	TBA

International Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.230.150	01	S		**Issues in International Development** *Agarwala, Rina* This course will provide an undergraduate level introduction to the study and practice, as well as the successes and failures, of international development. Students will be introduced to the various theoretical frameworks used to explain underdevelopment. Students will also explore the practice of development since the 1950s by examining specific strategies employed in Latin America, South Asia, East Asia, and Africa. Using a variety of country-specific case studies, students will have the opportunity to apply the theoretical and practical frameworks learned in the class to assess the successes and failures of real-life cases. Fufills Economics requirement for GSCD track students only. Cross listed with International Studies (IR). Freshmen and sophomores only.	3.00	30	M 3:00-5:30PM
AS.230.265	01	QS		**Research Tools and Technologies for the Social Sciences** *Karatasli, Sahan Savas* 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 and on the 2010-2012 global wave of social protest. Required for IS GSCD track students.	3.00	15	TTh 10:30-11:45AM
AS.230.346	01	S		**Contemporary 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 ahistorical 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.Cross-listed with the Program in Latin American Studies and International Studies. Fulfills Economics requirement for GSCD students only.	3.00	20	TTh 10:30-11:45AM
AS.310.103	01	HS		**Modern Japan - 1800 to the Present** *Bronson, Adam*	3.00	50	MWF 1:30-2:20PM

International Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			

Jewish Studies Program

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.100.351	01	HS	W	**God, Self, Nation and Revolution in East European Jewish Life and Thought, 1860-1939** *Moss, Kenneth* The divided Jewish community of modern Eastern Europe defined many of the key modern forms of Jewish identity, politics, culture, and religion and forged bewildering array of syntheses, hybrids, and even negations of Jewishness in relation to the unprecedented political, cultural, and social dilemmas of life in Eastern Europe. Focus on key texts of Jewish religious and secular thought created in Imperial Russia and interwar Poland.	3.00	15	M 1:30-3:50PM
AS.100.354	01	HS		**History of Israel, 1948-1970** *Moss, Kenneth* The political, social, and culture history of the State of Israel and its inhabitants during its pivotal first two decades, as reconstructed in recent historiography.	3.00	20	W 1:30-3:50PM
AS.130.304	01	H	W	**Ancient Cities** *Delnero, Paul* This course is a survey of cities in the ancient world from Uruk, around 3000 BC until the conquest of Babylon in 539 BC. The most important cities from this period will be studied and discussed from a historical, literary, and anthropological perspective. The topics covered include (1) the archaeological and textual evidence for these cities, (2) the depiction of these cities in literary and mythological works, and (3) contemporary theoretical approaches to understanding ancient urbanism.	3.00	30	MW 1:30-2:45PM
AS.130.348	01	H		**Religious Law Wrestles With Change: The Case of Judaism** *Katz, David* Description: "How does a religious system which defines its ancient laws as God-given and unchangeable apply them to radically different and changing social, political and intellectual situations? This course explores the literature of "Questions and Answers"(She'elot u-Teshuvot), the Jewish legal responsa which have struggled to match Jewish religious law to modern life for fifteen centuries. A sweeping survey of Jewish history as revealed by one of its most impenetrable yet fascinating sources. Cross-listed with Jewish Studies.	3.00	50	TTh 9:00-10:15AM
AS.130.373	01	H		**Prophets and Prophecy in the Bible** *Lewis, Theodore* From thundering voices of social justice to apocalyptic visionaries, biblical prophets have been revered by Jews, Christians and Muslims for thousands of years. They have inspired civic leaders such as Martin Luther King Jr. yet also provided fodder for modern charlatans promising a utopian future. Yet who were these individuals (orators? politicians? diviners? poets?) and what was the full range of their message as set against the Realpolitik world of ancient Israel, Iraq, Egypt, Syria and Jordan?	3.00	50	MW 12:00-1:15PM
AS.130.443	01	H		**Reading Of Hebrew Prose** *Staff*	3.00	20	TBA

Jewish Studies Program

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Reading of Biblical Hebrew prose, especially from the Pentateuch, Joshua, Judges, Samuel, and Kings.			
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		**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
AS.193.301	01	S	W	**Reading the Bible and Encountering its World** *Staff* 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

Jewish Studies Program

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.210.163	01			**Elementary Yiddish I** *Niborski, Eliezer* Year-long course. 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.	3.00	12	TTh 10:30-11:45AM
AS.210.368	01	H		**Advanced Yiddish II** *Caplan, Beatrice* Continuation of Advanced Yiddish I (AS.210.367). Students will continue to hone their skills in all four language areas: reading, writing, listening, and speaking. In addition to advanced grammar study and readings in Yiddish literature, the course will take into account the interests of each individual student, allowing time for students to read Yiddish texts pertinent to their own research and writing.	3.00	15	MW 12:00-1:15PM
AS.211.174	01	H		**Media of Propaganda** *Wegenstein, Bernadette* Today, promoting a particular political or personal point of view is not viewed as "propaganda," but rather as building a community of equally minded people. But where do we draw the line, and when does the use of a medium in service of a certain message become intrusive and misleading? What role do democracy and cultural values play in this use or abuse of media? In this class the term "propaganda" will be evaluated carefully and applied to such historical media case studies as the informational use of the radio in World War One, Leni Riefenstahl's Nazi propaganda films, the legendary success of advertisement campaigns in the 1950s and 1960s, the AIDS movement and other mobilization strategies from the 1980s to the 1990s, and the new values of friendship and propaganda in our current facebook nation.	3.00	20	M 3:00-5:30PM
AS.213.309	01	H		**Walter Benjamin and His World** *Caplan, Marc* All readings and class discussions in English. This course will provide an introduction to the thought, writing, and world of Walter Benjamin—one of the most interesting and influential German writers of the early 20th century. Although he died in exile having published only a single book in his lifetime, in the past three decades his ideas and preoccupations have changed the way we think about Cultural Studies, Media Studies, Literary Studies, German thought, Jewish mysticism, and the philosophy of history. We will be examining some of his major writings in tandem with precursors such as Charles Baudelaire and Louis Aragon; contemporaries such as Theodor Adorno and Gershom Scholem; and the legacy of his work among contemporary theorists, critics, and artists.	3.00	50	TTh 10:30-11:45AM

Jewish Studies Program

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.216.398	01			**Zionism, Post-Zionism and Modern Hebrew Literature** *Stahl, Neta* This course studies the development of modern Hebrew literature through its relation to Zionism and Post-Zionism. Based on a close reading of both literary and non-literary Zionist and Post-Zionist texts, we will explore the thematic, social, political, aesthetic and stylistic influences that these two movements have had on modern Hebrew literature. Writers to be discussed include: Hertzel, Nordau, Achad ha-am, Jabotinsky, Kluasner, Brenner, Berdyczewski, Agnon, Greenberg, Kahana-Carmon, Oz, Yehoshua, Grossman, Castel-Bloom, and Laor.	3.00	15	TTh 10:30-11:45AM
AS.216.412	01			**The Divine in Literature and Cinema** *Stahl, Neta* This course studies various issues concerning literary and cinematic representations of the divine. We will investigate theoretical, theological, generic and aesthetic aspects of the topic and will familiarize ourselves with the general problem of the relation between religion, literature and cinema. Among the topics to be discussed are, negative theology in literature and film, theodicy and anti-theodicy, the question of religion and literary modernism, providence and narratology in the modern novel and in contemporary cinema.	3.00	12	Th 1:00-3:00PM
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	TBA
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. Cross-listed with Jewish Studies.	4.00	10	TBA
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	TBA

Mathematics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.110.106	01	Q		**Calculus I** *Brown, Richard* 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)** *Pingali, Vamsi* 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)** *Arap, Maxim* 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** *Martinez Garcia, Jesus* 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.110.202	01	Q		**Calculus III** *Lind, John* 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 11:00-11:50AM; 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** *Zucker, Steven* 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** *Wang, Lu*	4.00	30	MWF 12:00-12:50PM; T 1:30-2:20PM

Mathematics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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** *Kitchloo, Nitya* 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** *Mese, Chikako* 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** *Kong, Jian* 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** *Consani, Caterina* 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** *Smithling, Brian* 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** *Zhu, Jiuyi* 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** *Zhu, Jiuyi* 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** *Tohaneanu, Mihai* 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

Military Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.374.102	01			**Introduction to Leadership II** *Wood, Jeffrey James* 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** *Wood, Jeffrey James* 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** *Seay, Shane* 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** *Seay, Shane* 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** *Sime, Bart* 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** *Wood, Jeffrey James*	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** *Sime, Bart* 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.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 9:00-9:50AM
AS.376.111	02			**Rudiments-Music Theory**	3.00	15	MWF 10:00-10:50AM
AS.376.111	03			**Rudiments-Music Theory** *Staff*	3.00	15	TTh 9:00-10:20AM
AS.376.211	01			**Theory & Musicianship I** *Chiao, Faye* 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** *Staff*	3.00	15	MWF 12:00-12:50PM
AS.376.212	01			**Theory/Musicianship II** *Stone, Stephen C* 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	MWF 1:30-2:20PM
AS.376.215	01			**Music Theory III - Twentieth Century Music** *Hardaway, Travis* An exploration of the music and analytical tools of the twentieth century. Topics will include set analysis, serial techniques, exotic and synthetic scales, neo-tonality, and geometric proportions. Recommended Course Background: AS.376.212	3.00	15	MWF 11:00-11:50AM
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.376.258	01			**Jazz Improvisation and Theory** *Norris, Alexander Pope* Study of the theory and practice of Jazz Improvisation. Basic knowledge of music notation skills is required.	3.00	15	Th 1:30-3:50PM
AS.376.372	01	NS		**Introduction to Music Cognition II** *Lopez-Gonzalez, Monica*	3.00	15	Th 4:30-6:50PM

Music

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Continuing from Topics in Music Cognition I, this course explores further the similarities and differences between music and language, the effects of musical training on cognitive development, and the expressive power of music, with an introduction to music and its role in film. We will read relevant research and theory on these topics from cognitive science, neuroscience, psychology, musicology, and philosophical perspectives.			
AS.376.407	01	H	W	**Music and Evolution** *Tolbert, Elizabeth D* This course will examine the bio-cultural evolution of music in light of recent interdisciplinary research on the social bases of human cognitive evolution, and explore its implications for current debates in musicology, ethnomusicology, psychology of music, and human cognitive evolution.	3.00	15	W 1:30-3:50PM

Near Eastern Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.364	01	H		**Babylon: Myth and Reality** *Feldman, Marian* "Babylon - the name resonates, from the Biblical whore of Revelations to sci-fi. But what do we really know about the ancient city and its civilization?"	3.00	25	MW 1:30-2:45PM
AS.040.366	01	H	W	**The Archaeology of Ancient Cyprus: Investigating a Mediterranean Island World in the JHU Museum** *Anderson, Emily S.K.* This course explores the visual and material worlds of ancient Cyprus from the earliest human evidence through the Iron Age. Class involves regular analysis of artifacts based in the Archaeological Museum.	3.00	12	TTh 12:00-1:15PM
AS.130.258	01	H		**Ceramic Analysis in Archaeology** *Osborne, James F* At archaeological sites following the invention of pottery roughly 10,000 BCE, ceramics are the single most frequent and ubiquitous class of artefact that archaeologists uncover. This class, which will be conducted in the Hopkins Archaeological Museum as a combination of lectures, discussions, and hands-on interactions with ancient and modern ceramics, surveys the methods and interpretive techniques that archaeologists use when studying this important category of material culture. Specific topics include manufacturing techniques, craft specialization, typology and chronology, production and exchange, scientific analyses, stylistic and functional analysis, and socio-political organization.	3.00	14	T 2:00-4:30PM
AS.130.304	01	H	W	**Ancient Cities** *Delnero, Paul* This course is a survey of cities in the ancient world from Uruk, around 3000 BC until the conquest of Babylon in 539 BC. The most important cities from this period will be studied and discussed from a historical, literary, and anthropological perspective. The topics covered include (1) the archaeological and textual evidence for these cities, (2) the depiction of these cities in literary and mythological works, and (3) contemporary theoretical approaches to understanding ancient urbanism.	3.00	30	MW 1:30-2:45PM
AS.130.328	01	H	W	**Ancient Egypt /Africa** *Bryan, Betsy Morrell* Recent excavation and research have shed light on several ancient cultures of the Nile and its tributaries. We will look at the available archaeological and textual (all Egyptian) evidence for these societies and their interactions with Egypt between 3500 and 300 B.C. We will also discuss research aims and methods employed now and in the past in Egypt and the Sudan.	3.00	25	MW 1:30-2:45PM
AS.130.348	01	H		**Religious Law Wrestles With Change: The Case of Judaism** *Katz, David*	3.00	50	TTh 9:00-10:15AM

Near Eastern Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Description: "How does a religious system which defines its ancient laws as God-given and unchangeable apply them to radically different and changing social, political and intellectual situations? This course explores the literature of "Questions and Answers"(She'elot u-Teshuvot), the Jewish legal responsa which have struggled to match Jewish religious law to modern life for fifteen centuries. A sweeping survey of Jewish history as revealed by one of its most impenetrable yet fascinating sources. Cross-listed with Jewish Studies.			
AS.130.373	01	H		**Prophets and Prophecy in the Bible** *Lewis, Theodore* From thundering voices of social justice to apocalyptic visionaries, biblical prophets have been revered by Jews, Christians and Muslims for thousands of years. They have inspired civic leaders such as Martin Luther King Jr. yet also provided fodder for modern charlatans promising a utopian future. Yet who were these individuals (orators? politicians? diviners? poets?) and what was the full range of their message as set against the Realpolitik world of ancient Israel, Iraq, Egypt, Syria and Jordan?	3.00	50	MW 12:00-1:15PM
AS.130.420	01	H	W	**Seminar in Research Methods in Near Eastern Studies: "Egyptian Conceptions of History"** *Bryan, Betsy Morrell* In this writing intensive seminar, we will explore how the Ancient Egyptians engaged with their own past and how they understood "history." AS.130.420 is required of NES Majors, who usually will take it in their senior year. This seminar will also be open to non-majors who have taken at least one 100-level Near Eastern Civilization course and one 300-level Near Eastern Civilization course.	3.00	12	Th 1:30-4:00PM
AS.130.443	01	H		**Reading Of Hebrew Prose** *Staff* Reading of Biblical Hebrew prose, especially from the Pentateuch, Joshua, Judges, Samuel, and Kings.	3.00	20	TBA
AS.389.205	01	H		**Examining Archaeological Objects** *Balachandran, Sanchita* This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles, and visit artists' studios to gain an understanding of historical manufacturing processes. M&S practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art. Class meets in the Archaeological Museum (Gilman 150).	3.00	12	Th 1:30-3:50PM

Neuroscience

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.050.102	01	NS		**Language and Mind** *Omaki, Akira* Introductory course dealing with theory, methods, and current research topics in the study of language as a component of the mind. What it is to "know" a language: components of linguistic knowledge (phonetics, phonology, morphology, syntax, semantics) and the course of language acquisition. How linguistic knowledge is put to use: language and the brain and linguistic processing in various domains. This course is restricted to freshmen and sophomores. Juniors and seniors must seek instructor approvel to enroll. Cross-listed with Neuroscience and Psychology.	3.00	50	TTh 9:00-10:15AM
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).	3.00	75	TTh 12:00-1:15PM
AS.050.326	01	NS	W	**Foundations In Cognitive Science** *Smolensky, Paul* This course explores general issues and methodologies in cognitive science through the reading of classic works (from Plato and Kant through Skinner and Turing) and recent research articles to begin construction of a coherent picture of many seemingly divergent perspectives on the mind/brain. Recent brain-based computational models serve to focus discussion. Recommended Course Background: at least one course at the 300-level or higher in cognitive science, computer science, neuroscience, philosophy, or psychology. Co-listed with AS.050.626.	3.00	25	MW 3:00-4:15PM
AS.050.339	01	NS		**Cognitive Development** *Yarmolinskaya, Julia S*	3.00	30	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. Also listed as AS.050.639. Cross-listed with Neuroscience.			
AS.080.203	01	NS		**Cognitive Neuroscience** *Rapp, Brenda C* This course surveys theory and research concerning how the human brain carries out mental processes. Co-listed as AS.050.203 in Cognitive Science.	3.00	250	TTh 10:30-11:45AM
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**	3.00	30	WF 1:30-2:45PM

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
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.080.352	01	N		**Higher Brain Function** *Hendry, Stewart H* Neuroscience is approaching the time when it can offer a compelling explanation for how the brain works. This course takes advantage of work done in humans and non-human primates to survey concepts in sensory perception, motor command, and memory mechanisms. Lectures are given by faculty whose research explores these issues. Each subject is explored as a three-lecture sequence: 1) a background lecture that lays out the general principles and over-riding questions of the field; 2) an in-depth lecture that covers the most recent scientific literature; and 3) a summary lecture that brings together the major questions and their Resolution. Recommended Course Background: AS.080.305	3.00	25	MW 6:00-7:15PM
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

Neuroscience

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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 Courtney Mansouri at courtney.mansouri@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
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*	1.00	10	M 7:30-11:30AM

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.080.402	02			**Teaching Practicum: Making Neuroscience Fun (MNF)**	1.00	10	T 7:30-11:30AM
AS.080.402	03			**Teaching Practicum: Making Neuroscience Fun (MNF)**	1.00	10	W 7:30-11:30AM
AS.080.402	04			**Teaching Practicum: Making Neuroscience Fun (MNF)**	1.00	10	Th 7:30-11:30AM
AS.080.402	05			**Teaching Practicum: Making Neuroscience Fun (MNF)**	1.00	10	F 7:30-11:30AM
AS.080.402	06			**Teaching Practicum: Making Neuroscience Fun (MNF)**	1.00	10	M 11:30AM-4:00PM
AS.080.402	07			**Teaching Practicum: Making Neuroscience Fun (MNF)**	1.00	10	T 11:30AM-4:00PM
AS.080.402	08			**Teaching Practicum: Making Neuroscience Fun (MNF)**	1.00	10	W 11:30AM-4:00PM
AS.080.402	09			**Teaching Practicum: Making Neuroscience Fun (MNF)**	1.00	10	Th 11:30AM-4:00PM
AS.080.402	10			**Teaching Practicum: Making Neuroscience Fun (MNF)**	1.00	10	F 11:30AM-4:00PM
AS.080.411	01	N		**Advanced Seminar: Neuroscience I** *Baraban, Jay M* For students in the first semester of the BA/MS Program. Instructor permission required.	3.00	10	TBA
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	100	TTh 10:30-11:45AM

Neuroscience

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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
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*	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		WF 10:30-11:45AM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.150.118	01	HQ		**Introduction to Formal Logic** *Achinstein, Peter* The fundamentals of symbolic logic, including truth-functions, quantification theory, and identity; probability and decision theory. Co-listed with AS.150.632	3.00	20	MW 11:00-11:50AM; F 10:00-10:50AM
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 12:00-12:50PM
AS.150.118	04	HQ		**Introduction to Formal Logic**	3.00	20	MW 11:00-11:50AM; F 10:00-10:50AM
AS.150.129	01	H		**The Theory of Knowledge: Classic and Contemporary** *Waterman, John Philip* How do we learn about things like Knowledge or Reason when they don't have physical properties? Can there be a science of them if we can't directly observe them? In this course we'll investigate these questions and others by examining classic and contemporary philosophical works, from Plato to modern cognitive science. Freshmen only.	3.00	19	M 3:00-5:30PM
AS.150.202	01	H		**Philosophy of Medicine** *Miller, Bryan Temples* This course explores philosophical issues that are of central importance to medicine. Topics to be covered include: history of medicine, relationship between medicine and science, distinction between health and disease. Recommended Course Background: At least one philosophy course or permission from the instructor.	3.00	19	W 1:30-4:00PM
AS.150.205	01	H		**Introduction to the History of Modern Philosophy** *Melamed, Yitzhak Yohanan* An introduction to early modern philosophy, examining Descartes' Meditations on First Philosophy, Locke's Essay Concerning Human Understanding, Hume's Enquiry Concerning Human Understanding, and selections from Kant's Critique of Pure Reason. We will consider such topics as the relation between philosophy and science, the nature and scope of human knowledge, the nature of the human mind, and the nature of human freedom. Gilman course in the Humanities.	3.00	35	MW 10:00-10:50AM; F 12:00-12:50PM
AS.150.205	02	H		**Intro Hist of Mod Philos**	3.00	35	F 12:00-12:50PM; MW 10:00-10:50AM
AS.150.205	03	H		**Intro Hist of Mod Philos**	3.00	35	F 10:00-10:50AM; MW 10:00-10:50AM
AS.150.205	04	H		**Intro Hist of Mod Philos**	3.00	35	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

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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.150.300	01	H		**Prometheus Editorial Workshop** *Lindeman, David Michael* 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.150.305	01	H		**Global Health & Human Rights** *DeCamp, Matthew* This course systematically examines the human right to health. Topics will include the theoretical foundation(s) of human rights; how human rights compare and contrast to other dominant views of global justice (including Rawlsian versions, cosmopolitanism, and capabilities, among others); and whether (or under what circumstances) health can be properly called a “right”. Special scrutiny will be given to access to essential medicines as a recent example of the invocation of a right to health.	3.00	15	F 1:30-4:00PM
AS.150.306	01	H		**The Epicurians, the Stoics, & the Skeptics on How to Live** *Stojanovic, Pavle* The question “How to live?” is eternal. The Epicureans said that pleasure is the goal of life that is to be pursued, thus paving the way to modern Utilitarianism. The Stoics argued that the goal of life is virtue, which consists in living in agreement with nature; in this, they anticipated contemporary virtue ethics. Both schools thought that although we live in a material and causally determined universe, our moral actions and characters are nevertheless “up to us” and that we have moral freedom and responsibility. The Skeptics, on the other hand, tried to demonstrate that no moral principles have sufficient rational justification and that, because of this, the only option is some kind of moral relativism and the pursuit of freedom from emotional disturbance. In this, they anticipated moral relativism and moral nihilism. By examining of the arguments of the Epicureans, the Stoics, and the Skeptics in this course, you will not only learn about them, but also have an opportunity to do philosophy yourself, and perhaps clarify how you should live your own life.	3.00	19	TTh 10:30-11:45AM
AS.150.312	01	H		**Philosophy and Complexity** *Guralp, Genco*	3.00	19	TTh 1:30-2:45PM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course aims to engage with philosophical problems that stem from sciences of complexity in an interdisciplinary way. We will pose questions concerning how disciplines such as biology, economics, neuroscience, astrophysics etc. deal with the problem of complexity, and we will look at the basic problems philosophers of science single out in this context. After introducing the general problematic of the course, we will have two main parts under which we examine the philosophy of complex systems. The first part will be devoted to the epistemological aspects of the problem such as models, laws, explanation and evidence, and the second part will examine the metaphysical aspects of emergence and reduction.			
AS.150.330	01	H		**Decisions, Games & Social Choice** *Bledin, Justin* This course is an introduction to decision theory, game theory, and social choice theory with an emphasis on their philosophical underpinnings and philosophical applications. Topics covered include the Prisoner's Dilemma, Newcomb's Problem, convention and social contracts, risk, and Arrow's Theorem.	3.00	15	TTh 12:00-1:15PM
AS.150.402	01	H	W	**Aristotle** *Bett, Richard* A study of major selected texts of Aristotle.	3.00	20	MW 4:30-5:45PM
AS.150.405	01	H		**Alienation** *Moyar, Dean* In this course we will study the topic of alienation both historically and systematically. We will examine the concept’s historical roots at the turn of the 19th century and engage with contemporary discussions by authors working in philosophy of mind, ethics and political philosophy.	3.00	15	Th 1:30-4:00PM
AS.150.406	01	H		**Can Science Explain Everything?** *Achinstein, Peter* What is scientific explanation? We will examine various theories about this in order to determine whether and how science can explain everything physical and everything mental (including consciousness, emotions, purposes, and values). In addition to science are non-scientific theories, for example, religious ones, necessary? Do they compete with or complement scientific ones?	3.00	15	TTh 10:30-11:45AM
AS.150.421	01	HQ		**Mathematical Logic II** *Rynasiewicz, Robert* Gödel's two incompleteness theorems regarding, first the unaxiomatizability of arithmetic and, second, the impossibility of proving the consistency of arithmetic using arithmetic methods (unless arithmetic is inconsistent). Computability and Church's Thesis.	3.00	20	TTh 10:30-11:45AM
AS.150.429	01	H		**Topics in Logic: Ontology and Knowledge Representation** *Rynasiewicz, Robert*	3.00	10	TTh 1:30-2:45PM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Knowledge representation 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 hierarchical classification of entities from given domains of knowledge together with the relations between various classes, subclasses, or individuals. The main framework in which we will work is that of description logics, which are decidable fragments of varying degrees of first order predicate logic. In ontology development we will examine RDF (Resource Description Framework), its extension to RDFS, and OWL (Web Ontology Language), and use the software Protegé for specific applications. Finally, we will take a look at query languages such as SPARQL (SPARQL Protocol and RDF Query Language).			
AS.150.430	01			**Hegel's Phenomenology of Spirit** *Forster, Eckart* An in-depth study of Hegel's masterpiece, the Phenomenology of Spirit. We will be concentrating on the first half of the text.	3.00	15	TTh 9:00-10:15AM
AS.150.438	01	H		**Spinoza’s The Ethics** *Melamed, Yitzhak Yohanan* The seminar is an in depth study of Spinoza's major work, The Ethics.	3.00	15	M 2:00-4:30PM
AS.150.442	01	H		**The Philosophy of Ludwig Wittgenstein** *Williams, Meredith* We will read Wittgenstein’s two great works: Tractatus Logico-Philosophicus (1921) and Philosophical Investigations (1953).	3.00	15	TTh 9:00-10:15AM
AS.150.452	01	H	W	**Freedom of Will & Moral Responsibility** *Bok, Hilary* What are freedom of the will and moral responsibility? Are they compatible with determinism or naturalism? This course will examine various philosophers' answers to these questions.	3.00	20	F 1:30-4:00PM
AS.150.455	01	H	W	**Ethics And Animals** *Bok, Hilary*	3.00	20	M 1:30-4:00PM
AS.150.465	01	HNS		**Genetics, Genomics and Society** *Mathews, Debra J* This course will examine the ethical, legal and social implications (ELSI) of human genetics through the lens of significant and field-defining periods and events in the history of the field. We will study the ELSI issues raised by those events, and how the events have shaped and defined the current state of the science and emerging scientific, ethical, policy and public health issues. Juniors and Seniors only.	3.00	20	M 3:30-6:00PM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.150.490	01	H		**Animal Minds** *Williams, Meredith* An examination of some of the scientific and philosophical literature on the nature of animal minds and the way(s) in which they differ from the human mind. The most important of these apparent differences are the use of language, the exercise of concepts, and instrumental reasoning, including the use of instruments. Co-listed 300.411	3.00	15	W 1:30-3:50PM
AS.213.309	01	H		**Walter Benjamin and His World** *Caplan, Marc* All readings and class discussions in English. This course will provide an introduction to the thought, writing, and world of Walter Benjamin—one of the most interesting and influential German writers of the early 20th century. Although he died in exile having published only a single book in his lifetime, in the past three decades his ideas and preoccupations have changed the way we think about Cultural Studies, Media Studies, Literary Studies, German thought, Jewish mysticism, and the philosophy of history. We will be examining some of his major writings in tandem with precursors such as Charles Baudelaire and Louis Aragon; contemporaries such as Theodor Adorno and Gershom Scholem; and the legacy of his work among contemporary theorists, critics, and artists.	3.00	50	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
AS.300.399	01	H		**Cinema and Philosophy** *Marrati, Paola* Do movies have anything to say about philosophical problems? Why is contemporary philosophy so interested in cinema? What are the most productive ways of bringing films and philosophy into conversation? Why is contemporary philosophy so interested in cinema?	3.00	25	Th 1:30-4:00PM

Philosophy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.300.411	01	H		**Animal Minds** *Leys, Ruth* An examination of some of the scientific and philosophical literature on the nature of animal minds and the way(s) in which they differ from the human mind. The most important of these apparent differences are the use of language, the exercise of concepts, and instrumental reasoning, including the use of instruments. Co-list with AS.150.490	3.00	12	W 1:30-3:50PM
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

Physics & Astronomy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.171.101	01	EN		**General Physics:Physical Science Major I** *Barnett, Bruce A* 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 8:00-8:50AM
AS.171.101	03	EN		**General Physics:Physical Science Major I**	4.00	24	MWF 11:00-11:50AM; Th 8:00-8:50AM
AS.171.101	04	EN		**General Physics:Physical Science Major I**	4.00	24	MWF 11:00-11:50AM; Th 8:00-8:50AM
AS.171.101	05	EN		**General Physics:Physical Science Major I**	4.00	24	MWF 11:00-11:50AM; Th 8:00-8:50AM
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 9:00-9:50AM; TTh 10:30-11:45AM
AS.171.102	03	EN		**General Physics: Physical Science Majors II**	4.00	24	F 10:00-10:50AM; TTh 10:30-11:45AM
AS.171.102	04	EN		**General Physics: Physical Science Majors II**	4.00	24	F 10:00-10:50AM; TTh 10:30-11:45AM
AS.171.102	05	EN		**General Physics: Physical Science Majors II**	4.00	24	F 11:00AM-11:50PM; TTh 10:30-11:45AM
AS.171.102	06	EN		**General Physics: Physical Science Majors II**	4.00	24	F 11:00-11:50AM; 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 8:00-8:50AM; 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** *Heckman, Timothy Martin* 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
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

Physics & Astronomy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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 or AS.171.209 -AS.171.210. Recommended Course Background: C- or better in AS.171.105; Corequisite: AS.173.116, AS.110.109	4.00	15	MWF 11:00-11:50AM; Th 10:30-11:20AM
AS.171.106	02	EN		**Electricity and Magnetism I**	4.00	15	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. Restricted to Freshmen Only.	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.171.202	01	N		**Modern Physics** *Markovic, Nina* 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** *Blumenfeld, Barry J* 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	4.00	35	MWF 9:00-9:50AM; Th 1:30-2:20PM
AS.171.304	01	N		**Quantum Mechanics II** *Kovesi-Domokos, Susan*	4.00	30	MWF 9:00-9:50AM; T 1:30-2:20PM

Physics & Astronomy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.171.310	01	N		**Biological Physics** *Leheny, Robert L* Introduces topics of classical statistical mechanics. Additional topics include low-Reynolds number hydrodynamics and E&M of ionic solutions, via biologically relevant examples. Recommended Course Background: AS.110.109, AS.171.101-AS.171.102 or AS.171.103-AS.171.104 or AS.171.105 -AS.171.106.	4.00	35	MWF 11:00-11:50AM; 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 and the physical principles governing the expansion of the universe, will be studied quantitatively.	3.00	20	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.171.426	01	NQ		**Practical Scientific Analysis of Big Data** *Budavari, Tamas* Students will learn to work with databases, write parallel analysis code with emphasis on Graphics Processing Units (CUDA), and explore new approaches to data processing, namely streaming and robust statistics. Students should have basic knowledge of C/C++ and Introduction Numerical Methods. Co-taught with AS.171.628	3.00	15	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

Physics & Astronomy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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.173.112	01	N		**General Physics Laboratory II** *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	1.00	24	M 1:30-4:20PM
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

Physics & Astronomy

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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* 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.	1.00	15	TBA

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.190.102	01	S		**Introduction To Comparative Politics** *Jabko, Nicolas* An introduction to the comparative study of political regimes, institutions and processes, with illustrations drawn from selected countries in different world regions. These may include Great Britain, Germany, Japan, Mexico, China, India, Iran, Nigeria, and Russia, or others.	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.190.228	01	S		**The American Presidency** *Sheingate, Adam* This course is an introduction to the study of the presidency. It assumes a basic understanding of the American political system as provided in a course such as Introduction to American Politics or its equivalent. We explore the evolution of the modern presidency, how contemporary presidents operate in the political System, and the sources of successful presidential leadership.	3.00	20	MW 12:00-12:50PM; F 12:00-12:50PM
AS.190.228	02	S		**The American Presidency**	3.00	20	F 12:00-12:50PM; MW 12:00-12:50PM
AS.190.228	03	S		**The American Presidency**	3.00	20	MW 12:00-12:50PM; F 11:00-11:50AM
AS.190.228	04	S		**The American Presidency**	3.00	20	MW 12:00-12:50PM; F 1:00-1:50PM
AS.190.228	05	S		**The American Presidency**	3.00	20	MW 12:00-12:50PM; F 9:00-9:50AM
AS.190.228	06	S		**The American Presidency**	3.00	20	MW 12:00-12:50PM; F 10:00-10:50AM
AS.190.266	01	S		**Religion, Economics and Terror** *Brendese, Philip Joseph, III.* This course will engage a series of questions about how religion and fear are used as tools of political power that shape human values and desires in an age of neoliberal capitalism.	3.00	20	Th 1:30-3:50PM
AS.190.282	01	S		**Authority and Liberty (Classics of Political Thought III)** *Culbert, Jennifer* Beginning with Plato, and using Nietzsche's history of metaphysics as a guide, this course serves as an introduction to Euro-American political thought by analyzing the philosophical foundations of political authority. In addition to works by Plato and Nietzsche, readings will include works by Kant, Mill, Hart, and Foucault.	3.00	20	MW 10:00-10:50AM; F 9:00-9:50AM
AS.190.282	02	S		**Authority and Liberty (Classics of Political Thought III)**	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.190.300	01	S	W	**Class Politics** *Spence, Lester*	3.00	30	T 3:00-5:50PM
AS.190.301	01	S	W	**Global Political Economy** *Marlin-Bennett, Renee*	3.00	20	MW 10:00-10:50AM; F 9:00-9:50AM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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			
AS.190.301	02	S	W	**Global Political Economy**	3.00	20	MW 10:00-10:50AM; F 10:00-10:50AM
AS.190.302	01	S	W	**How to be a Capitalist** *Chambers, Samuel Allen* Everyone usually assumes that they know what capitalism is and how it works. Yet some of us often make very poor choices given the framework of a capitalist system, and many of us continually express shock and outrage over outcomes and results that are perfectly reasonable (and to be expected) given the operation of capitalism. This advanced seminar will engage with readings in political theory and political economy that explore the fundamental logic of capitalism. Previous course in Political Theory or Instructor's Permission.	3.00	15	W 3:00-5:50PM
AS.190.313	01	S	W	**Dreams of America** *Bennett, Jane* An exploration of recurrent themes and aspirations in American political thought, focused around three dimensions of the American dream: Tabula Rasa, Upward Mobility, and Landed Independence. The master narratives of American democracy—of incorporation and assimilation -- are in tension with perspectives drawn from histories of formal and informal exclusion: native Americans, US African Americans, Latinos and other groups have often been excluded from dominant portraits of America. Our course will consider the various ways in which marginalized groups have incorporated elements from dominant Dreams of America, refashioned them and claimed them as their own. Recommended Course Background: Previous courses in Political Theory.	3.00	30	TTh 12:00-1:15PM
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	TTh 1:30-2:45PM
AS.190.341	01	S	W	**Korean Politics** *Chung, Erin* This course introduces students to the historical and institutional foundations of modern South Korean politics. Topics include nationalism, political economic development, civil society, globalization, and ROK-DPRK relations. (CP)	3.00	25	TTh 1:30-2:45PM
AS.190.381	01	S	W	**Global Environmental Politics** *Allan, Bentley* Cannot have taken AS.190.206.	3.00	30	TTh 9:00-10:15AM
AS.190.385	01	S	W	**Urban Politics and Policy**	3.00	20	M 1:30-3:50PM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Spence, Lester An analysis of public policy and policy-making for American Cities. Special attention will be given to the subject of urban crime and law enforcement, poverty and welfare, and intergovernmental relations. Cross listed with Africana Studies.			
AS.190.392	01	S		**Introduction to Latin American Politics** *Keck, Margaret E* A survey of modern Latin American politics and political development. Cross-listed with Program for Latin American Studies.	3.00	20	TTh 10:30-11:30AM; F 10:30-11:30AM
AS.190.392	02	S		**Introduction to Latin American Politics**	3.00	25	TTh 10:30-11:20AM; F 9:00-10:00AM
AS.190.417	01	S	W	**American Welfare State** *Schlozman, Daniel* This seminar analyzes the distinctive US welfare state in historical and comparative perspective. Special attention to policy development over time in health care, pensions, taxes, and work and poverty.	3.00	20	T 1:30-3:50PM
AS.190.423	01	S	W	**Planetary Geopolitics** *Deudney, Daniel Horace* With the tools of geopolitics, course explores political debates over globalization of machine civilization and changes in scope and pace, space and place, and role of nature in human affairs.	3.00	20	W 3:00-5:50PM
AS.190.424	01	S	W	**Policy Disasters** *Teles, Steven Michael* Investigates the causes of large-scale policy disasters, examining the role of ideology, psychology, organization design and political incentives. Examples may be drawn from the Iraq War, Bay of Pigs, Hurricane Katrina, the U.S. Financial crisis, Shuttle Challenger disaster. economic development policy, privatization, and the Great Society. Limited to seniors or with permission of instructor. (CP / AP)	3.00	20	Th 1:30-3:50PM
AS.190.475	01	S		**Courts, Politics and Public Policy** *Teles, Steven Michael* Examines the causes of American legal change, with particular focus on the role of social movements, and whether and how legal change produces social change. Among the particular cases examined will be civil, prisoners' and women's rights.	3.00	20	TTh 10:30-11:45AM
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

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.191.303	01	S	W	**The Rise and Fall of the State** *Staff* This course interrogates the state as a central institution of politics, its many meanings and its purposes. It will also analyze the politics of the rise of the state in domestic and international politics and assess whether it is currently being challenged by globalization and civil war	3.00	25	T 1:30-3:50PM
AS.191.309	01		W	**Non-Western Political Theory** *Gray, Stuart* This course is designed to introduce and critically examine some of the most influential non-western traditions, thinkers, texts, and ideas in the global history of political thought. We will focus on material from the Middle East, South Asia, and East Asia. Thinkers covered in the course include: Al-Mawardi, Confucius, Lao Tzu, Sayyid Qutb, and Tiruvalluvar. We will also read key portions of the following texts: Qur'an, Law Code of Manu, and the Mahabharata.	3.00	15	TTh 10:30-11:45AM
AS.191.317	01	S	W	**Interest Groups, Social Movements and the Policy Process** *Thurston, Chloe Nicol*	3.00	15	T 3:00-5:50PM
AS.191.322	01	S	W	**Globalization, Development, Conflict in the Developing World** *Chidambaram, Soundarya* This course will focus on socio-economic changes and challenges that the developing world developing world faces in today's globalized world. It will introduce students to the interaction between politics and economics in developing countries by examining political and economic development (and underdevelopment). It will evaluate the role of globalization and neoliberal reforms not just as the engine of economic change, but also as the source of social conflict. The first part of the course will introduce conventional theories and approaches to development, and evaluate how globalization and open markets have significantly changed the trajectory of economic growth and development through various substantive and country-specific readings. The second part of the course will examine the contemporary debates relating to globalization, particularly whether and how it has affected growth, human development, equality, and poverty in the developing world. A key the me explored will be on the relationship of the state to social welfare and the delivery of public goods. Finally, the course will also analyze the implications of globalization for crucial contemporary problems such as immigration, transnational flows, women's rights/gender roles, state-building and democratization, civil society/NGOs and governance, and ethnic violence.	3.00	20	MW 1:30-2:45PM
AS.191.336	01	S		**On Diet: Are We What We Eat?** *Staff*	3.00	20	T 3:00-5:50PM

Political Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Tracing the history of the idea that "you are what you eat," this course explores the relationships between diets, bodies, selves, and politics. Readings will be both historical and contemporary and cover a variety of fields including political theory, philosophy, anthropology, and the history of science and medicine.			
AS.191.394	01	S	W	**Third World Enviroment and Development** *Ignatov, Anatoli* The course examines how the interactions between ecological, political, economic and social processes shape world politics. It focuses on the connections between natural resource degradation, globalization, and development. Major themes include global environmental governance; consumption and sustainable development; environmental justice; changing patterns of food production and resource use.	3.00	25	MW 3:00-4:15PM
AS.191.444	01	S		**International Law** *Spector, Phillip* This course provides an introduction to international law, including its history and theoretical foundations; how it takes shape and is enforced, and the role it plays in modern foreign policy.	3.00	20	Th 6:30-8:50PM
AS.211.174	01	H		**Media of Propaganda** *Wegenstein, Bernadette* Today, promoting a particular political or personal point of view is not viewed as "propaganda," but rather as building a community of equally minded people. But where do we draw the line, and when does the use of a medium in service of a certain message become intrusive and misleading? What role do democracy and cultural values play in this use or abuse of media? In this class the term "propaganda" will be evaluated carefully and applied to such historical media case studies as the informational use of the radio in World War One, Leni Riefenstahl's Nazi propaganda films, the legendary success of advertisement campaigns in the 1950s and 1960s, the AIDS movement and other mobilization strategies from the 1980s to the 1990s, and the new values of friendship and propaganda in our current facebook nation.	3.00	20	M 3:00-5:30PM
AS.211.394	01	H	W	**Brazilian Cult & Civ** *Bensabat Ott, Mary M*	3.00	25	M 2:00-4:30PM

Political Science

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	5	M 2:00-4:30PM
AS.362.175	01	HS	W	**Black Power Movement** *Hayes, Floyd, III.* This course critically examines trends, developments, contradictions, and dilemmas related to the Black Power Movement for black identity and self-determination in the late 1960s and 1970s.	3.00	15	TTh 1:30-2:45PM
AS.362.416	01	HS		**Black Nationalism and its Critics** *Culver, Adam Romanowski* This seminar will pursue an in-depth, critical analysis of the history and philosophy of black nationalism and its relationship to other trends in black political thought. Readings from Alexander Crummell, Martin Delany, Frederick Douglass, W. E. B. DuBois, Marcus Garvey, Malcolm X, James Baldwin, and others.	3.00	15	T 2:00-4:30PM

Program in Latin American Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.334	01	H	W	**Problems in Ancient American Art** *Deleonardis, Lisa* Selected topics which may include collecting the pre-Columbian past and connoisseurship, the formation of national museums, post-Columbian appropriations. Collections study in museums. May also be used toward credit for the Archaeology major. Cross-listed with PLAS and Program in Museum and Society	3.00	25	TTh 10:30-11:45AM
AS.010.407	01	H		**Ancient Americas Metallurgy** *Deleonardis, Lisa* This course addresses the technology, iconography and social significance of metals and draws on case studies from Colombia, Peru, Hispaniola and Panama. Collections study in museums. May also be used as credit toward the Archaeology major. Cross-listed with PLAS	3.00	25	TTh 3:00-4:15PM
AS.070.132	01	HS		**Invitation to Anthropology** *Poole, Deborah* Is there a distinctive anthropological mode of studying human societies? Examining different kinds of spaces – houses, streets, markets, forests – we learn how human sociality is expressed in and through the way these spaces are constituted. Cross-listed with Humanities Center and PLAS.	3.00	101	TTh 1:30-2:45PM
AS.070.262	01	HS		**Cuban Intellectuals, Cinema, and the State** *Humphreys, Laura Zoe* This course examines the relationship between intellectuals and the Cuban state, focusing on how cinema and other arts have been mobilized both as propaganda and as sites for social criticism. Screenings are required for this course and will take place on Tuesdays from 7 pm to 9:30 pm. Cross-list: Film and Media Studies, PLAS, Romance Languages.	3.00	20	W 4:00-6:20PM; T 7:00-9:30PM
AS.070.277	01	HS	W	**Indigenous Agency and Innovation** *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	40	TTh 12:00-1:15PM
AS.190.392	01	S		**Introduction to Latin American Politics** *Keck, Margaret E* A survey of modern Latin American politics and political development. Cross-listed with Program for Latin American Studies.	3.00	20	TTh 10:30-11:30AM; F 10:30-11:30AM
AS.190.392	02	S		**Introduction to Latin American Politics**	3.00	25	TTh 10:30-11:20AM; F 9:00-10:00AM
AS.210.392	01	H	W	**Advanced Portuguese: Language and Literature II** *Bensabat Ott, Mary M*	3.00	15	MWF 9:00-9:50AM

Program in Latin American Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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. Lab work required. The course is conducted entirely in Portuguese.			
AS.211.380	01	H		**Modern Latin American Culture** *Staff* 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.	3.00	17	TTh 3:00-4:15PM
AS.211.394	01	H	W	**Brazilian Cult & Civ** *Bensabat Ott, Mary M* 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	25	M 2:00-4:30PM
AS.211.394	02	H	W	**Brazilian Cult & Civ**	4.00	5	M 2:00-4:30PM
AS.215.343	01	H		**Nación criolla: cultura y literatura en el siglo XIX** *Altschul, Nadia* El curso examina la formación de nuevas identidades hispanoamericanas y la búsqueda de un pasado que las haga legítimas, especialmente en el Cono Sur (Chile, Argentina, Uruguay). Consideraremos en particular las relaciones con el pasado español y con el pasado amerindio en textos políticos, críticos y literarios de figuras clave del siglo diecinueve, e.g. Domingo Faustino Sarmiento, Andrés Bello, Simón Bolívar, Esteban Echeverría, y José Victorino Lastarria.	3.00	20	TTh 1:30-4:00PM
AS.215.422	01	H		**Amor y romanticism en una Novella y tres películas** *Gonzalez, Eduardo*	3.00	25	Th 1:30-4:00PM

Program in Latin American Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Lectura en contexto histórico cultural de la novela del novelista argentino Andrés Neuman, El viajero de siglo (Premio Alfaguara 2009). La obra será estudiada en detalle en el contexto de la música del romanticismo europeo y el pensamiento filosófico y moral sobre el amor y la pasión. Cuatro cintas de la directora Jane Campion serán igualmente estudiadas: : The Piano (1993), The Portrait of a Lady (1996), Holy Smoke (1999) and Bright Star 2009. Curso impartido enteramente en español			
AS.230.346	01	S		**Contemporary 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 ahistorical 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.Cross-listed with the Program in Latin American Studies and International Studies. Fulfills Economics requirement for GSCD students only.	3.00	20	TTh 10:30-11:45AM
AS.361.131	01	H	W	**Introduction to Latin American Studies II** *Castro-Klaren, Sara* Through the interdisciplinary lens of anthropology, political science, history, literature, and film, this course explores issues related to ethnic identity, social movements, and politics in Bolivia, Ecuador, Mexico, Colombia, and Argentina.	3.00		W 1:30-3:45PM
AS.361.170	01	HS		**NI DE AQUI NI DE ALLA: INTRODUCTION TO LATINO STUDIES** *Gioioso, Richard N* Through readings and discussion of texts, viewing of films and performance art, this course studies varied histories of Mexican, Puerto Rican, Cuban and other Latin American peoples in the U.S. Students will develop a general understanding of major issues facing Latinos/as in the 21st century as well as gain an understanding of the impact Latino culture has on US society and politics.	3.00	25	TTh 12:00-1:15PM

Program in Latin American Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.361.350	01			**Mestizaje and Race in Latin America** *Reyes Kipp, Anaid Citlalli* The course problematizes how race and mestizaje became socio-political realities and forms of lived experience in Latin America, shaping such things as governmental practices, spatial configurations, interpersonal relations, and political mobiliations. PLAS Teaching Fellowship.	3.00	18	M 4:00-6:20PM

Program in Museums and Society

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.010.312	01	H	W	**Surrealism** *Warnock, Molly* Topics include: art and the unconscious; “psychic automatism” and its implications for theories of medium, genre, and composition; objects, journals, and exhibitions. Visits to Special Collections and the BMA.	3.00	25	T 3:00-5:30PM
AS.010.334	01	H	W	**Problems in Ancient American Art** *Deleonardis, Lisa* Selected topics which may include collecting the pre-Columbian past and connoisseurship, the formation of national museums, post-Columbian appropriations. Collections study in museums. May also be used toward credit for the Archaeology major. Cross-listed with PLAS and Program in Museum and Society	3.00	25	TTh 10:30-11:45AM
AS.140.123	01	HS	W	**Johns Hopkins: The Idea of a University** *Leslie, Stuart W* Who was Ira Remsen and why is he interred in the building bearing his name? Was the School of Medicine’s best surgeon really a life-long drug addict? This freshman seminar will explore the history of our university since its founding in 1876, including its schools of medicine, public health, nursing, the Applied Physics Laboratory and SAIS. We’ll look carefully at the archives and develop a thematic class exhibit. Research and writing intensive.	3.00	15	TTh 12:00-1:15PM
AS.211.330	01	H		**Curating Media Artists in Residence at JHU** *Wegenstein, Bernadette* Curating Media Artists in Residence at JHU: students will be closely involved with JHU's Program in Museum & Society, JHU's Center for Advanced Media Studies (CAMS), and the Baltimore Museum of Art (curator KristenHileman) in efforts to research and propose new media artists in residence as well as prepare the residency for 2015. This process will include examining cutting-edge media artists whose work will be discussed both in the classroom as well as on sponsored class trips to media art exhibits in DC and NYC. Students will also assist with the CAMS media art residency of acclaimed French artist Camille Henrot in March 2014.	3.00	5	Th 1:30-4:00PM
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	TTh 1:30-2:45PM
AS.389.205	01	H		**Examining Archaeological Objects** *Balachandran, Sanchita*	3.00	12	Th 1:30-3:50PM

Program in Museums and Society

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course considers the role of materials in the production, study and interpretation of objects by examining artifacts from the Johns Hopkins Archaeological Museum. Students will consider materials such as ceramics, stone, metal, glass, wood and textiles, and visit artists' studios to gain an understanding of historical manufacturing processes. M&S practicum course. Cross-listed with Archaeology, Near Eastern Studies, Classics, and History of Art. Class meets in the Archaeological Museum (Gilman 150).			
AS.389.275	01	HS		**Interpreting Collections: An Introduction to Museum Education-Community Based Learning** *Maloney, Elizabeth* Part public history, part introduction to museum practices, this hands-on course invites students into a local collection to develop interpretive materials for diverse audiences. Students consider the issues and ideas that inform object-based learning and learn about the history, theory and practice of museum education. Course culminates in the creation of pop-up exhibits interpreting the history of the Homewood grounds. M&S practicum course.	3.00	12	W 1:30-3:50PM
AS.389.390	01	H		**Library / Laboratory** *Dean, Gabrielle* This interdisciplinary and project-driven class investigates the library as a site of experimentation and an expression of different knowledge regimes. Material includes literary treatments of the library, historical and critical readings, guest lectures, rare materials from special collections and field work.	3.00	12	T 3:00-5:20PM

Psychological & Brain Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.050.102	01	NS		**Language and Mind** *Omaki, Akira* Introductory course dealing with theory, methods, and current research topics in the study of language as a component of the mind. What it is to "know" a language: components of linguistic knowledge (phonetics, phonology, morphology, syntax, semantics) and the course of language acquisition. How linguistic knowledge is put to use: language and the brain and linguistic processing in various domains. This course is restricted to freshmen and sophomores. Juniors and seniors must seek instructor approvel to enroll. Cross-listed with Neuroscience and Psychology.	3.00	50	TTh 9:00-10:15AM
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. Also listed as AS.050.639. Cross-listed with Neuroscience.	3.00	30	T 3:00-5:30PM
AS.200.110	01	NS		**Introduction to Cognitive Psychology** *Flombaum, Jonathan* Introductory survey of current research and theory on topics in cognitive psychology. The course will cover a range of topics in perception, attention, learning, reasoning, and memory, emphasizing relationships among mind, brain, and behavior.	3.00	350	TTh 10:30-11:45AM
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	100	TTh 10:30-11:45AM
AS.200.161	01	S		**Illusions, delusions, and other confusions: Why what you think you know about human nature is (largely) wrong** *Egeth, Howard E*	1.00	13	Th 2:00-2:50PM

Psychological & Brain Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course is suitable for all, but would be especially useful for a student who does not expect to take many (or any) additional psychology or cognitive science courses. We will explore what modern psychology has uncovered about how our intuitions concerning human nature deceive us. Freshmen Only.			
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.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** *Kibbe, Melissa Margret* A survey of the psychological and neurophysiological basis of seeing, hearing, touching, tasting, and smelling.	3.00	70	MWF 9:00-9:50AM
AS.200.301	01	HS		**History Of Psychology** *Hofer, Paul Jeffrey* A survey of leading figures, schools, and systems in the history of psychology. The course will emphasize the development of experimental psychology in late 19th century Germany and its establishment in America at Johns Hopkins, Harvard, Chicago, and Columbia. Special topics will include the development of clinical and applied psychology and psychological testing. Juniors and seniors only. Recommended Coures Background: two prior Psychology courses.	3.00	35	Th 4:30-6:50PM
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.200.315	01	Q		**Advanced Research Design and Analysis** *Mysore, Shreesh Pranesh* Second half of graduate statistics sequence, covering complex research design and analysis. Signature required for undergrad registration.	3.00	25	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.200.325	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.200.328	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. Cross listed with Behavioral Biology. Prerequisite: AS.200.212. Junior and senior Psychology, Behavioral Biology and Cognitive Science majors only OR instructor approval.	3.00	25	M 6:00-8:20PM
AS.200.336	01	S		**Foundations of Mind** *Feigenson, Lisa* An interdisciplinary investigation into the innateness of concepts: perception, number, language, and morality, physics discussed. Evidence from animals, infants, patients, brains. Students collect data in sections investigating claims from the readings. Cross-listed with Cognitive Science and Philosophy.	4.00	25	TTh 1:30-2:45PM; W 10:00-10:50AM
AS.200.336	02	S		**Foundations of Mind**	4.00	25	TTh 1:30-2:45PM; W 2:00-2:50PM
AS.200.336	03	S		**Foundations of Mind**	4.00	25	TTh 1:30-2:45PM; W 3:00-3:50PM
AS.200.343	01	S		**Motivation** *Petri, Herbert*	3.00	25	M 1:30-3:50PM

Psychological & Brain Sciences

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Current biological, behavioral, and cognitive research and theory concerning the motivation of behavior are examined. Both human and non-human animal research is reviewed. Topics include the role of genetics, arousal, biological regulatory systems, incentives, expectancies, attributions, social processes and self-actualization in the general of behavior. Recommended Course Background: AS.200.101 and AS.200.146 or instructor permission.			
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* 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*	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		WF 10:30-11:45AM
AS.200.386	01	S		**Animal Cognition** *Holland, Peter C*	3.00	30	TTh 9:00-10:15AM

Psychological & Brain Sciences

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

Public Health Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.140.106	01	HS		**History of Modern Medicine** *Todes, Daniel P* 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 11:00-11:50AM; F 11:00-11:50AM
AS.140.106	02	HS		**History of Modern Medicine**	3.00	17	MW 11:00-11:50AM; F 11:00-11:50AM
AS.140.106	03	HS		**History of Modern Medicine**	3.00	17	MW 11:00-11:50AM; F 11:00-11:50AM
AS.140.106	04	HS		**History of Modern Medicine**	3.00	17	MW 11:00-11:50AM; F 11:00-11:50AM
AS.140.304	01	HS	W	**Medicine for and by Women in Early Modern Europe** *Pomata, Gianna* This course will examine women's role in early modern European medicine through the reading of early modern medical texts written for or by women. The course is meant for students interested in women's history, the history of medicine, European history.	3.00	20	WF 4:30-5:45PM
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

Public Health Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.230.150	01	S		**Issues in International Development** *Agarwala, Rina* This course will provide an undergraduate level introduction to the study and practice, as well as the successes and failures, of international development. Students will be introduced to the various theoretical frameworks used to explain underdevelopment. Students will also explore the practice of development since the 1950s by examining specific strategies employed in Latin America, South Asia, East Asia, and Africa. Using a variety of country-specific case studies, students will have the opportunity to apply the theoretical and practical frameworks learned in the class to assess the successes and failures of real-life cases. Fufills Economics requirement for GSCD track students only. Cross listed with International Studies (IR). Freshmen and sophomores only.	3.00	30	M 3:00-5:30PM
AS.230.341	01	S		**Medical Sociology** *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. Cross-listed with Public Health Studies.	3.00	15	M 3:00-4:50PM; W 3:00-3:50PM
AS.230.341	02	S		**Medical Sociology**	3.00	15	M 3:00-4:50PM; W 3:00-3:50PM
AS.230.341	03	S		**Medical Sociology**	3.00	15	M 3:00-4:50PM; W 4:00-4:50PM
AS.230.341	04	S		**Medical Sociology**	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		TTh 10:30-11:45AM
AS.280.101	01	S		**Introduction to Public Health** *Alexander, Miriam* An overview of the major concepts and themes in Public Health utilizing the social and natural science disciplines in populations world-wide.	3.00	125	TTh 3:00-4:15PM

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	30	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	30	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.280.347	01	Q		**Health Data Analysis Practicum** *Zeger, Scott* Students will learn to formulate precise scientific and policy questions, design exploratory and confirmatory statistical analyses to address the questions, conduct appropriate analyses using the statistical package R, and communicate their findings through graphical and tabular displays that are presented in writing and in person. The course will be run seminar style in which students conduct data analysis to present to one another in one meeting per week. Evaluation will be through class participation and a final project in which students will analyze their own data set to address a question of their choice.	2.00	12	Th 5:30-7:00PM
AS.280.350	01	Q		**Fundamentals of Epidemiology**	3.00	25	MW 1:30-2:45PM; F 1:30-2:45PM

Public Health Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.280.350	02	Q		**Fundamentals of Epidemiology**	3.00	25	MW 1:30-2:45PM; F 1:30-2:45PM
AS.280.350	03	Q		**Fundamentals of Epidemiology**	3.00	25	MW 1:30-2:45PM; F 1:30-2:45PM
AS.280.350	04	Q		**Fundamentals of Epidemiology**	3.00	25	MW 1:30-2:45PM; F 1:30-2:45PM
AS.280.350	05	Q		**Fundamentals of Epidemiology**	3.00	25	MW 1:30-2:45PM; F 1:30-2:45PM
AS.280.360	01	S		**Clinical & Public Health Behavior Change** *Cheskin, Lawrence J* 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.	3.00	105	TTh 3:00-4:15PM
AS.280.375	01	S		**Cultural Factor Of Public Health** *Laveist, Thomas A* This course covers influence of culture on health policy, management and practice. Also, provides background in disparities in health in the US. Guest speakers include healthcare providers, managers, and policy-makers.	3.00	75	TTh 10:30-11:45AM
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. Open to Seniors and Juniors. Recommended background is at least one prior course in Public Health. Sophomores may enroll if they have taken AS.280.345 (Public Health Biostats) OR have successfully completed at least two public health courses.	3.00	80	TTh 9:00-10:15AM

Public Health Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.280.411	01	S		**"Where You Live Matters": The Role of "Place" in Racial/Ethnic Health Disparities** *Bell, Caryn N* This course will critically examine the impact of place of residence on health outcomes, and on racial/ethnic health disparities. This will be accomplished by examining different definitions and levels of "place", and assessing the impact of each on various health outcomes and racial/health disparities. The role of "place" will be examined in the development of interventions targeting racial/ethnic health disparities. Gordis Teaching Fellowship course.	3.00	7	TTh 10:30-11:45AM
AS.280.411	02	S		**"Where You Live Matters": The Role of "Place" in Racial/Ethnic Health Disparities**	3.00	12	TTh 10:30-11:45AM
AS.280.412	01			**The HIV/AIDS Pandemic: An Enquiry Concerning Epidemiologic Understanding** *Rebeiro, Peter Francis* Students will gain an understanding of the epidemiology of HIV/AIDS that will serve as basis for illustrating modern epidemiologic theory, methods, and practice. Topics will include a review of the natural history and pathogenesis of HIV/AIDS, the spread and current geography of the disease, contemporaneous prevention strategies, and the impact of antiretroviral therapies at the individual and population level. Throughout, a focus on the methods and mindset of epidemiologic enquiry will be emphasized. This will include how epidemiological approaches for characterizing populations, measurements, and inference can be used to build the evidence for public health action. Students will learn through critical analysis and discussion of the peer-reviewed literature coupled with evaluations using short quizzes and a final group presentation. Gordis Teaching Fellowship course. Recommended Course Background: AS.280.345	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		TBA
AS.363.417	01	HS		**Working for Social Justice in Contemporary Urban Space (Internship/Practicum)** *Gottbreht, Thomas Scott* The Feminization of Poverty - This WGS course examines the intersection of gender and poverty in the US and internationally. Students will intern for a Baltimore-area organization that works to improve gender economic equality, and course discussions will situate student experiences in a broader framework of understanding.	4.00	15	T 4:00-6:30PM

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 10:00-10:50AM
AS.230.101	05	S		**Introduction Sociology**	3.00	15	MW 10:00-10:50AM; F 9:00-9:50AM
AS.230.101	06	S		**Introduction Sociology**	3.00	15	MW 10:00-10:50AM; F 11:00-11:50AM
AS.230.101	07	S		**Introduction Sociology**	3.00	15	MW 10:00-10:50AM; F 11:00-11:50AM
AS.230.101	08	S		**Introduction Sociology**	3.00	15	MW 10:00-10:50AM; F 11:00-11:50AM
AS.230.150	01	S		**Issues in International Development** *Agarwala, Rina* This course will provide an undergraduate level introduction to the study and practice, as well as the successes and failures, of international development. Students will be introduced to the various theoretical frameworks used to explain underdevelopment. Students will also explore the practice of development since the 1950s by examining specific strategies employed in Latin America, South Asia, East Asia, and Africa. Using a variety of country-specific case studies, students will have the opportunity to apply the theoretical and practical frameworks learned in the class to assess the successes and failures of real-life cases. Fufills Economics requirement for GSCD track students only. Cross listed with International Studies (IR). Freshmen and sophomores only.	3.00	30	M 3:00-5:30PM
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	25	TTh 1:30-2:45PM
AS.230.244	01	S		**Race and Ethnicity in American Society** *Staff* 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** *Karatasli, Sahan Savas*	3.00	15	TTh 10:30-11:45AM

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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 and on the 2010-2012 global wave of social protest. Required for IS GSCD track students.			
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. In this class, we will explore how diplomatic ties, trade and migration between the thirteenth and eighteenth centuries contribute to the making of cosmopolitan cities such as Quanzhou, Macau, Nagasaki, Fort Zeelandia (Formosa), Malacca, Singapore and Batavia. The course will also address the role that transnational trade and migration networks played in the incorporation of East and Southeast Asia into the Western-led capitalism in the nineteenth century. The course will close with an examination of how the legacies of the long-standing trasnantional maritime connections continue to shape contemporary inter-state competition and negotiation in the region. Key concepts to be introduced include tribute trade system, rice economy, pan-Asianism, and ASEAN free trade zone. Cross listed with East Asia Studies.	3.00	20	TTh 12:00-1:15PM
AS.230.323	01	S	W	**Qualitative Research Practicum** *McDonald, Katrina Bell* This course provides "hands on" research experience applying sociological research tools and a sociological perspective to problems of substance. Qualitative observational and/or interviewing methods will be emphasized. Students will design and carry out a research project and write a research report.	3.00	15	TTh 10:30-11:45AM
AS.230.325	01	S		**Global Social Change and Development Practicum** *Silver, Beverly Judith* 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.	3.00	15	MW 3:00-4:15PM
AS.230.341	01	S		**Medical Sociology** *Agree, Emily*	3.00	15	M 3:00-4:50PM; W 3:00-3:50PM

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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. Cross-listed with Public Health Studies.			
AS.230.341	02	S		**Medical Sociology**	3.00	15	M 3:00-4:50PM; W 3:00-3:50PM
AS.230.341	03	S		**Medical Sociology**	3.00	15	M 3:00-4:50PM; W 4:00-4:50PM
AS.230.341	04	S		**Medical Sociology**	3.00	15	W 4:00-4:50PM; M 3:00-4:50PM
AS.230.346	01	S		**Contemporary 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 ahistorical 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.Cross-listed with the Program in Latin American Studies and International Studies. Fulfills Economics requirement for GSCD students only.	3.00	20	TTh 10:30-11:45AM
AS.230.372	01	S	W	**Social Protest in Contemporary China** *Li, Yao* This class introduces popular resistance in post-1978 China, examining its socioeconomic, political, and cultural background, various types of protests by multiple social groups, and outcomes of protests. Cross listed with Dean's Teaching Fellowship.	3.00	19	MW 4:30-5:45PM
AS.230.376	01	S		**Society of Religion** *Nelson, Timothy* This course addresses two primary questions: What social elements influence the varieties of religious belief, organization and action? What are the consequences of these forms of religious expression for both individuals and for society? In addition to readings and exams, students will also attend two different religious services over the course of the semester.	3.00	20	MW 3:00-4:15PM
AS.230.380	01	S	W	**Poverty and Social Welfare Policy** *Edin, Kathryn*	3.00	30	TTh 9:00-10:15AM

Sociology

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course examines the causes and consequences of U.S. poverty and explores strategies for addressing it, with some comparisons to other rich nations. We cover the major theoretical explanations scholars have advanced to explain the persistence of poverty and inequality including labor markets, residential segregation, welfare policy, family structure, and the criminal justice system. Within each topic area, students are introduced to contemporary policy approaches aimed at alleviating poverty, and evaluations of these approaches.			
AS.230.384	01	S	W	**Global Urbanism: Planet of Slums or World Cities** *Pasciuti, Daniel Steven* Cities are at the forefront of a range of global governance challenges. This course will address the relationship between development and the political and economic structure of the world economy in the built environment of the city. By drawing upon both classical texts about cities (do they still work for us, what can they account for) and on a diverse literature on cities and slums, we will focus our attention to the contemporary challenges faced in cities both in the more developed and in the developing world. Through a variety of disciplinary perspectives we will try to understand the underlying social and economic changes and the profound transformations under way throughout the global urban world. Fulfills IR or CP requirement for International Studies students and Political Sociology (IR or CP) for GSCD track. (Formerly AS.191.349)	3.00	35	TTh 3:00-4:15PM
AS.362.175	01	HS	W	**Black Power Movement** *Hayes, Floyd, III.* This course critically examines trends, developments, contradictions, and dilemmas related to the Black Power Movement for black identity and self-determination in the late 1960s and 1970s.	3.00	15	TTh 1:30-2:45PM

Study of Women, Gender, & Sexuality

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.061.323	01	H		**Masculinities** *Bucknell, Lucy* From tap dancer to gangster, assassin to anguished teen, versions of the male in popular cinema from the silent era to the present	3.00	15	Th 7:30-10:00PM; M 3:00-5:20PM
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.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.213.318	01	H		**The Making of Modern Gender** *Pahl, Katrin* Taught in English. Gender as we know it is not timeless. Today, gender roles and the assumption that there are only two genders are diligently contested and debated. With the binary gender system thus perhaps nearing its end, we might wonder if it had a beginning. In fact, the idea that there are two sexes and that they not only assume different roles in society but also exhibit different character traits, has emerged historically around 1800. Early German Romanticism played a seminal role in the making of modern gender and sexuality. For the first time, woman was considered not a lesser version of man, but a different being with a value of her own. The idea of gender complementation emerged, and this idea, in turn, put more pressure than ever on heterosexuality. In this course, we will explore the role of literature and the other arts in the making and unmaking of gender.	3.00	30	TTh 12:00-1:15PM
AS.290.420	01	S	W	**Human Sexual Orientation** *Kraft, Chris S*	3.00	25	T 3:00-5:30PM

Study of Women, Gender, & Sexuality

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
AS.362.204	01	H	W	**Women in African History** *Romero, Patricia* Selected readings written by or about notable African women from the 17th century to the present. Themes explored include slavery, power and religion, economics, health and politics.	3.00	15	Th 2:00-4:30PM
AS.363.300	01		W	**Thirty Years of AIDS: Fatigue, Failure and Fantasies** *Saria, Vaibhav* This course is designed to study the emergence of the concept of "AIDS Fatigue" that is being used to describe the current moment of this epidemic. Cross-listed with Anthropology	3.00	20	W 2:00-4:30PM
AS.363.410	01			**Worshipped Goddesses, Worshipping Women: Femininity, Religion, and Mythology in Ancient Greece** *Stern, Sarit* This course examines the Greek goddesses and heroines and the ways in which women worshipped them in antiquity, using an interdisciplinary approach, incorporating literary, iconographical, and archaeological evidence.	3.00	25	TTh 9:00-10:15AM
AS.363.417	01	HS		**Working for Social Justice in Contemporary Urban Space (Internship/Practicum)** *Gottbreht, Thomas Scott* The Feminization of Poverty - This WGS course examines the intersection of gender and poverty in the US and internationally. Students will intern for a Baltimore-area organization that works to improve gender economic equality, and course discussions will situate student experiences in a broader framework of understanding.	4.00	15	T 4:00-6:30PM

Theatre Arts & Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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 12:00-1:15PM
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 1:30-2:45PM
AS.225.303	01	H		**Acting or 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 1:30-2:20PM; Th 9:00-10:40AM
AS.225.308	01	H		**Shakespeare in Performance** *Glossman, James* The techniques and craft of following a Shakespearean text directly into character and action. Students will work with a selection of Shakespeare's plays --- A Midsummer Night's Dream, Hamlet, and Richard III --- 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).	3.00	15	M 6:00-8:30PM
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.225.320	01	H		**Performance** *Denithorne, Margaret* The student is given specific acting assignments, and develops them as special projects for public performance under the direct supervision of the instructor. A professional level performance is the goal. Audition Required. Out of class rehearsal time required. Permission only, signature required.	3.00	12	Th 6:00-8:30PM
AS.225.323	01	H		**Design for the Stage**	3.00	15	MW 12:00-1:15PM

Theatre Arts & Studies

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
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
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	M 1:30-4:00PM
AS.225.346	02	H		**Creative Improvisation**	3.00	20	Th 3:00-5:30PM

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* An examination of the screenplay as a literary text and blueprint for production. Professional screenplays will be critically analyzed, with focus on character, dialogue, plot development, conflict, pacing, dramatic foreshadowing, the element of surprise, text and subtext, and visual story-telling. Students write one complete script.	3.00	15	F 1:30-3:50PM
AS.061.373	01	H	W	**Intermediate Dramatic Writing: Film** *Busó-garcía, Roberto* An intensive workshop focusing on methodology: enhancing original characterization, plot development, conflict, story, pacing, dramatic foreshadowing, the element of surprise, text and subtext, act structure, and visual storytelling. Each student is expected to present sections of his/her "screenplay-in-progress" to the class for discussion. The screenplay Chinatown will be used as a basic text.	3.00	15	F 4:30-6:50PM
AS.220.105	01	H	W	**Fiction Poetry Writing I** *Staff* 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**	3.00	15	MWF 10:00-10:50AM
AS.220.105	03	H	W	**Fiction Poetry Writing I**	3.00	15	MWF 10:00-10:50AM
AS.220.105	04	H	W	**Fiction Poetry Writing I**	3.00	15	MWF 10:00-10:50AM
AS.220.105	05	H	W	**Fiction Poetry Writing I**	3.00	15	MWF 11:00-11:50AM
AS.220.105	06	H	W	**Fiction Poetry Writing I**	3.00	15	MWF 11:00-11:50AM
AS.220.105	07	H	W	**Fiction Poetry Writing I**	3.00	15	MWF 11:00-11:50AM
AS.220.105	08	H	W	**Fiction Poetry Writing I**	3.00	15	MWF 12:00-12:50PM
AS.220.105	09	H	W	**Fiction Poetry Writing I**	3.00	15	MWF 12:00-12:50PM
AS.220.105	10	H	W	**Fiction Poetry Writing I**	3.00	15	MWF 12:00-12:50PM
AS.220.105	11	H	W	**Fiction Poetry Writing I**	3.00	15	TTh 9:00-10:15AM
AS.220.105	12	H	W	**Fiction Poetry Writing I**	3.00	15	TTh 10:30-11:45AM
AS.220.105	13	H	W	**Fiction Poetry Writing I**	3.00	15	TTh 10:30-11:45AM
AS.220.105	14	H	W	**Fiction Poetry Writing I**	3.00	15	TTh 12:00-1:15PM
AS.220.105	15	H	W	**Fiction Poetry Writing I**	3.00	15	TTh 10:30-11:45AM
AS.220.105	16	H	W	**Fiction Poetry Writing I**	3.00	15	TTh 12:00-1:15PM
AS.220.105	17	H	W	**Fiction Poetry Writing I** *Xie, Yi*	3.00	15	MWF 11:00-11:50AM
AS.220.105	18	H	W	**Fiction Poetry Writing I** *Frantz, Joseph Kenneth*	3.00	15	MWF 10:00-10:50AM
AS.220.105	19	H	W	**Fiction Poetry Writing I** *Mitchell, Robert*	3.00	15	MWF 10:00-10:50AM
AS.220.105	20	H	W	**Fiction Poetry Writing I** *Winchester, Lauren N*	3.00	15	MWF 12:00-12:50PM

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
AS.220.105	21	H	W	**Fiction Poetry Writing I** *Parker, Emily*	3.00	15	TTh 12:00-1:15PM
AS.220.106	01	H	W	**Fiction Poetry Writing II** *Staff* 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 9:00-9:50AM
AS.220.106	02	H	W	**Fiction Poetry Writing II**	3.00	15	MWF 9:00-9:50AM
AS.220.106	03	H	W	**Fiction Poetry Writing II** *Slovak, Jocelyn M*	3.00	15	MWF 10:00-10:50AM
AS.220.106	04	H	W	**Fiction Poetry Writing II** *Greer, Songmuang S*	3.00	15	MWF 10:00-10:50AM
AS.220.106	05	H	W	**Fiction Poetry Writing II** *Kirby, Gwen E*	3.00	15	MWF 11:00-11:50AM
AS.220.106	06	H	W	**Fiction Poetry Writing II** *Parr, Katherine L*	3.00	15	MWF 11:00-11:50AM
AS.220.106	07	H	W	**Fiction Poetry Writing II** *Takacs, Joselyn W*	3.00	15	MWF 11:00-11:50AM
AS.220.106	08	H	W	**Fiction Poetry Writing II** *Kirby, Gwen E*	3.00	15	MWF 12:00-12:50PM
AS.220.106	09	H	W	**Fiction Poetry Writing II** *Parr, Katherine L*	3.00	15	MWF 12:00-12:50PM
AS.220.106	10	H	W	**Fiction Poetry Writing II** *Takacs, Joselyn W*	3.00	15	MWF 12:00-12:50PM
AS.220.106	11	H	W	**Fiction Poetry Writing II** *Hofmann, Richard Joseph*	3.00	15	TTh 9:00-10:15AM
AS.220.106	12	H	W	**Fiction Poetry Writing II** *Staff*	3.00	15	TTh 10:30-11:45AM
AS.220.106	13	H	W	**Fiction Poetry Writing II**	3.00	15	TTh 10:30-11:45AM
AS.220.106	14	H	W	**Fiction Poetry Writing II**	3.00	15	TTh 12:00-1:15PM
AS.220.106	15	H	W	**Fiction Poetry Writing II**	3.00	15	TTh 12:00-1:15PM
AS.220.106	16	H	W	**Fiction Poetry Writing II**	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** *Siskel, Callie G*	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.220.108	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

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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	T 3:00-5:20PM
AS.220.200	02	H		**Introduction to Fiction** *Blake, Glenn*	3.00	15	Th 3:00-5:20PM
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** *Williamson, Greg W*	3.00	15	W 1:30-3:50PM
AS.220.202	01	H	W	**Introduction to Non-Fiction: Matters of Fact** *Biddle, Wayne* A first course in nonfiction writing, emphasizing how facts can be woven into narrative forms to portray verifiable, rather than imagined, people and events. Students read and discuss model works, then write frequent papers to refine their own style.	3.00	15	W 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	Th 1:30-3:50PM
AS.220.316	01	H	W	**Seminar: Opinion Writing** *Kane, Gregory* The study of exposition and argument in literary prose, with exposure to journalistic practices. Instructor will assign topics on which students write essays and subsequently discuss in class and critique for style, grammar, coherence, and effectiveness. Permission required.	3.00	15	W 7:00-9:20PM
AS.220.324	01	H		**Intermediate Fiction: Landscape & Setting** *Noel, Katharine*	3.00	15	W 3:00-5:20PM

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				An intermediate fiction workshop focusing on the question of place. We'll read 19th, 20th, and 21st century short fiction (including some set in Baltimore) in which setting strongly affects plot. While we'll talk about each story holistically, we'll also spend time discussing how authors make the physical world feel three-dimensional, and how place can lean on--even change--what happens in a story. Students will write stories and exercises, including exercises that involve exploring Baltimore in order to observe and write about the city in which we live.			
AS.220.344	01	H	W	**Intermediate Fiction: The Short-Short Story** *Blake, Glenn* A consideration of the short-short story. Students will weekly present in the short-short story form. We will read the following anthologies: Short Shorts, Flash Fiction, Micro Fiction, and Sudden Fiction.	3.00	15	M 3:00-5:20PM
AS.220.376	01	H	W	**Intermediate Fiction: Outdoor Stories** *Roper, Robert* Students will write sketches and stories, in a class organized around readings in classic texts of wilderness encounter. Hawthorne, Tolstoy, Hemingway, Faulkner, Styron, Cormac McCarthy, Kate Chopin, Melville, McGuane, Conrad. Permission Required.	3.00	15	F 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	14	Th 1:30-3:50PM
AS.220.391	01	H	W	**Performing Poetry & Fiction: An Acting Workshop for Writers** *Yezzi, David D*	3.00	15	W 3:00-5:20PM
AS.220.392	01	H	W	**Intermediate Poetry: Tall Tales and Short on Narrative Poetry** *Yezzi, David D*	3.00	15	T 3:00-5:20PM
AS.220.401	01	H		**Advanced Fiction Workshop** *Davies, Tristan* 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** *McDermott, Alice*	3.00	15	T 3:00-5:20PM
AS.220.409	01	H		**Readings in Fiction: Faulkner, Fitzgerald, & Hemingway** *Irwin, John T* An examination of the fiction of three American modernist masters in the context of the early 20th century movement in the verbal and visual arts. Not a workshop course.	3.00	14	W 3:00-6:00PM
AS.220.411	01	H		**Readings in Poetry: Sex & Death in Contemporary American Poetry** *Scafidi, Steve*	3.00	15	F 1:30-3:50PM

Writing Seminars

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Between sex and death the body has a varied wild life in American poetry. In a survey of contemporary work this seminar will consider the life of the body, its relationship to the imagination and the kaleidoscopic world of the senses. Reading erotic poems, elegies, poems of sickness and health, and of age and youth, we will find an intimate politics of the body. Students will read and respond critically to American poems written over the last fourty years.			
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 2:00-5:00PM
AS.220.427	01	H	W	**Readings in Fiction: The Novella** *Puchner, Eric P* A study of the novella as a literary form. Authors may include Melville, Turgenev, Tolstoy, Chekhov, Kafka, James, Wharton, Baldwin, Porter, Rulfo, Smiley, and others.	3.00	15	Th 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

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	30	MWF 12:00-12:50PM; Th 9:00-9:50AM
EN.550.112	02	EQ		**Statistical Analysis II**	4.00	30	MWF 12:00-12:50PM; Th 10:30-11:20AM
EN.550.112	03	EQ		**Statistical Analysis II**	4.00	30	MWF 12:00-12:50PM; Th 12:00-12:50PM
EN.550.112	04	EQ		**Statistical Analysis II**	4.00	30	MWF 12:00-12:50PM; Th 3:00-3:50PM
EN.550.112	05	EQ		**Statistical Analysis II**	4.00	30	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.550.112	07	EQ		**Statistical Analysis II**	4.00	25	MWF 12:00-12:50PM; Th 4:30-5:20PM
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	20	MWF 10:00-10:50AM; Th 9:00-9:50AM
EN.550.171	04	Q		**Discrete Mathematics**	4.00	20	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	25	MW 1:30-2:45PM; T 9:00-9:50AM
EN.550.211	02	Q		**Probability and Statistics for the Life Sciences**	4.00	25	MW 1:30-2:45PM; T 10:30-11:20AM
EN.550.211	03	Q		**Probability and Statistics for the Life Sciences**	4.00	25	MW 1:30-2:45PM; T 12:00-12:50PM
EN.550.211	04	Q		**Probability and Statistics for the Life Sciences**	4.00	25	MW 1:30-2:45PM; T 1:30-2:20PM
EN.550.211	05	Q		**Probability and Statistics for the Life Sciences**	4.00	25	MW 1:30-2:45PM; T 4:30-5:20PM
EN.550.251	01	EQ		**Math Models/Decision Mkg** *Castello, Beryl* Prereq: One semester of calculus This course is an introduction to management science and the quantitative approach to decision making. Our focus will be on deterministic models, in which we assume that all problem parameters are known with certainty. The covered topics may include Linear and Integer Programming, Network Models, Inventory Models (Stationary Demand), Nonlinear Programming, Goal Programming, and Dynamic Programming. We emphasize model development and case studies, using spreadsheets and other computer software. The applications we study occur in manufacturing and transportation systems, as well as in finance and general management.	4.00	25	MW 3:00-4:15PM; Th 9:00-9:50AM
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*	4.00	30	MWF 11:00-11:50AM; 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 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 co-requisite: multivariable calculus. Students cannot receive credit for both EN.550.310 and EN.550.311. Students cannot receive credit for EN.550.310 after having received credit for En.550.420 or EN.550.430.			
EN.550.310	02	EQ		**Probability & Statistics for the Physical and Information Sciences & Engineering**	4.00	30	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	30	MWF 11:00-11:50AM; T 4:30-5:20PM
EN.550.311	01	EQ		**Probability and Statistics for the Biological Sciences and Engineering** *Staff* 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	4.00	30	MWF 10:00-10:50AM; T 1:30-2:20PM
EN.550.311	02	EQ		**Probability and Statistics for the Biological Sciences and Engineering**	4.00	30	MWF 10:00-10:50AM; T 3:00-3:50PM
EN.550.311	03	EQ		**Probability and Statistics for the Biological Sciences and Engineering**	4.00	30	MWF 10:00-10:50AM; T 4:30-5:20PM
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*	4.00	25	MWF 1:30-2:20PM; Th 10:30-11:20AM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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			
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	35	TTh 10:30-11:45AM; F 9:00-9:50AM
EN.550.388	01	EQ		**Scientific Computing: Differential Equations in Vector Spaces** *Eyink, Gregory* A first course on computational differential equations in vector spaces and applications, a continuation of EN.550.385. Topics include root-finding for nonlinear systems of equations (bisection, 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) and boundary-value problems (shooting method, relaxation) for ordinary differential equations in finite-dimensional vector spaces. 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.	4.00	25	MWF 9:00-9:50AM; T 9:00-9:50AM
EN.550.420	01	EQ		**Intro To Probability** *Wierman, John Charles*	4.00	25	MWF 1:30-2:20PM; Th 10:30-11:20AM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
EN.550.420	02	EQ		**Intro To Probability**	4.00	25	MWF 1:30-2:20PM; Th 12:00-12:50PM
EN.550.420	03	EQ		**Intro To Probability**	4.00	25	MWF 1:30-2:20PM; Th 9:00-9:50AM
EN.550.420	04	EQ		**Intro To Probability**	4.00	25	MWF 1:30-2:20PM; Th 3:00-3:50PM
EN.550.426	01	EQ		**Introduction to Stochastic Processes** *Wierman, John Charles* 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.	4.00	25	MWF 11:00-11:50AM; T 10:30-11:20AM
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** *Capponi, Agostino* 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 4:30-5:45PM; T 9:00-9:50AM
EN.550.430	01	EQ		**Introduction to Statistics** *Naiman, Daniel Q* 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	30	MWF 9:00-9:50AM; Th 10:30-11:20AM
EN.550.430	02	EQ		**Introduction to Statistics**	4.00	30	MWF 9:00-9:50AM; Th 12:00-12:50PM
EN.550.430	03	EQ		**Introduction to Statistics**	4.00	30	Th 3:00-3:50PM; MWF 9:00-9:50AM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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	30	MWF 9:00-9:50AM; Th 10:30-11:20AM
EN.550.439	02	EQ		**Time Series Analysis**	4.00	20	MWF 9:00-9:50AM; Th 10:30-11:20AM
EN.550.445	01	EQ		**Interest Rate and Credit Derivatives** *Audley, David* 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.	4.00	30	MW 12:00-1:15PM; F 12:00-12:50PM
EN.550.445	02	EQ		**Interest Rate and Credit Derivatives**	4.00	20	MW 12:00-1:15PM; F 12:00-12:50PM
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	30	MW 3:00-4:15PM; T 10:30-11:20AM
EN.550.448	02	EQ		**Financial Engineering and Structured Products**	4.00	20	MW 3:00-4:15PM; T 10:30-11:20AM
EN.550.472	01	Q		**Graph Theory** *Basu, Amithabh* 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	25	MWF 9:00-9:50AM; Th 10:30-11:20AM

Applied Mathematics & Statistics

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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	35	MW 4:30-5:45PM

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.530.426	01	E		**Biofluid Mechanics** *Mittal, Rajat* Course will cover selected topics from physiological fluid dynamics, including respiratory flow patterns, blood flow and pulse propagation, aerodynamics of phonation and speech, rheology of blood flow in the microcirculation, aquatic animal propulsion, and animal flight.	3.00	30	TTh 1:30-2:45PM
EN.530.448	01	E		**Biosolid Mechanics** *Nguyen, Thao D* This class will introduce fundamental concepts of statics and solid mechanics and apply them to study the mechanical behavior bones, blood vessels, and connective tissues such as tendon and skin. Topics to be covered include concepts of small and large deformation, stress, constitutive relationships that relate the two, including elasticity, anisotropy, and viscoelasticity, and experimental methods. Recommended Course Background: AS.110.201 and AS.110.302, as well as a class in statics and mechanics	3.00	25	TBA
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	55	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	10	TTh 4:30-5:45PM
EN.580.222	01	E		**Systems and Controls** *Sarma, Sridevi* 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**	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	05	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	05	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	55	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	55	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	18	TTh 4:30-5:45PM
EN.580.415	01	S	W	**Ethics of Biomedical Engineering Innovation** *Macgabhann, Feilim*	3.00	20	TTh 3:00-4:15PM

Biomedical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Engineers confront problems and make decisions that hold long term social consequences for individuals, organizations, communities and the profession. For biomedical engineers, these decisions may relate to: inventions such as medical devices and pharmaceuticals; neural prosthetics and synthetic biological organisms; responsible and sustainable design; availability of biotechnology in the developing world. Using a combination of cases, fieldwork and readings, we examine the ethical issues, standards, theory and consequences of recent and emerging engineering interventions as a way to understand the profession and to form a basis for future decisions. In addition students will learn and practice multiple forms of communication, including oral, visual and written rhetoric. A particular focus will be communication targeted to different stakeholders including other professionals and the public. Students will apply good communication principle to the discussion of biomedical engineering ethics, develop their own ethical case studies and participate in group projects to aid ethical decision-making, and to improve communication of complex biomedical ethical issues to others. Co-listed with 661.425			
EN.580.420	01	EN		**Build-a-Genome** *Bader, Joel S* 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.	4.00	8	MWF 5:00-6:20PM
EN.580.422	01	EN		**Systems Bioengineering II** *Wang, Xiaoqin*	4.00	35	MWF 1:30-2:20PM; Th 10:30-11:20AM

Biomedical Engineering

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				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).			
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.580.442	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

Biomedical Engineering

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EN.580.448	01	E		**Biomechanics of the Cell** *Spector, Alexander A* Mechanical aspects of the cell are introduced using the concepts in continuum mechanics. We will discuss the role of proteins, membranes and cytoskeleton in cellular function and how to describe them using simple mathematical models. Co-listed with EN.530.410 Recommended course background: AS.171.101 -102, AS.110.108-109 and AS.110.202	3.00	20	TTh 4:00-5:15PM
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.	2.00	8	TF 12:00-2:00PM
EN.580.452	02	EN		**Cell and Tissue Engineering Lab**	2.00	8	TF 2:00-4:00PM
EN.580.456	01	E		**Introduction to Rehabilitation Engineering** *Paul, Scott Mitchell* The primary objective of this course is to introduce biomedical engineering students to the challenges of engineering solutions for persons functioning with disabilities. In order to achieve this goal, other objectives include: gaining a basic appreciation of the modalities used to treat impairments, the opportunities for application of engineering to improve treatment delivery, understanding the science and engineering applied to helping persons with disabilities function in the everyday world and an basic knowledge of the legal, ethical issues and employment opportunities in rehabilitation engineering. By the conclusion of the course, students should be able to: • Understand the breadth and scope of physical impairment and disability and its associated pathophysiology • Characterize the material and design properties of current modalities of treatment of impairments and adaptations for disability • Apply engineering analysis and design principles to critique current and design new solutions for persons with disabilities	3.00	20	TTh 3:00-4:15PM
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	TTh 9:00-10:15AM
EN.580.473	01	EN		**Modern Biomedical Imaging Instrumentation and Techniques**	3.00	10	TTh 9:00-10:15AM

Biomedical Engineering

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				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** *Bottomley, Paul A* 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.580.491	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* 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.	4.00	4	MWF 5:00-6:20PM

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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	06	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; Th 3:00-3:50PM
EN.660.105	07	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; M 1:30-2:20PM
EN.660.105	08	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; 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*	3.00	35	TTh 4:30-5:45PM
EN.660.250	01			**Principles of Marketing** *Kendrick, Leslie*	3.00	40	MW 12:00-1:15PM

Center for Leadership Education

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				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.			
EN.660.250	02			**Principles of Marketing** *Quesenberry, Keith*	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 Darlene*	3.00	35	W 6:15-9:00PM
EN.660.250	05			**Principles of Marketing** *Staff*	3.00	35	T 6:15-9:00PM
EN.660.300	01			**Managerial Finance** *Staff* 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	30	M 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*	3.00	35	M 6:15-9:00PM

Center for Leadership Education

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				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.			
EN.660.308	02	S		**Business Law I** *Rakes, W Bryan*	3.00	35	W 6:15-9:00PM
EN.660.310	01	H		**Case Studies in Business Ethics** *Sandhaus, Douglas* 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	T 6:15-9:00PM
EN.660.311	01	S		**Law and the Internet** *Franceschini, Mark* 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	W 6:15-9:00PM
EN.660.331	01			**Leadership in Teams** *Smedick, William D*	3.00	30	TTh 5:00-6:15PM

Center for Leadership Education

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				This course will allow students to develop the analytical skills needed to effectively lead and work in teams. Students will learn tools and techniques for problem solving, decision-making, conflict resolution, task management, communications, and goal alignment in team settings. They will also learn how to measure team dynamics and performance, and assess methods for building and sustaining high-performance teams. Students will also explore their own leadership, personality and cognitive styles and learn how these may affect their performance in a team. The course will focus on team-based experiential projects and exercises as well as provide opportunities to individually reflect and write about the concepts explored and skills gained throughout the course. 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	MWF 12:00-12:50PM
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

Center for Leadership Education

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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	30	M 1:30-4:15PM
EN.660.352	01			**New Product Development** *Agronin, Michael* 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.660.370	01			**Multinational Firms in the International Economy** *Heisenberg, Dorothee* This course on international business focuses on relationships between multinational firms and national governments throughout the world. We will read historical and contemporary authors' conceptualizations of these relationships in the US and around the world. Students will apply concepts from the readings to real-world situations. The course is capped at 25 to allow discussion. No audits.	3.00	25	TTh 9:00-10:15AM
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.660.411	01			**Corporate Strategy and Business Failure** *Aronhime, Lawrence*	3.00	24	TTh 10:30-11:45AM

Center for Leadership Education

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				The purpose of this course is to bring together theories of corporate strategy and the tools and techniques of strategy consulting. Students will address these in terms of historical case studies where they will have the opportunity to "fix" famous examples of corporate failure. Students will analyze the political, economic, social, and technological contexts of these cases while applying standard tools to the analysis of competing strategic plans.			
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	25	TTh 10:30-11:45AM

Center for Leadership Education

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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* 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. No audits. (course title changed 9/2010; formerly Communicating, Marketing, and Working on the Web, though never actually offered with this title.)	3.00	19	TTh 12:00-1:15PM
EN.661.110	01		W	**Professional Communication for Science, Business and Industry** *Thompson, Jay Richard*	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** *O'Donnell, Charlotte Alyssa*	3.00	19	TTh 10:30-11:45AM
EN.661.110	04		W	**Professional Communication for Science, Business and Industry** *Wilkins, Caroline A*	3.00	19	TTh 12:00-1:15PM
EN.661.110	05		W	**Professional Communication for Science, Business and Industry**	3.00	19	TTh 1:30-2:45PM
EN.661.110	06		W	**Professional Communication for Science, Business and Industry** *Parris, Benjamin Clay*	3.00	19	MW 12:00-1:15PM
EN.661.110	07		W	**Professional Communication for Science, Business and Industry**	3.00	19	MW 1:30-2:45PM
EN.661.111	01		W	**Professional Communication for ESL Students** *Davis, Laura* 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. Co-listed with EN.661.611. No audits.	3.00	19	TTh 4:30-5:45PM
EN.661.150	01		W	**Oral Presentations** *Dungey, Kevin R*	3.00	13	M 3:00-5:45PM

Center for Leadership Education

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				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.			
EN.661.150	02		W	**Oral Presentations**	3.00	13	M 6:15-9:00PM
EN.661.150	03		W	**Oral Presentations** *Reiser, Julie*	3.00	13	T 1:30-4:15PM
EN.661.150	04		W	**Oral Presentations** *Heiserman, Jason*	3.00	13	T 4:30-7:15PM
EN.661.150	05		W	**Oral Presentations** *Reiser, Julie*	3.00	13	W 1:30-4:15PM
EN.661.150	06		W	**Oral Presentations** *O'Donnell, Charlotte Alyssa*	3.00	13	W 5:00-7:45PM
EN.661.150	07		W	**Oral Presentations** *Kulanko, Andrew*	3.00	13	Th 1:30-4:15PM
EN.661.150	08		W	**Oral Presentations**	3.00	13	Th 5:00-7:45PM
EN.661.151	01		W	**Oral Presentations for ESL** *Davis, Laura* 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. Co-listed with EN.661.651. No audits.	3.00	13	W 1:30-4:15PM
EN.661.170	01			**Visual Rhetoric** *O'Donnell, Charlotte Alyssa* 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 (Adobe Creative Suite) and MS Office software. Topics will include logos, letterhead, event posters, brochures, data graphics and some basic web design. No audits.	3.00	15	T 1:30-4:15PM
EN.661.315	01	S	W	**The 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 sophomores, juniors and seniors or by permission of instructor.			
EN.661.315	02	S	W	**The Culture of the Engineering Profession** *Sheff, Pamela*	3.00	24	TTh 12:00-1:15PM
EN.661.317	01	S	W	**The 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 in 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	M 1:30-4:15PM
EN.661.454	01		W	**Blogging, Editing and Copywriting** *Quesenberry, Keith*	3.00	19	MW 1:30-2:45PM

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. Co-listed with EN.661.654. No audits. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars).			

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	25	MWF 1:30-2:20PM; T 3:00-4:50PM
EN.540.202	02	E		**Introduction to Chemical & Biological Process Analysis**	4.00	25	MWF 1:30-2:20PM; Th 4:30-6:20PM
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	40	MWF 3:00-3:50PM
EN.540.301	01	E		**Kinetic Processes** *Goffin, An* 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.	3.00	50	MWF 11:00-11:50AM
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*	3.00	100	TTh 3:00-4:15PM

Chemical & Biomolecular Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
EN.540.310	01	EN		**Chemical and Biomolecular Engineering Design: Spring** *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.	3.00	18	TBA
EN.540.314	01	E		**Chemical Engineering Poduct & Process Design** *Goffin, An*	4.00	16	MW 1:30-4:15PM

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.			
EN.540.314	02	E		**Chemical Engineering Poduct & Process Design** *Donohue, Marc D*	4.00	16	TTh 9:00-11:45AM
EN.540.314	03	E		**Chemical Engineering Poduct & Process Design** *Dahuron, Lise*	4.00	16	TTh 1:30-4:15PM
EN.540.314	04	E		**Chemical Engineering Poduct & Process Design** *Goffin, An*	4.00	16	WF 10:00AM-12:45PM
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.540.405	01			**The Design of Biomolecular Systems** *Schulman, Rebecca* This course covers new topics in the design of systems of biomolecules, both in vitro and in vivo, for decision making and control. The course will begin with an overview of how logical decision making and control with biomolecules as is achieved in biology and then proceed to consider various strategies of engineering similar systems. The focus of the course will be on systems level principles rather than the biochemistry of molecule design. Topics will include engineering of transcriptional networks and genetic control for logically programming of cells, the design of in vitro mimics of genetic controls, molecular computing and systems aspects of metabolic engineering. The course will also cover quantitative and computational techniques for the simulation and analysis of biomolecular systems. Co-listed with EN.540.605	3.00	20	TTh 10:30-11:45AM
EN.540.419	01			**Projects in the Design of a Chemical Car** *Dahuron, Lise*	2.00	20	W 5:00-6:40PM

Chemical & Biomolecular Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
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	T 4:30-6:00PM; Th 5:00-6:30PM
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	MW 10:30-11:45AM
EN.540.459	01	E		**Bioengineering in Regenerative Medicine** *Gerecht, Sharon* Introduction and in-depth discussion course focused on tissue and stem cell engineering. The course will focus on principles in tissue engineering, mechanisms of regeneration, and stem cell therapies. Topics will include introduction to regenerative medicine, bioreactors and scaffolds in tissue engineering, adult and pluripotent stem cells, engineering the niche, and two sessions will focus on legal and ethical issues. Selected approaches to analyze tissues and stem cell culture will also be discussed. In addition, the course will be integrated with graduate students' presentations on selected topics in stem cell engineering. Recommended Course Background: AS.020.306 or EN.580.221. Co-listed with EN.540.659	3.00	30	MW 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** *Nakata, Narutoshi* 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; W 4:00-6:00PM
EN.560.202	03	E		**Dynamics**	4.00	8	TTh 10:30-11:45AM; Th 4:00-6:00PM
EN.560.202	04	E		**Dynamics**	4.00	8	TTh 10:30-11:45AM; F 2:00-4:00PM
EN.560.202	05	E		**Dynamics**	4.00	8	TTh 10:30-11:45AM; F 4:00-6:00PM
EN.560.206	01	E		**Solid Mechanics & Theory of Structures** *Graham-Brady, Lori* 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 11:30AM-12:30PM
EN.560.348	01	E		**Probability & Statistics in Civil Engineering** *Siddiqui, Sauleh A*	3.00	162	TTh 9:00-10:15AM

Civil Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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			
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 4:30-7:10PM
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	F 1:30-4:20PM
EN.560.481	01	E		**Engineering Design of Underwater Life Support** *Marr, William J* The physiological and psychological aspects of man in the sea are presented with the related engineering requirements. Topics include hyperbaric physiology, decompression theory, carbon dioxide absorption, thermal protection, psychrometrics. saturation diving, life support equipment, deep dive systems, diving operations and hazards.	3.00	20	TTh 10:30-11:45AM
EN.560.491	01	E		**Civil Engineering Seminar I** *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.560.492	01	E		**Civil Engineering Seminar II** *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.560.493	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
EN.560.498	01	E		**Survey of Systems Engineering Tools** *Igusa, Takeru* Introduction to analytical tools in the three major functional areas of systems engineering: design, analysis and control. Recommended Corequisite: EN.560.348 or equivalent course in probability theory.	3.00	30	TTh 1:30-2:50PM

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.520.447	01	EQ		**Information Theory** *Khudanpur, Sanjeev* This course will address some basic scientific questions about systems that store or communicate information. Mathematical models will be developed for (1) the process of error-free data compression leading to the notion of entropy, (2) data (e.g. image) compression with slightly degraded reproduction leading to rate-distortion theory and (3) error-free communication of information over noisy channels leading to the notion of channel capacity. It will be shown how these quantitative measures of information have fundamental connections with statistical physics (thermodynamics), computer science (string complexity), economics (optimal portfolios), probability theory (large deviations), and statistics (Fisher information, hypothesis testing).	3.00	50	MWF 1:30-2:20PM
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*	1.00	20	W 6:00-8:00PM

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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. Computer Science Majors Only			
EN.600.107	01	E		**Introductory Programming in Java** *Selinski, Joanne F* This course introduces the fundamental programming concepts and techniques in Java and is intended for all who plan to use computer programming in their studies and careers. Topics covered include control structures, arrays, functions, recursion, dynamic memory allocation, simple data structures, files, and structured program design. Elements of object-oriented design and programming are also introduced. Students without prior exposure are strongly advised to also take EN.600.108. Students should be familiar with computers	3.00	140	MW 1:30-2:45PM
EN.600.108	01	E		**Introduction to Programming Lab** *Selinski, Joanne F* The purpose of this course is to give novice 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. Sections 1-3 are for 107 students, sections 4-6 are for 112 students. Satisfactory/Unsatisfactory only	1.00	18	W 6:00-9:00PM
EN.600.108	02	E		**Introduction to Programming Lab**	1.00	18	Th 4:30-7:30PM
EN.600.108	03	E		**Introduction to Programming Lab**	1.00	18	F 1:30-4:30PM
EN.600.120	01	E		**Intermediate Programming** *Amir, Yair* 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: EN.600.107, EN.600.111/EN.600.112 or equivalent.	4.00	25	MWF 3:00-4:15PM
EN.600.120	02	E		**Intermediate Programming**	4.00	25	MWF 4:30-5:45PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.600.226	01	EQ		**Data Structures** *Froehlich, Peter* 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: EN.600.107 or EN.600.120 or equivalent.	4.00	30	MWF 12:00-1:15PM
EN.600.226	02	EQ		**Data Structures**	4.00	30	MWF 12:00-1:15PM
EN.600.250	01	E		**User Interfaces and Mobile Applications** *Selinski, Joanne F* This course will provide students with a rich development experience, focussed 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.	3.00	75	TTh 1:30-2:45PM
EN.600.316	01	E		**Database Systems** *Ahmad, Yanif N* 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.	3.00	20	MW 12:00-1:15PM
EN.600.318	01	E		**Operating Systems** *Froehlich, Peter*	4.00	30	MWF 10:00-10:50AM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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			
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] EN.600.333 recommended. Students may receive credit for EN.600.320 or EN.600.420, but not both.	3.00	30	MW 4:30-5:45PM
EN.600.325	01	E		**Declarative Methods** *Eisner, Jason*	3.00	30	MWF 3:00-4:15PM

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
EN.600.335	01	E		**Artificial Intelligence** *Mitchell, Benjamin Rees* 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** *Terzis, Andreas* 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 1:30-2:45PM
EN.600.355	01	E		**Video Game Design Project** *Froehlich, Peter*	3.00	20	W 4:30-7:30PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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 limited to ensure parity between the various disciplines. Junior or senior standing recommended.			
EN.600.363	01	EQ		**Introduction To Algorithms** *Braverman, Vladimir* 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.	3.00	30	TTh 9:00-10:15AM
EN.600.402	01	E		**Medical Informatics** *Lehmann, Harold P*	1.00	30	MW 4:30-5:45PM
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, 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 1:30-4:20PM
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*	3.00	40	MW 4:30-5:45PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
EN.600.424	01	E		**Network Security** *Staff* 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* 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	3.00	40	MW 1:30-2:45PM
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**	3.00	30	WF 12:00-1:15PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Mitchell, Benjamin Rees 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.			
EN.600.436	01	E		**Algorithms for Sensor-Based Robotics** *Hager, Gregory* 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.	3.00	30	TTh 12:00-1:15PM
EN.600.444	01	E		**Computer Networks** *Terzis, Andreas* 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 1:30-2:45PM
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

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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; TBA
EN.600.466	01	E		**Information Retrieval and Web Agents** *Yarowsky, David* 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	3.00	60	TTh 3:00-4:15PM
EN.600.468	01	E		**Machine Translation** *Lopez, Adam*	3.00	30	TTh 1:30-2:45PM

Computer Science

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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			
EN.600.475	01	E		**Machine Learning** *Dredze, Mark* This course takes an application driven approach to current topics in machine learning. The course covers supervised learning (classification/structured prediction/regression/ranking), unsupervised learning (dimensionality reduction, bayesian modeling, clustering) and semi-supervised learning. Additional topics may include reinforcement learning and learning theory. The course will also consider challenges resulting from learning applications, such as transfer learning, multi-task learning and large datasets. We will cover popular algorithms (naive Bayes, SVM, perceptron, HMM, winnow, LDA, k-means, maximum entropy) and will focus on how statistical learning algorithms are applied to real world applications. Students in the course will implement several learning algorithms and develop a learning system for a final project. [Applications] Recommended Course Background: multivariate calculus.	3.00	40	MW 1:30-2:45PM
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		**Electron Prop-Material** *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. Recommended Course Background: EN.510.311 and EN.510.202 or another programming course or permission of instructor.	3.00	40	MWF 9:00-9:50AM
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)** *Kang, Jin U* 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** *Elhilali, Mounya* 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	EQ		**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	30	TTh 4:30-5:45PM
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.520.415	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.520.425	01	E		**FPGA Senior Projects Laboratory** *Jenkins, Robert E*	3.00	25	Th 5:00-7:00PM

Electrical & Computer Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Laboratory course for FPGA based senior projects. Students will work in teams to complete a design project that makes use of embedded FPGAs. The projects will make use of the Spartan2 XSA boards and other resources from the FPGA Synthesis lab course. Possible projects include: A 16 or 32 bit RISC processor with student designed ISA architecture, assembler, and mini operating system; or a Spartan2 emulation of an existing microprocessor such as an 8051, an optical communication system to transmit stereo music using various modulation schemes for comparison (This would include FM or AM and at least one digital scheme such as FSK,); or a digital receiver for commercial AM or FM radio. Students are expected to complete a demonstration and produce a poster session final report. Senior status, no exceptions.			
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.520.447	01	EQ		**Information Theory** *Khudanpur, Sanjeev*	3.00	50	MWF 1:30-2:20PM

Electrical & Computer Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will address some basic scientific questions about systems that store or communicate information. Mathematical models will be developed for (1) the process of error-free data compression leading to the notion of entropy, (2) data (e.g. image) compression with slightly degraded reproduction leading to rate-distortion theory and (3) error-free communication of information over noisy channels leading to the notion of channel capacity. It will be shown how these quantitative measures of information have fundamental connections with statistical physics (thermodynamics), computer science (string complexity), economics (optimal portfolios), probability theory (large deviations), and statistics (Fisher information, hypothesis testing).			
EN.520.448	01			**Electronics Design Lab** *Etienne Cummings, Ralph* 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.	3.00	30	W 11:00-11:50AM; F 1:30-4:20PM
EN.520.448	02			**Electronics Design Lab**	3.00	30	W 11:00-11:50AM; W 1:00-3:50PM
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** *Kang, Jin U* 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.520.465	01	EQ		**Digital Communications I** *Davidson, Frederic*	3.00	30	TTh 10:30-11:45AM

Electrical & Computer Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course introduces the basic tools and topics of modern digital communication beginning with the mathematical representation and spectral properties of random signals and a basic introduction to the detection of real and complex signals in the presence of noise. Memoryless modulation and demodulation schemes are thoroughly studied for the Gaussian channel, and measures of performance are developed. Topics in wireless communication will be introduced. Recommended Course Background: EN.520.401, EN.550.310 or EN.550.420			
EN.520.473	01	EN		**Magnetic Resonance in Medicine** *Bottomley, Paul A* 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* 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.	3.00	20	MW 12:00-1:15PM
EN.520.483	01			**Bio-Photonics Laboratory** *Kang, Jin U* 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	W 1:30-4:50PM
EN.520.485	01	EN		**Advanced Semiconductor Devices** *Khurgin, Jacob*	3.00	20	MW 1:30-2:45PM

Electrical & Computer Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
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	TBA
EN.520.499	03	E		**Senior Design Project** *Prince, Jerry Ladd* 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
EN.520.499	04	E		**Senior Design Project** *Andreou, Andreas*	3.00		TBA
EN.520.499	08	E		**Senior Design Project** *West, James E*	3.00		TBA

Engineering Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.660.411	01			**Corporate Strategy and Business Failure** *Aronhime, Lawrence* The purpose of this course is to bring together theories of corporate strategy and the tools and techniques of strategy consulting. Students will address these in terms of historical case studies where they will have the opportunity to "fix" famous examples of corporate failure. Students will analyze the political, economic, social, and technological contexts of these cases while applying standard tools to the analysis of competing strategic plans.	3.00	24	TTh 10:30-11:45AM

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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	06	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; Th 3:00-3:50PM
EN.660.105	07	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; M 1:30-2:20PM
EN.660.105	08	S	W	**Introduction to Business**	4.00	25	MWF 12:00-12:50PM; 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*	3.00	35	TTh 4:30-5:45PM
EN.660.250	01			**Principles of Marketing** *Kendrick, Leslie*	3.00	40	MW 12:00-1:15PM

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
EN.660.250	02			**Principles of Marketing** *Quesenberry, Keith*	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 Darlene*	3.00	35	W 6:15-9:00PM
EN.660.250	05			**Principles of Marketing** *Staff*	3.00	35	T 6:15-9:00PM
EN.660.300	01			**Managerial Finance** *Staff* 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	30	M 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*	3.00	35	M 6:15-9:00PM

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
EN.660.308	02	S		**Business Law I** *Rakes, W Bryan*	3.00	35	W 6:15-9:00PM
EN.660.310	01	H		**Case Studies in Business Ethics** *Sandhaus, Douglas* 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	T 6:15-9:00PM
EN.660.311	01	S		**Law and the Internet** *Franceschini, Mark* 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	W 6:15-9:00PM
EN.660.331	01			**Leadership in Teams** *Smedick, William D*	3.00	30	TTh 5:00-6:15PM

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				This course will allow students to develop the analytical skills needed to effectively lead and work in teams. Students will learn tools and techniques for problem solving, decision-making, conflict resolution, task management, communications, and goal alignment in team settings. They will also learn how to measure team dynamics and performance, and assess methods for building and sustaining high-performance teams. Students will also explore their own leadership, personality and cognitive styles and learn how these may affect their performance in a team. The course will focus on team-based experiential projects and exercises as well as provide opportunities to individually reflect and write about the concepts explored and skills gained throughout the course. 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	MWF 12:00-12:50PM
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

Entrepreneurship and Management

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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	30	M 1:30-4:15PM
EN.660.352	01			**New Product Development** *Agronin, Michael* 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.660.370	01			**Multinational Firms in the International Economy** *Heisenberg, Dorothee* This course on international business focuses on relationships between multinational firms and national governments throughout the world. We will read historical and contemporary authors' conceptualizations of these relationships in the US and around the world. Students will apply concepts from the readings to real-world situations. The course is capped at 25 to allow discussion. No audits.	3.00	25	TTh 9:00-10:15AM
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	25	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*	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. No audits. (course title changed 9/2010; formerly Communicating, Marketing, and Working on the Web, though never actually offered with this title.)			

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	50	M 12:00-1:15PM
EN.500.401	02			**Research Laboratory Safety**	1.00	30	M 1:30-2:45PM
EN.500.401	05			**Research Laboratory Safety**	1.00	50	TBA
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** *Wilcock, Peter Richard* 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.570.421	01	E		**Environmental Engineering Design II** *Wilcock, Peter Richard* 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 3:00-5:30PM
EN.570.423	01	N		**Principle of Geomorphology** *Wilcock, Peter Richard*	4.00	35	MWF 12:00-12:50PM; M 1:30-4:50PM

Geography & Environmental Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				Analysis of the factors responsible for the form of the landscape. The concept of the cycle of erosion is discussed primarily in terms of the principles that govern the processes of erosion. Climate, conditions of soil formation, and the distribution of vegetation are considered as they relate to the development of landforms. Recommended Course Background: AS.270.220 or permission required.			
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.Permission Required.	3.00	20	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
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

Geography & Environmental Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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	20	W 1:30-4:30PM
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. Recommended Course Background: EN.570.443	4.00	22	M 1:30-5:20PM; F 1:30-2:45PM
EN.570.452	02	EN	W	**Exper Meth Env Eng Chem**	4.00	22	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. Permission Required.	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. Permission Required.	3.00	20	TBA
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

Geography & Environmental Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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.600.444	01	E		**Computer Networks** *Terzis, Andreas* 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 1:30-2:45PM
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; TBA
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 1:30-2:45PM
EN.510.107	02	N		**Modern Alchemy**	3.00	100	TTh 10:30-11:45AM
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** *Staff* 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	34	MW 1:30-2:45PM
EN.510.313	01	EN		**Mech Property-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. Recommended Course Background: EN.510.311 and EN.510.202 or another programming course, or permission of instructor.	3.00	60	MWF 11:00-11:50AM
EN.510.314	01	EN		**Electron Prop-Material** *Poehler, Theodore O*	3.00	40	MWF 9:00-9:50AM

Materials Science & Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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. Recommended Course Background: EN.510.311 and EN.510.202 or another programming course or permission of instructor.			
EN.510.315	01	EN		**Physical Chem of Mat II** *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. Recommended Course Background: EN.510.311, EN.510.312, and EN.510.202 or another programming course or permission of instructor.	3.00	50	MWF 10:00-10:50AM
EN.510.421	01	EN		**Nanoparticles** *Wilson, Orla* Nanoparticles - one-dimensional materials with diameters of nearly atomic dimension - are one of the most important classes of nanostructured materials because their unusual properties that often differ significantly from bulk materials. This course will explore the synthesis, structure and properties of nanoparticles. Applications of nanoparticles in medicine, optics, sensing, and catalysis will be discussed, with an emphasis will be on metal nanoparticles and semiconductor quantum dots.	3.00	25	MWF 10:00-10:50AM
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	50	TTh 10:30-11:45AM
EN.510.424	01	EN	W	**Physical Science of Paper** *Baty, John William*	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	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	MF 1:30-4:30PM

Materials Science & Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.510.434	01	EN		**Senior Design/Research II** *Wilson, Orla* 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	3.00	30	W 3:00-4:15PM; M 12:00-12:50PM
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	M 12:00-12:50PM; 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	M 12:00-12:50PM; W 3:00-4:15PM

Mechanical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
EN.520.353	01	EQ		**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	30	TTh 4:30-5:45PM
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	60	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	60	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	15	Th 9:00-11:50AM
EN.530.106	02	E		**Mechanical Engineering Freshman Laboratory II**	1.00	15	Th 3:00-5:50PM
EN.530.106	03	E		**Mechanical Engineering Freshman Laboratory II**	1.00	15	F 12:00-2:50PM
EN.530.106	04	E		**Mechanical Engineering Freshman Laboratory II**	1.00	15	F 3:00-5:50PM
EN.530.202	01	E		**Dynamics** *Nakata, Narutoshi*	4.00	12	TTh 10:30-11:45AM; W 2:00-3:50PM

Mechanical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
EN.530.202	02	E		**Dynamics**	4.00	12	TTh 10:30-11:45AM; W 4:00-5:50PM
EN.530.202	03	E		**Dynamics**	4.00	12	TTh 10:30-11:45AM; Th 4:00-5:50PM
EN.530.202	04	E		**Dynamics**	4.00	12	TTh 10:30-11:45AM; F 2:00-3:50PM
EN.530.202	05	E		**Dynamics**	4.00	12	TTh 10:30-11:45AM; F 4:00-5:50PM
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	70	TBA
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 6:00-7:00PM
EN.530.216	02	E		**Mechanics Based Design Laboratory**	1.00	12	T 3:30-5:50PM; T 6:00-7:00PM
EN.530.216	03	E		**Mechanics Based Design Laboratory**	1.00	12	W 3:30-5:20PM; T 6:00-7:00PM
EN.530.216	04	E		**Mechanics Based Design Laboratory**	1.00	12	Th 1:30-3:20PM; T 6:00-7:00PM
EN.530.216	05	E		**Mechanics Based Design Laboratory**	1.00	12	Th 3:30-5:20PM; T 6:00-7:00PM
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	22	MWF 1:30-2:20PM; W 4:00-6:50PM
EN.530.241	02	E		**Electronics & Instrumentation**	4.00	22	MWF 1:30-2:20PM; W 7:00-9:50PM
EN.530.241	03	E		**Electronics & Instrumentation**	4.00	22	MWF 1:30-2:20PM; Th 6:00-8:50PM
EN.530.328	01	E		**Fluid Mechanics II** *Meneveau, Charles V* Linear and angular momentum in integral form, applications to turbomachines. The Navier-Stokes equations. Inviscid flow. Laminar viscous flow. Boundary layers. Turbulence. Compressible flows. Projects using computational tools, design of pipe network.	3.00	30	TTh 10:30-11:45AM
EN.530.334	01	E		**Heat Transfer** *Herman, Cila*	3.00	60	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	15	TBA; W 6:00-6:50PM
EN.530.335	02	E		**Heat Transfer Laboratory**	1.00	15	W 6:00-6:50PM; TBA
EN.530.335	03	E		**Heat Transfer Laboratory**	1.00	15	TBA; W 6:00-6:50PM
EN.530.335	04	E		**Heat Transfer Laboratory**	1.00	15	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.530.354	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 10:00-10:50AM
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	60	TBA
EN.530.404	01	E	W	**Engineering Design Project II**	4.00	62	TBA

Mechanical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
				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.			
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	TTh 4:30-5:45PM
EN.530.421	01	E		**Mechatronics** *Chirikjian, Gregory Scott* 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	15	M 1:00-3:50PM; W 8:00-8:50AM
EN.530.421	02	E		**Mechatronics**	3.00	15	T 1:00-3:50PM; W 8:00-8:50AM
EN.530.421	03	E		**Mechatronics**	3.00	15	W 1:00-3:50PM; W 8:00-8:50AM
EN.530.426	01	E		**Biofluid Mechanics** *Mittal, Rajat* Course will cover selected topics from physiological fluid dynamics, including respiratory flow patterns, blood flow and pulse propagation, aerodynamics of phonation and speech, rheology of blood flow in the microcirculation, aquatic animal propulsion, and animal flight.	3.00	30	TTh 1:30-2:45PM
EN.530.432	01	E		**Jet & Rocket Propulsion** *Katz, Joseph*	3.00	50	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	TBA
EN.530.448	01	E		**Biosolid Mechanics** *Nguyen, Thao D* This class will introduce fundamental concepts of statics and solid mechanics and apply them to study the mechanical behavior bones, blood vessels, and connective tissues such as tendon and skin. Topics to be covered include concepts of small and large deformation, stress, constitutive relationships that relate the two, including elasticity, anisotropy, and viscoelasticity, and experimental methods. Recommended Course Background: AS.110.201 and AS.110.302, as well as a class in statics and mechanics	3.00	25	TBA

Mechanical Engineering

Crse	Sect	Area	WI	Title	Credits	Limit	Day/Time
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

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 Richard* 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** *O'Donnell, Charlotte Alyssa*	3.00	19	TTh 10:30-11:45AM
EN.661.110	04		W	**Professional Communication for Science, Business and Industry** *Wilkins, Caroline A*	3.00	19	TTh 12:00-1:15PM
EN.661.110	05		W	**Professional Communication for Science, Business and Industry**	3.00	19	TTh 1:30-2:45PM
EN.661.110	06		W	**Professional Communication for Science, Business and Industry** *Parris, Benjamin Clay*	3.00	19	MW 12:00-1:15PM
EN.661.110	07		W	**Professional Communication for Science, Business and Industry**	3.00	19	MW 1:30-2:45PM
EN.661.111	01		W	**Professional Communication for ESL Students** *Davis, Laura* 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. Co-listed with EN.661.611. No audits.	3.00	19	TTh 4:30-5:45PM
EN.661.150	01		W	**Oral Presentations** *Dungey, Kevin R*	3.00	13	M 3:00-5:45PM

Professional Communication

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.			
EN.661.150	02		W	**Oral Presentations**	3.00	13	M 6:15-9:00PM
EN.661.150	03		W	**Oral Presentations** *Reiser, Julie*	3.00	13	T 1:30-4:15PM
EN.661.150	04		W	**Oral Presentations** *Heiserman, Jason*	3.00	13	T 4:30-7:15PM
EN.661.150	05		W	**Oral Presentations** *Reiser, Julie*	3.00	13	W 1:30-4:15PM
EN.661.150	06		W	**Oral Presentations** *O'Donnell, Charlotte Alyssa*	3.00	13	W 5:00-7:45PM
EN.661.150	07		W	**Oral Presentations** *Kulanko, Andrew*	3.00	13	Th 1:30-4:15PM
EN.661.150	08		W	**Oral Presentations**	3.00	13	Th 5:00-7:45PM
EN.661.151	01		W	**Oral Presentations for ESL** *Davis, Laura* 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. Co-listed with EN.661.651. No audits.	3.00	13	W 1:30-4:15PM
EN.661.170	01			**Visual Rhetoric** *O'Donnell, Charlotte Alyssa* 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 (Adobe Creative Suite) and MS Office software. Topics will include logos, letterhead, event posters, brochures, data graphics and some basic web design. No audits.	3.00	15	T 1:30-4:15PM
EN.661.315	01	S	W	**The 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 sophomores, juniors and seniors or by permission of instructor.			
EN.661.315	02	S	W	**The Culture of the Engineering Profession** *Sheff, Pamela*	3.00	24	TTh 12:00-1:15PM
EN.661.317	01	S	W	**The 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 in 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	M 1:30-4:15PM
EN.661.454	01		W	**Blogging, Editing and Copywriting** *Quesenberry, Keith*	3.00	19	MW 1:30-2:45PM

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. Co-listed with EN.661.654. No audits. Recommended Course Background: one writing course in any discipline (professional communication, expository writing, or writing seminars).			