

Freshman Seminars

SPRING 2014

|

Sector I - Society

Contemporary Native Americans

Margaret Bruchac, *Assistant Professor of Anthropology*

This course examines the social and political lives of contemporary Native American Indians in the United States and Canada. Topics include: Indigenous identity; homelands and natural resources; popular culture and media; Indigenous arts and cultural expression; museum representations; athletics; gender relations; tribal recognition and sovereignty; and resistance movements. We will consider the origins of federal programs and legislation that have become essential to the protection of Native American freedoms. Students can expect to gain an appreciation of the complexity and cultural diversity of Native communities and tribal nations and insights into their interactions with other cultures over time.

Cultural Diversity in the U.S.

ANTH 037 301

Tuesday and Thursday | 1:30 p.m. to 3:00 p.m.

Desire and Demand

Marilynne Diggs-Thompson, *House Dean, Riepe College House*

Does consumption shape culture or does culture shape consumption? As even the most mundane purchase becomes socially symbolic and culturally meaningful, we can persuasively argue that the concept of "need" has been transformed. Analyzing a variety of physical and virtual consumer venues, the goal of this seminar is to understand and to analyze historical and contemporary issues related to a culture of consumption. We investigate social and political-economic factors that impact when and how people purchase goods and argue that behavior attached to consumption includes a nexus of influences that may change periodically in response to external factors. Readings and research assignments are interdisciplinary and require a critical analysis of global/local linkages. The city of Philadelphia becomes the seminar's laboratory as we ask how have issues of culture, consumption, and global capitalism become intertwined around the world?

Cultural Diversity in the U.S.

ANTH 086 301

Monday | 2:00 p.m. to 5:00 p.m.

Globalization, Development & the Future of the BRICs

Rudra Sil, Professor of Political Science

This seminar grapples with alternative conceptions of “development” and “globalization,” with special attention to their impact on everyday lives of ordinary people around the world. The course adopts a comparative-historical perspective, attempting to make sense of the challenges of development undertaken by different countries in different eras, with the post-Cold War era of globalization bringing some new challenges but also revisiting some quite familiar tensions and complications. For specific case studies, we will examine the “club” known as the BRICs – Brazil, Russia, India, and China. The four represent large non-western countries that have had complicated histories but then came to be singled out by Goldman Sachs as the most important sources of global economic growth after 2001. More recently, however, three of the four have recently experienced difficulties, and even the prospects of continued growth in the fourth (China) is now a subject of debate. The course thus concludes by incorporating facts and ideas borrowed from geography and demography to offer a tentative long-range forecast of how the BRICs will fare over the next quarter century, regardless of their year-to-year growth rates.

Cross-Cultural Analysis

PSCI 010 301

Monday | 2:00 p.m. to 5:00 p.m.

The Great Experiment of India's Democracy***Francine Frankel, Professor of Political Science***

The preservation of democratic governance in India has presented a standing challenge to theorists of historical and comparative development. The preconditions associated with the origins of democracy in the United States and Europe were notably absent in 1947, when India achieved independence from Great Britain. The tiny middle classes lacked virtually all the attributes identified by theorists like Putnam to make democratic institutions work: a common social background, participatory attitudes of mind, networks of civic interaction, feelings of trust and a tradition of mutual cooperation in the common interest. Yet, India's democracy established by the Constituent Assembly in 1950, and based on fundamental rights, the rule of law and fair and free elections has endured.

The phenomenon of democracy in India -a multicultural state of steadily growing scientific, military and economic capabilities, soon to be the world's most populous country- is so important that the tendency of comparative-historical scholarship to marginalize India's experience because it doesn't “fit” western theories, impoverishes our understanding of democratization.

This seminar takes an alternative approach. It starts with India's own historical, social and cultural context and examines how democratic institutions transform, and in turn are transformed by the context in which they must function. From this perspective a number of central questions need to be examined. What are the social and political consequences of introducing universal suffrage in a society that has been the most hierarchical in the world? What accounts for higher electoral participation rates of the most disadvantaged and depressed groups? What outcomes does this accelerated participation have on the political party system, stable governance, implementation of economic reforms, and the emergence of dissatisfied religious and regional groups seeking a new regime? As other powers emerge outside the western tradition, committed to both democracy and growth, it becomes essential that knowledge about India's experience become part of the mainstream of historical and comparative scholarship on national development.

Cross-Cultural Analysis

PSCI 010 302

Tuesday | 3:00 p.m. to 6:00 p.m.

Sociology of Religion***Herb Smith, Professor of Sociology***

Most of us are pretty good amateur sociologists, because sociology is the study of human society, human society is people organized in groups (families, churches, clubs, schools, civic associations, nation-states) and their relations with one another (people with people, people with groups or institutions)... we're all "doing it" at one level or another. It is also the case that sociology -- the subject, the field, the science -- provides some useful tools for understanding how society operates, and a sociological perspective can teach us some things that are not obvious from our day-to-day participation in social life. So this is a course about the sociology of religion, a subject that has a lot to do with belief, with meaning, and with the very organization of society itself; and we will learn a lot about religion, from a sociological perspective (to what extent is belief an individual versus a social phenomenon? where do new religions -- sects -- come from and how do they become churches? why does religion sometimes thrive and other times drift into the background?).... But it is also a way to introduce college freshman to sociology and the sociological perspective; to fundamental issues in the social sciences; and -- and this is the great advantage of a freshman seminar -- to the responsibilities and rewards of intellectual life at a university.

SOCI 041 301

Wednesday | 3:30 p.m. to 6:30 p.m.

Homelessness & Urban Inequality

Dennis Culhane, *Professor of Social Policy and Practice*

This freshman seminar examines the homelessness problem from a variety of scientific and policy perspectives. Contemporary homelessness differs significantly from related conditions of destitute poverty during other eras of our nation's history. Advocates, researchers and policymakers have all played key roles in defining the current problem, measuring its prevalence, and designing interventions to reduce it. The first section of this course examines the definitional and measurement issues, and how they affect our understanding of the scale and composition of the problem. Explanations for homelessness have also been varied, and the second part of the course focuses on examining the merits of some of those explanations, and in particular, the role of the affordable housing crisis. The third section of the course focuses on the dynamics of homelessness, combining evidence from ethnographic studies of how people become homeless and experience homelessness, with quantitative homelessness, research on the patterns of entry and exit from the condition. The final section of the course turns to the approaches taken by policymakers and advocates to address the problem, and considers the efficacy and quandaries associated with various policy strategies. The course concludes by contemplating the future of homelessness research and public policy.

Cultural Diversity in the U.S.

URBS 010 401 AFRC 041 401 SOCI 041 401

Friday | 2:00 p.m. to 5:00 p.m.

Sector II - History & Tradition

Comparative Empires

Amy Offner, *Assistant Professor of History*

During the nineteenth and twentieth centuries, US and European powers developed changing strategies of empire designed to order societies at home and overseas. The practice of empire spurred worldwide debates that continue today: how did imperialism operate, what purposes did it serve, could it come to an end, and what might replace it? Over the course of two hundred years, these questions inspired some of the world's greatest fiction writing and historical research, and this seminar introduces students to a sample of classic texts. Together we'll examine varied forms of political, economic, and cultural power involved in imperial expansion; the experience and consequences of empire for both colonized and colonizer; and the emergence of anti-imperialist movements.

HIST 106 301

Thursday | 1:30 p.m. to 4:30 p.m.

Books that Changed Modern America**Kathy Peiss**, *Professor of History*

Why have some books had a profound impact on their times? How have they articulated an issue, focused debate, captured public attention, and spurred action? In this seminar, we will read a group of books that changed the modern United States. *The Jungle*, *Silent Spring*, *The Common Sense Book of Baby and Child Care*, *The Feminine Mystique*, *The Grapes of Wrath*, *Conscience of a Conservative*: These are books that mobilized Americans to demand food safety and a safer environment, adopt new childrearing practices, redefine traditional gender roles, develop greater awareness of poverty, and rethink their politics. We will approach these and other works in three ways: We will do close readings of each text; examine the history of each book, including its publishing history, critical reception, and readers' responses; and consider the broader historical contexts in which the work was written.

This is a Benjamin Franklin Scholars Seminar.

HIST 114 301

Tuesday | 1:30 p.m. to 4:30 p.m.

The American Way of War**Matthew Hersch**, *Lecturer in History and Sociology of Science*

Do Americans fight wars differently than do the people of other nations? Are there unique American tactics or technologies? Does America's success in war owe to its arsenal of sophisticated weapons, or to the fighting spirit of its people? What characterizes the American experience in combat? A respect for limits, or a willingness to win at any cost? This seminar explores the scientific and technological development of warfare in the United States from the time of European settlement of the Americas to the era of unmanned aerial vehicles. We will examine "war-winning" weapons on land, on the sea, and in the air, from the tomahawk to the machine gun and beyond. The course will conclude with discussions of jets, missiles, guerrilla war, biological weapons, the development of the American nuclear arsenal, the psychological effects of battle, and warfare in the 21st century.

STSC 062 301

Tuesday and Thursday | 12:00 p.m. to 1:30 p.m.

Sector III - Arts & Letters**Violence in African Art****Lisa Homann**, *Andrew W. Mellon Post-Doctoral Fellow, Penn Humanities Forum in History of Art*

What is violence? Is violence always deplorable, or can it be productive, constructive, and (in)formative? Careful study of African art objects and practices suggests that violence has been a creative force on the continent. How then, have African artists addressed violence in their works? In this seminar, we investigate the aesthetic and social frameworks for violence in African artistic production.

Through a series of case studies, students consider whether issues such as rupture, coercion, risk, danger, competition, aggression, injustice, appropriation, and looting—as they relate to African arts—might also be viewed as acts of violence. We examine the relationship between the formal qualities of masks and their degree of physical aggression in performance. Students explore the ways in which iconoclastic acts

have spurred artistic innovation. Other cases include: seeking justice through the mediation of power objects; arts that celebrate violent acts; artworks with the potential to physically harm viewers; political struggles over architectural monuments; representations of colonial encounters; and the ethical quandaries of collecting and exhibiting looted artworks.

Cross-Cultural Analysis

ARTH 100 401 AFRC 100 401

Wednesday | 2:00 p.m. to 5:00 p.m.

Images in Conflict: A Visual History of Violence

Aaron Levy, *Senior Lecturer in the History of Art and in English; Executive Director of the Slought Foundation*

The critic Susan Sontag wrote that "to collect photographs is to collect the world." How should we collect these photographs when so much of what we experience in the media today documents conflict and war? What is our responsibility as students and citizens to these images? What is the responsibility of the artist, journalist, art historian, or curator? How are we implicated by events we have not experienced and by the pain of others?

This course will explore the power of images to shape and aestheticize the viewer's experience of history. We will trace the production and circulation of these images, through a variety of readings situated at the intersection of visual culture and representations of conflict. Students will be introduced to war photography and the ethics of representation through the work of artists such as Robert Capa, Matthew Brady, Margaret Bourke-White, Walker Evans, and Kevin Carter. We will also discuss artistic representations of conflict prior to the advent of photography, in the work of artists from classical antiquity to the mid-nineteenth century.

The course will culminate in a final project about the Nepali civil war (1996-2006). Students will have the opportunity to learn about the impact of the war on the people of Nepal, and how individuals throughout the country have come together to create a public archive of the war. Students will curate their own collection of these images and then develop a teaching guide in partnership with collaborators in Nepal and Slought Foundation, a cultural organization on campus. In addition to weekly readings and responses, students will also be expected to attend a series of associated events on the topic of violence at the Penn Humanities Forum during the semester.

Cross-Cultural Analysis

ARTH 100 402 ENGL 016 402

Tuesday | 3:00 p.m. to 6:00 p.m.

Knowing the Contemporary Art World

Ken Lum, *Professor of Fine Arts*

This course introduces the student to the world of contemporary art, as it is comprised by a global community of leading artists, curators, writers, art historians and collectors within a network of galleries, museums and other institutional contexts.

Contemporary art has become an increasingly important marker of a city (and nation's) economic development. According to economist and social scientist Richard Florida, contemporary art activity is an expression of a city's Creative Class, the generators of cultural and economic innovation.

But what exactly is this world of contemporary art? The course begins by distinguishing between modern and contemporary art. There will be a teasing out of the issues from modern art that remain unresolved for contemporary art.

Students will study the key pre-occupations that are spurring much contemporary art production, including issues relating to identity in the age of globalization. A question that will be studied in this course relates to the ways in

which artists have responded to dominant narratives of globalization. Additionally, another important question would look into how the artist's role has changed in the new globalized context of art production and circulation (including the rise of the art biennale.)

By taking this course, students gain understanding into the constitution and of the contemporary art world and the key issues at play within it. There will be several trips to exhibitions to be announced.

FNAR 100 301

Wednesday | 2:00 p.m. to 5:00 p.m.

Violence in Rome across the Ages: Literature, Art, Film, Spectacle

Jessica Goethals, *Andrew W. Mellon Post-Doctoral Fellow in Italian, Penn Humanities Forum*

Rome is a city with a glorious but bloodied past. From the gladiator arenas of the ancient empire to the terrorism of the 1970s, from predictions of the city's divine castigation to the futurists' desire to symbolically blow the place up, the history of Rome across the centuries has been one peppered with violence of diverse forms, motivations, and consequences. In this class, we will approach the major periods and problems of Roman history (antiquity, the Middle Ages, the Renaissance and the Roman Inquisition, the Napoleonic era, the Interbellum period, Nazi occupation, and the Years of Lead) through the lens of brutality as a historical, social, literary, and artistic phenomenon in Rome and the regions that fell under its control. Combining close readings of literary texts and the study of artistic, performative, and musical works and film, along with the consideration of select scholarly histories, we will explore the different shapes violence takes and why, from the legendary, spectacular, and aesthetic to the religious and apocalyptic, from war, authoritarianism, torture, and terrorism to satire and regeneration.

Cross-Cultural Analysis

ITAL 100 301

Tuesday and Thursday | 3:00 p.m. to 4:30 p.m.

Blood, Sweat and Pasta

Frank Pellicone, *House Dean, Harrison College House*

Popular culture frequently serves a bounteous spread of representations of Italian-Americans to an audience hungering for more. In this course we will explore historic events, social conditions, aesthetic trends, and political motivations behind the proliferation of ruthless gangsters, lovable buffoons, irresistible lovers, and claustrophobic families comprising the pantheon of Italian-Americans images of our shared American consciousness. To understand the rise of these popular stereotypes, and, perhaps, to dismantle them we will read novels by authors such as Pascal D'Angelo (*Son of Italy*), John Fante (*Ask The Dust*); Mario Puzo (*The Fortunate Pilgrim*); Pietro di Donato (*Christ in Concrete*); Jerre Mangione (*Mount Allegro*); Helen Barolini (*Umbertina*), and Francine Prose (*Household Saints*). We will also read Albert Innaurato's comedic play (*Gemini*) and selected poetry of John Ciardi. In addition to literary analysis, we will discuss representation of Italian-Americans in American cinema and television, and films such as *The Godfather*, *Saturday Night Fever*, *Rocky*, *Moonstruck*, *My Cousin Vinny*, *Raging Bull*, *Big Night*, and *Radio Days*, as well as episodes of television shows such as *The Jersey Shore*, *Friends*, *The Golden Girls*, *The Sopranos*, and *Everybody Loves Raymond*.

ITAL 288 402 CIMS 240 402

Tuesday and Thursday | 3:00 p.m. to 4:30 p.m.

Aural Analysis: 89 Classical Hits

Gregory DeTurck, *Lecturer in Music*

Over the semester, we will listen to and explicate 89 traditionally famous pieces of classical music. As this is an aural

analysis class, most of the analysis worked through in class will be solely by ear (no scores, not an excessive amount of historical context required, etc...). The primary purpose of our work will be to refine each student's listening abilities so that they may be able to establish formal structure, motivic development, and compositional design of time-tested masterpieces more quickly and accurately. A side bonus from successful completion of this course will be a new understanding and familiarity with dozens of great classical works that have unquestionably passed the test of time. No prerequisites required, save for a set of inquisitive ears. 4 in-class presentations, frequent short writing assignments and in-class quizzes will determine the final grade.

MUSC 016 302

Tuesday and Thursday | 1:30 p.m. to 3:00 p.m.

Sector IV - Humanities & Social Sciences

Cultural Heritage, Politics and War in the Middle East

Salam al Kuntar, *Visiting Assistant Professor of Anthropology*

Political upheaval in the Middle East has brought cultural heritage studies to the forefront. From playing a role in the making of national identity and economy of Middle Eastern countries to falling prey to armed conflicts, cultural heritage remains an important element of the political and social scene. This seminar will examine the relatedness of cultural heritage to questions of identity and politics in the Middle East, and the impact of recent wars on such heritage.

The seminar will start by outlining the ancient and modern history of the Middle East, and reviewing the production of cultural heritage and its contemporary management in several Middle Eastern countries. It will then proceed to discuss the following major topics:

- Cultural diversity of modern Middle Eastern societies, the perception of cultural heritage in these societies, and the survival of long-living historical places, old traditions and material culture of all kinds.
- The influence of ancient cultures on common fixation and beliefs of modern identity in Middle Eastern societies (e.g. particular ethnic and religious groups see themselves as direct descendents of one or a number of ancient groups such as Phoenicians, Israelites, Assyrians) .
- The use of archeological and historical data to create narratives of the past that promote specific political ideologies in the modern Middle East and, in some cases, to fabricate novel cultural and political realities.
- The damage to cultural heritage caused by recent wars in Iraq, Syria and Lebanon, and (i) how these wars are/were the makers of a new time that disrupted the living past through the destruction of cultural landscapes; and (ii) the involvement of cultural heritage institutions and archaeologists in rescuing cultural heritage in the event of war.

Cross-Cultural Analysis

ANTH 055 401 NELC 033 401

Monday and Wednesday | 2:00 p.m. to 3:30 p.m.

Music in Urban Spaces

Molly McGlone, *Assistant Dean for Academic Advising*

Music in Urban Spaces explores the ways in which individuals use music in their everyday lives and how music is used to construct larger social and economic networks that we call culture. We will read musicologists, cultural theorists, urban geographers, urban educators and sociologists who work to define urban space, arts education and the role of

music and sound in urban environments. While the readings we do will inform our conversations and the questions we ask, it is within the context of our personal experiences working with a group of students at West Philadelphia High School and Henry C. Lea Elementary, two urban schools serving economically disadvantaged students, that we will begin to formulate our theories of the musical micro-cultures of West Philadelphia and education's role in shaping socio-economic realities. We will first consider what the listening and performing culture was when we were growing up and how, if at all, this music reflected the local definition of our environment as urban, suburban, or rural. In our work supporting classroom music teachers and after school music programs, we will consider the role that music plays in our cultural and social identities as well as how music and other extracurricular programs influence future educational opportunities. In what ways does the participation or consumption of music allow for social or economic mobility in urban spaces? Do the students in the high school or the elementary music programs use music to reflect, reject, or reinforce stereotypes about their own race, ethnicity, gender, or class? Class participants will be asked to create music videos or write research papers that develop a question of their interest related to music, education, social capital, and urban space. Ultimately seminar participants will ask does music reflect or change the cultural capital of those who participate in specific listening and/or performance spaces?

Cultural Diversity in the U.S.

MUSC 018 401 URBS 018 401

Monday | 3:00 p.m. to 6:00 p.m.

Benjamin Franklin Seminar: Introduction to Sound Studies

Naomi Waltham-Smith, *Assistant Professor of Music*

Sound is all around us and shapes almost every aspect of our everyday days, and yet, in comparison to our rich descriptions of visual culture, we often lack the explanatory power to analyze and assess the overwhelming influence of the sonic. This introduction to sound studies course will provide both a rigorous conceptual and also a creative, hands-on understanding of the phenomena at the center of Penn's Year of Sound. We will explore how sound and auditory cultures have been theorized, how soundscapes shape and transform built environments and the social relations they underpin or express, how technologies have affected our relationships to sound, and how we might go about investigating aural phenomena.

The course will focus on sound in urban spaces. Structured around a number of themes that cut across disciplinary, historical and geographical boundaries, the course will create a transatlantic dialogue between investigative fieldwork into Philadelphia's soundscape and the changing auditory profile of Paris from the clatter of medieval sword fights through the cultivation of modern urban experience in Haussmann's boulevards to the contemporary soundscape. Other topics will include the role of sound-reproduction and mobile technologies, and the consumption and regulation of sound. We will encounter a wide variety of materials from literary texts to mobile apps and video games, not to mention a vast range of sounds, and we will tackle the topic from multiple interdisciplinary angles from Continental philosophy to ask how sound composes and structures urban space, and how it transforms social bonds and power relations. Alongside written work, you will make fieldwork recordings on the streets of Philadelphia and develop creative projects using media of your choice to reflect upon urban sound.

MUSC 018 402 URBS 018 402

Tuesday and Thursday | 10:30 a.m. to 12:00 p.m.

Music, Germans, Jews 1780 to 1939

Yael Sela-Teichler, *Fellow at the Katz Center for Judaic Studies*

Throughout the Middle Ages and early modern period, European Jews' access to musical knowledge and spaces was anything but straightforward. Rabbinic Judaism saw secular music as a potential cause of promiscuity and Christian liturgical music evoked anxieties of assimilation. The Christian worldview labeled Judaism as an unmusical aesthetic category and Jews were generally banned from all musical professions. How, then, have Jews in the modern period

become proponents of European musical culture as composers, conductors, commentators, patrons, and consumers?

This seminar explores the conditions that enabled this development and the ways by which music emerged as a mode of cultural participation that permitted Jews to take part in the formulation of European modernity. Focusing on the German speaking countries from the age of Enlightenment up to the 1930s, the seminar introduces students to core issues in German Jewish cultural experience and German cultural history through music. How did music function as a site of interreligious encounters? What functions has music performed in the religious and cultural transformations within German Judaism? How has music come to articulate notions of nationalism, both German and Jewish? How were ambivalent attitudes toward Jews manifest in German musical culture? To what extent were Felix Mendelssohn, Gustav Mahler, or Arnold Schoenberg "Jewish" composers? And what is Jewish about cabaret in Vienna around 1900 or the first sound films of the 1920s? Employing different disciplinary approaches from history, musicology, ethnomusicology, and aesthetics, we examine a variety of musical, literary, and visual works, including opera, film, cabaret, and liturgical music to gain familiarity with the range of sounds that can be associated with modern German Jewish experience and European modernity.

This seminar requires no prior musical training and should be of interest to students of music history, Jewish studies, and German studies, and history. The main assignments include a final writing project.

Cross-Cultural Analysis

MUSC 018 403 JWST 016 403

Monday | 2:00 p.m. to 5:00 p.m.

Magic and Divination in the Hebrew Bible and Early Judaism

Isabel Crazz, *Lecturer in Near Eastern Languages*

When we discuss the Hebrew Bible and early Judaism, magic and divination are not the first things that come to mind. After all, biblical law explicitly prohibits black magic, divination, spell-casting and necromancy. However, when taking a closer look at the biblical narratives, we encounter practices like lot-casting, dream interpretation and performance of magic with divine authorization. With the help of literary, anthropological and historical methods, we will determine what forms of magic and divination existed in the biblical world and how they were rendered efficacious.

Cross-Cultural Analysis

NELC 054 301

Monday and Wednesday | 2:00 p.m. to 3:30 p.m.

Imagining Asia: Russia and the East

Anna Aydinian, *Lecturer*

This course examines the important role of the East in Russian literature and nationalism. Focusing specifically on the Caucasus, Central Asia, Iran, and Turkey, this course will analyze how Russian writers connected the East to Russian identity, and how their approaches implicate different artistic periods (Romanticism, Realism, Socialist Realism, Post-Modernism) and different political atmospheres (Tsarist Russia, Soviet Union, Post-Soviet).

Students will also ascertain how Russian literature on the East has affected and influenced literature and political movements produced in the East. In particular, students will analyze how Soviet Central Asian writers, Iranian Socialists, and contemporary Turkish writers were influenced by Russian literature and Soviet ideology. Ultimately, this course examines the impact of Russia's cultural and political history in 20th century Central Asia and the Middle East. Readings will include works by: Pushkin, Lermontov, Tolstoy, Dostoevsky, Platonov, Chingiz Aitmatov, Sadek Hedayat, Orhan Pamuk, and others.

Cross-Cultural Analysis

RUSS 222 401 COML 217 401 NELC 222 401

Monday and Wednesday | 2:00 p.m. to 3:30 p.m.

Sector V - Living World

Forensic Neuroscience

Daniel Langleben, Associate Professor of Psychiatry, Perelman School of Medicine

Legal systems have attempted to evaluate and measure human behavior long before psychology, psychiatry and neuroscience were scientific disciplines. Current legal systems rely on behavioral science in both criminal and civil litigation. For example, intent is a prerequisite of criminal responsibility, motive is used to identify likely suspects, and mental illness or cognitive ability can be a defense to crime or a mitigating factor in a death penalty determination as well as a reason to deny a parent custody of a child. In the last decade, there has been substantial progress in behavioral neuroscience; a development not lost on the court system. Brain imaging techniques--such as functional and structural Magnetic Resonance Imaging and Positron Emission Tomography--have become part of all phases of legal proceedings and have forced courts to reconsider the use of behavioral science and the role of juries in courtroom decision-making. The goal of this course is to enable students to understand the present and the potential future role of behavioral neuroscience evidence in the justice system. The introductory part of the course will provide students with a very basic introduction to the judicial system and courtroom evidence and to the behavioral neuroscience constructs and techniques that are critical to law, such as motivation, violence, empathy, deception and morality. Students will then be asked to critically evaluate the use of brain imaging and other quantitative neuroscience techniques as evidence in representative legal cases. For each case studied, small teams of students will be assigned to serve as neuroscience advisors on each side of the case and will argue the strengths and weaknesses of the neuroscience evidence at issue. Students will be asked to prepare written arguments outlining the neuroscience evidence, present their arguments in class, and defend them against the opposing team. Case presentations will be followed by class and instructor comments. Performance evaluation will be based on students' oral case presentation (40%) and the written term paper (60%) developed from their case presentation. Through this course, students will learn the basic concepts in behavioral neuroscience, medical imaging and scientific legal evidence, and will develop the ability to critically evaluate neuroscience data in forensic and legal settings. This course is open to all undergraduate students and will be of particular interest to students with interest in law, neuroscience, criminology and psychology. Background in science or biology is helpful but is not required.

BIBB 050 301

Thursday | 3:00 p.m. to 6:00 p.m.

The Superbug Epidemic

Hillary C.M. Nelson, Associate Professor of Biochemistry & Biophysics, Perelman School of Medicine

The discovery of penicillin ushered in a new medical era - the antibiotic era - where patients no longer died from simple infections. We are now in a seemingly never-ending cycle of new antibiotics. However, the pipeline for antibiotics has slowed and we are rapidly entering the superbug era. We will use antibiotic resistance as a lens through which to understand the critical role that science plays in public health policy. At the end of the course, students should understand how these science-based public health decisions are made with the help of different stakeholders, which in this case include the government and healthcare system, basic and clinical scientists, the food industry and pharmaceutical companies, doctors and veterinarians, individuals and their communities.

BIOL 008 301

Tuesday and Thursday | 1:30 p.m. to 3:00 p.m.

Sector VI - Physical World

Honors Physics II: Electromagnetism and Radiation

Charles Kane, *Professor of Physics and Astronomy*

This course parallels and extends the content of PHYS 151, at a somewhat higher mathematical level. Recommended for well-prepared students in engineering and the physical sciences, and particularly for those planning to major in physics. Electric and magnetic fields; Coulomb's, Ampere's, and Faraday's laws; special relativity; Maxwell's equations, electromagnetic radiation.

Students must enroll in both the seminar (section 301, shown below) and one of the labs (302 or 303, below). The seminar meets for a fourth hour on:

Mondays from 2:00 p.m. to 3:00 p.m.

PHYS 171.302 (lab) | Tuesday | 3:00 p.m. to 5:00 p.m., or

PHYS 171.303 (lab) | Thursday | 6:00 p.m. to 8:00 p.m.

Quantitative Data Analysis

PHYS 171 301

Monday, Wednesday, and Friday | 10:00 a.m. to 11:00 a.m.

Sector VII - Natural Sciences & Mathematics

Structural Biology and Genomics

Ponzy Lu, *Professor of Chemistry*

Structural biology is the scientific method of describing, predicting and changing the properties of living organisms, including humans, based on "complete" genome chemical structures (sequence) and 3-dimensional structures of cellular components. The intellectual and technical revolutions that occurred during the 20th century made this possible. It is today's approach to understanding biology and solving problems in medicine. We will discuss how macroscopic biological properties, such as reproduction, locomotion and viral infection, are determined by the physics and chemistry of proteins and nucleic acids. Changes in biological function, in hereditary diseases like cystic fibrosis or sickle cell anemia, result from minute changes in individual proteins. Much larger changes in genome and protein structure are often tolerated without consequence. Understanding and exploiting these phenomena at the molecular level is the basis of new technology in the agricultural, energy and drug industries. The broad range of medical, social and political problems associated with the advances will be considered. We will attempt to distinguish real progress from fads and fashion. The weekly reading assignment will be Science and the Tuesday New York Times. This is a two-semester seminar with 0.5 credit unit each semester of the academic year.

CHEM 022 301

Tuesday and Thursday | 8:00 a.m. to 9:00 a.m.

Big Data In Linguistics

Mark Liberman, *Professor of Linguistics*

Big, fast, cheap computers; ubiquitous digital networks; huge and growing archives of text and speech; improving algorithms for automatic analysis of text and speech: all of this creates a cornucopia of research opportunities, at every level of linguistic analysis from phonetics to pragmatics, and in applications from linguistic science to

information extraction and sentiment analysis. This course will survey the history and prospects of corpus-based research on speech, language, and communication, in the context of class participation in a series of representative projects.

Quantitative Data Analysis

LING 052 301

Monday and Wednesday | 3:30 p.m. to 5:00 p.m.

Seminars in Mathematics

Proving Things: Algebra

Aaron Silberstein, *Hans Rademacher Instructor of Mathematics*

This course focuses on the creative side of mathematics, with an emphasis on discovery, reasoning, proofs and effective communication, while at the same time studying arithmetic, algebra, linear algebra, groups, rings and fields. Small class sizes permit an informal, discussion-type atmosphere, and often the entire class works together on a given problem. Homework is intended to be thought-provoking, rather than skill-sharpening.

MATH 203 301

Tuesday and Thursday | 3:00 p.m. to 4:30 p.m.

Math in the Age of Information

Ted Chinburg, *Professor of Mathematics*

This is an experimental course about mathematical reasoning and the media. Embedded in many stories one finds in the media are mathematical questions as well as implicit mathematical models for how the world behaves. We will discuss ways to recognize such questions and models, and how to think about them from a mathematical perspective. A key part of the course will be about what constitutes a mathematical proof, and what passes for proof in various media contexts. The course will cover a variety of topics in logic, probability and statistics as well as how these subjects can be used and abused.

MATH 210 301

Monday, Wednesday, and Friday | 12:00 p.m. to 1:00 p.m.