

While not required, freshman seminars are an excellent introduction to academic life in the College and are highly recommended for first- or second-semester students. The primary goal of the freshman seminar program is to provide every freshman with the opportunity for a direct personal encounter with a faculty member in a small class setting devoted to a significant intellectual endeavor. Freshman seminars also fulfill College General Education Requirements. Below is the list of the freshman seminars offered in **Spring 2018**. Previously offered freshman seminars can be found in the **freshman seminar archive** (<https://www.college.upenn.edu/node/200>).

Requirements Filter ▼

### The Sociology of Black Community

Camille Charles, Professor of Sociology, Africana Studies & Education

This course explores a broad set of issues defining important aspects of the Black/African American experience. In addition to the "usual suspects" (e.g., race, socioeconomic status, poverty, gender, and group culture), we also think about matters of health and well-being, the family, education, and identity in Black/African American communities. Our goal is to gain a deeper sociological understanding and appreciation of the diverse and ever-changing life experiences of Blacks/African Americans.

**AFRC 008 401 | SOCI 028 401**

T | | 0130PM-0430PM | | VAN PELT LIBRARY 305

**Fulfills:** Sector I: Society | Cultural Diversity in the U.S.

### 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?

**ANTH 086 301**

M | | 0200PM-0500PM | | UNIVERSITY MUSEUM 330

**Fulfills:** Sector I: Society | Cultural Diversity in the U.S.

### Forensic Neuroscience

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

Progress in behavioral neuroscience and brain imaging techniques, such as functional and structural Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET) has forced the courts to reconsider the role of behavioral sciences in courtroom decision-making. The goal of this course is to enable students to understand and interpret the use of behavioral neuro evidence in the justice system. The course will introduce the students to the relevant behavioral neuroscience constructs, principles of brain imaging and rules of scientific evidence. Students will be asked to use this introductory knowledge to

critically evaluate the use of brain imaging and other behavioral neuroscience techniques as evidence in representative legal cases. For each case, students will serve as neuroscience experts for the defense or prosecution and prepare, present and defend their testimony against the opposing team. Through this course, students will develop the ability to critically evaluate brain imaging and other neuroscience data in forensic and legal settings.

### **BIBB 050 301**

W || 0200PM-0500PM || PSYCHOLOGY LAB C41

**Fulfills:** Sector V: Living World

## **Music & the Brain**

Michael Kaplan, Lecturer in the Biological Basis of Behavior

Every human culture that has ever been described makes some form of music. The musics of different cultures cover a wide range of styles, but also display fascinating similarities, and a number of features are shared by even the most disparate musical traditions. Within our own culture, music is inescapable—there are very few individuals who do not listen to some form of music every day and far more who listen to music virtually all day long. Appreciation of music comes very early: newborns prefer music to normal speech and mothers all over the world sing to their babies in a fundamentally similar way. And yet, despite this seeming ubiquity, the real origin and purpose of music remains unknown. Music is obviously related to language, but how? Why do so many cultures make music in such fundamentally similar ways? What goes into the formation of music "taste" and preferences? Does music have survival value, or is it merely "auditory cheesecake", a superfluous byproduct of evolution as some critics have maintained? What is the nature of musical ability and how do musicians differ from non-musicians? In this course, we will look for answers by looking at the brain. Almost 200 years of scientific research into brain mechanisms underlying the production and appreciation of music is beginning to shed light on these and other questions. Although the sciences and the arts are often seen as entirely separate or even in opposition, studying the brain is actually telling us a lot about music, and studying music is telling us just as much about the brain.

### **BIBB 060 301**

TR || 0130PM-0300PM || GODDARD LAB 100

**Fulfills:** Sector V: Living World

## **Evaluating Medical Treatment: How Do We (and the FDA) Know What Works?**

Susan Ellenberg, Professor of Biostatistics, Perelman School of Medicine

The development of new medical treatments typically culminates in one or more clinical trials - experiments in which the effects of the new treatment are compared with the effects of another treatment or no treatment. A great many considerations go into the design of these medical experiments. In this seminar, we will discuss the basic structure of the clinical trial, the varying types of designs that may be used, the scientific and ethical issues that arise, and the regulatory process that ultimately determines whether medical products are effective and safe and whether they can be made available to the public.

### **BIOL 006 301**

W || 0200PM-0500PM || COLLEGE HALL 318

**Fulfills:** Sector V: Living World

## **Structural Biology**

Ponzy Lu, Professor of Chemistry

This course will explain in non-mathematical terms how essentially all biological properties are determined by the microscopic chemical properties of proteins. It will also explain how research results, especially those of structural biology, are presented to its various audiences.

### **CHEM 022 301**

TR || 0800AM-0900AM || CHEMISTRY BUILDING B13

**Fulfills:** Sector VII: Natural Sciences & Mathematics

## **Freshman Seminar: Archaeology & Technology**

Peter Cobb, Lecturer in Classical Studies

This seminar explores how humans apply and modify technologies in contexts as diverse as everyday life, major politico-economic undertakings, or scholarly research. We investigate this through a comparison of technologies of the past with technologies of the present used to study the past. We will dig into the details of topics like building pyramids and tombs, the function of ancient astronomical devices, pre-telegraph long-distance communication, tools for cutting and carving stone, and kilns for firing pottery. Archaeologists study these issues by examining the material remains of past societies: the cut-marks on stone blocks, extant tomb structures, the debris of manufacturing activities, and much more. Today's technologies enable the detailed scientific examination of the evidence, improving our understanding of the past. Thus, in parallel with our investigation of past technologies, we will also study the history of the application of present technologies to research on the archaeological record. We will dig into topics like the first uses of computers and databases, the development of statistical methods, early digital 3d modeling of objects and architecture, the adoption of geophysical prospection and geographic information systems, and the emerging uses of machine learning. In some cases, we can even compare old and new technologies directly, such as with land measurement and surveying techniques. Throughout the class we will engage in readings and discussions on the theory of humans and technology, to gain a better understanding of how processes such as innovation function in all time periods.

**CLST 010 401 | ANTH 010 401 | ARTH 010 401 | NELC 010 401**

T || 0430PM-0730PM || UNIVERSITY MUSEUM 190

**Fulfills:** Sector II: History & Tradition

### **First-year Seminar: Writing About Art**

Susan Bee, Lecturer in Creative Writing

This first-year creative writing seminar will engage in critical issues related to the visual arts, with a focus on writing about contemporary exhibitions. Members of the seminar will visit and review Philadelphia area exhibitions, including shows at the Institute for Contemporary Art, the Philadelphia Museum of Art, and the Barnes Collection. In addition, we will take one weekend trip to a museum in New York. We will also have a guest art critic speak to the group and we will visit a local artist's studio. In the seminar, students will be able to practice different descriptive and critical approaches to writing about art works. There will be ample time given to in-depth discussions of a wide range of contemporary visual art.

**ENGL 016 301**

W || 0200PM-0500PM || FISHER-BENNETT HALL 140

**Fulfills:** Sector III: Arts & Letters

### **Travel Writing: Preparing For Your Journey**

David Wallace, Professor of English

"Travel Writing" is a kind of writing uniquely suited to undergraduates: for the vivid accounts of young travelers, seeing a new place for the first time, can often not be matched by the old (who have seen so many places already). You will remember the sharpness of your perceptions when you first came to Penn: every day brought new discoveries, new challenges, new routines. Now, perhaps, you are more settled into your habits and less easily surprised. To recover the vividness of first impressions you need to travel, preferably somewhere new.

In the first part of the semester we will be reading short pieces by a range of writers, in order to understand some of the secrets of good travel writing. Selections will be short, and there will be much discussion. Some travel writers prepare intensively for their trip, learning about the new place that they will visit. Other writers prefer to learn little in advance, and to follow an impulse. Some writers tell of life-changing experiences. We will read fine, short pieces by writers such as Jane Smiley, Dave Eggers, Bill Bryson. Some writers travel somewhere adventurous-- such as the North Korean Film festival. Others travel back home, trying to see it as an objective reporter, as if for the first time. Everything that happens on a trip can feed into the writing, so no experience is wasted: travel delays and mishaps, strange meetings, odd airBnB experiences. Travel is now a huge business, world wide; rather than acquiring stuff (refrigerators, new cars, lawn mowers), young people increasingly prefer to seek new experiences. There are business, ecological,

and others aspects to all this: airBnb is now bigger than any corporate hotel chain (with over \$2bn in annual turnover); the Artic is melting and the Inuit people can no longer live on the ice. This course also offers the opportunity for you to polish and perfect your writing. Assignment 1: you will be asked to answer the question "how I got to this place," in 500 words. You may answer this question any way you like; there is no wrong answer. This assignment is Pass/Pass and will give me the opportunity to spot and address any writing glitches before formal assessment begins. Assignment 2: a critical evaluation of a specific travel writing essay (4 pages). Please be concrete and specific, referring to the text, rather than giving general impressions. What works well? What is problematic? Is the title well chosen? Does the final sentence or paragraph work? Etc. The specific travel text for analysis will be assigned later, but will come from one of your two anthologies of writing. Assignment 3: "Crossing Walnut Street Bridge." A brief outing or adventure into the world beyond the Penn campus. This is best done alone. We will prepare for this in class, and suggestions for possible destinations can be made (e.g. Reading Terminal Market, the Mutter Museum, the Mummer's Museum ...). This will be your first effort at "travel writing" (5 pages). Assignment 4: "Plans for Spring break travel." An outline of your plans, with details of itinerary, possible places to visit, possible challenges and obstacles-- all to receive feedback. Useful websites may be referenced. Pass/ Pass. No minimum/ maximum page limit. Assignment 5: "Travel Writing." Your major piece of writing, to be drafted and workshopped in class, then edited and finally submitted at the end of the semester. About 8-12 pages, although length is not crucial: as you will see, some of the very best essays we will read are short, and economy of expression is crucial. Most of your "revision" will be cutting and compressing an excess of material. And seeking to absolutely nail that final paragraph, that last sentence. Assessment: Assignment 1, Pass/Pass; assignment 2, 20% of grade; assignment 3, 20% of grade; assignment 4, Pass/ Pass; assignment 5, 50% of grade; class participation, 10%. No incompletes. No midterm or final.

### **ENGL 016 302**

TR || 0900AM-1030AM || VAN PELT LIBRARY 627

**Fulfills:** Sector III: Arts & Letters

### **Black Public Art in Philadelphia**

Margo Crawford, Professor of English

This seminar will introduce students to the power of public art. Outdoor murals, painted poetry, poetry performed outdoors, anti-museum sculpture, and outdoor theater will be the focus of this seminar. How does "public art" make the very idea of "art" gain new dimensions such as art as an event (not an object) and art as a community intervention? Our starting point will be outdoor murals in Philadelphia and other very recent art reconsidering the meaning of "public monuments."

In addition to our focus on contemporary public art in Philadelphia, we will focus on the role of public art in the 1960s and 1970s Black Arts Movement. The seminar will unveil the power of outdoor space to create art that has urgency and the openness of radical experimentation.

### **ENGL 016 401 | AFRC 017 401**

MW || 0330PM-0500PM || FISHER-BENNETT HALL 25

**Fulfills:** Sector III: Arts & Letters | Cultural Diversity in the U.S.

### **How Earth Works**

Alain Plante, Associate Professor of Environmental Studies

This course will explore the physical science of the Earth's environment and human interactions with it. Coverage will include the Earth's various environmental systems, various environmental problems, and the direct and indirect causes of these environmental problems. Students in the seminar will attend the same lectures and undertake the same recitation work as the rest of the ENVS100 course. In addition, the freshman seminar will expand on the work of the main course with in-depth discussions of relevant current events and emerging topics in environmental science, through study of the primary literature and a social media project. Students must enroll in both the freshman seminar (section 301, below) and each of the following:

ENVS 100.001 | Tuesday and Thursday | 9:00 a.m. - 10:30 a.m.

ENVS 100.201 | No separate meeting, but registration is required.

### **ENVS 100 301**

M || 1100AM-1230PM || VAN PELT LIBRARY 113

**Fulfills:** Sector VI: Physical World

### **Adaptations: From Paper to Screen**

Alessandra Mirra, Visiting Lecturer

Italian culture is mostly renowned in the world for its art, fashion and food. However, we should not underestimate Italy's significant contribution to the field of Social and Political Science. One peculiar aspect of Italian political thought is its enduring interaction with literature. Many renowned writers, such as Dante and Machiavelli, were primarily considered political authors rather than literary icons by their contemporaries, and their writings influenced and shaped political discourse in Italy and across Western culture. Their work is still of great interest for the Humanities, the Social and Political Sciences, History, and Philosophy. In this course, we will examine the work of these authors, focusing on different genres (from poetry to political treatises, satire, and fiction). We will frame these works within their historical and literary context while also focusing on their impact to today's historical present. Many themes of great current interest animate these works: the division of Church and State, the relationship between the State and its citizens, the separation of power into three branches, the death penalty, the relationship between ethics and politics, and the consequences of the global economy. Readings will include, among others, works by Dante, Machiavelli, Beccaria, Leopardi, Pasolini, Gentile and Gramsci.

**ITAL 100 401 | CIMS 014 401 | COML 107 401**

MWF || 0200PM-0300PM || FISHER-BENNETT HALL 141

**Fulfills:** Sector III: Arts & Letters

### **Bilingualism in History**

Alison Biggs, Senior Lecturer in Linguistics

This course introduces the foundations of linguistics - the scientific study of language - through exploration of multilingualism in the USA and in different societies around the world. Contacts between groups of people speaking different languages are documented from earliest records, and around the world it remains the norm to find more than one language in regular use in a single community. In this course we will see that multilingualism is a catalyst for linguistic change: sometimes languages are lost; sometimes new languages are created; sometimes the structure of a language is radically altered. We will consider: Which parts of linguistic structure are most susceptible to change under conditions of bilingualism? Does language contact - whether a result of trade, education, migration, conquest, or intermarriage - influence language structure in predictable ways? How do individual speakers handle multiple languages? How have attitudes to speakers of multiple languages changed through history? How have socio-historical events shaped the linguistic situation in the USA?

**LING 054 301**

TR || 0130PM-0300PM || FISHER-BENNETT HALL 141

**Fulfills:** Sector II: History & Tradition

### **Proving Things: Algebra**

William Simmons, Lecturer in 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. Students must enroll in both the seminar (section 301, shown below) and one of the labs (101 or 102, below).

MATH 203.101 (lab) | Monday | 6:30 p.m. to 8:30 p.m.

MATH 203.102 (lab) | Wednesday | 6:30 p.m. to 8:30 p.m.

### **MATH 203 301**

TR | | 1030AM-1200PM | | DAVID RITTENHOUSE LAB 3C8

### **Math in Age of Info: Math in the Media**

Ted Chinburg, Professor of Mathematics

This course counts as a regular elective for both the Mathematics major and minor. This is a 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**

TR | | 0300PM-0430PM | | DAVID RITTENHOUSE LAB 4C6

**Fulfills:** | Quantitative Data Analysis

### **Hearing (in) the Middle Ages**

Mary Caldwell, Assistant Professor of Music

How did people hear and what did they listen to in the European Middle Ages? How much of the Middle Ages do we actually hear when we listen to modern recordings of medieval music? How does the Middle Ages "sound" in movies, literature, and even in contemporary and popular music? In this seminar we will explore how the Middle Ages sounded then and now through close reading of primary and secondary sources and by examining how sounds are understood and interpreted today through scholarship, recordings, and film. Additionally, we will strive to "see" sound by examining medieval manuscript books, visiting both Penn's own Kislak Center and the Free Library of Philadelphia. Finally, sound and hearing in the seminar will not be limited to that which is created by humans, but will extend to exploring the sounding world (and its reception) of bells, animals, and inanimate objects. No prior experience with music is required for this seminar.

### **MUSC 016 301**

W | | 0200PM-0500PM | | VAN PELT LIBRARY 452.2

**Fulfills:** Sector III: Arts & Letters

### **Music in Urban Spaces**

Molly McGlone, Assistant Dean for Academic Advising

**Open only to students enrolled in this seminar in Fall 2017.** 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, sociologists and educators who work to define urban space and the role of music and sound in urban environments, including through music education. While the readings make up our study of the sociology of urban space and the way we use music in everyday life to inform our conversations and the questions we ask, it is within the context of our personal experiences working with music programs at West Philadelphia High School or Henry C Lea Elementary, both inner city neighborhood schools serving economically disadvantaged students, that we will begin to formulate our theories of the contested musical micro-cultures of West Philadelphia. This course is over two-semester where students register for .5cus each term (for a total of 1cu over the entire academic year) and is tied to the Music and Social Change Residential Program in Fisher Hassenfeld (<http://fh.house.upenn.edu>)

### **MUSC 018 401 | URBS 018 401**

F | | 0200PM-0400PM | | GOLDBERG CH - FOERDERER BUILD 205

**Fulfills:** Sector IV: Humanities & Social Sciences | Cultural Diversity in the U.S.

### **Honors Physics II: Electromagnetism and Radiation**

Charles Kane, Professor of Physics

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 at the bottom) and one of these labs:.

PHYS 171.302 (lab) | Tuesday | 3:00 p.m. to 5:00 p.m.,  
 PHYS 171.303 (lab) | Thursday | 3:00 p.m. to 5:00 p.m.,  
 PHYS 171.304 (lab) | Friday | 3:00 p.m. to 5:00 p.m., or  
 PHYS 171.305 (lab) | Friday | 1:00 p.m. to 3:00 p.m.

The seminar also meets for a fourth hour on Mondays from 2:00 p.m. to 3:00 p.m.

### **PHYS 171 301**

MWF | | 1000AM-1100AM | | DAVID RITTENHOUSE LAB A6M | | 0200PM-0300PM | | DAVID RITTENHOUSE LAB A6

**Fulfills:** Sector VI: Physical World

### **Sociology of Religion**

Herbert Smith, Professor of Sociology Feith Family Seminar

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 freshmen to sociology and the sociological perspective; to fundamental issues in the social sciences; and --- this is the great advantage of a freshman seminar -- to the responsibilities and rewards of intellectual life at a university.

### **SOCI 041 301**

T | | 0130PM-0430PM | | WILLIAMS HALL 741

**Fulfills:** Sector I: Society

### **Environment and Sociology**

Daniel Cohen, Assistant Professor of Sociology

This freshman seminar will introduce students to a range of novel social perspectives on the contemporary global environmental crisis that is usually represented in strictly scientific terms or according to clichés about environmentalists, grouped into four themes. First, we will emphasize the fundamentally global nature of environmental problems like greenhouse gases and water scarcity. Second, we will explore the rich analogies between human and non-human consciousness, and how the relationship between humans and non-humans varies across time and space. Third, we will explore new thinking on environmental inequality, which explores the subtle ways in which all social groups both make and suffer the global environment in distinctive ways. Fourth, against the intuitive despair that global environmental crisis is too great for any of us to have any positive impact, we will explore the surprising ways in which motivated individuals, working together, can do more than ever to help alleviate our ecological crises.

### **SOCI 041 302**

TR | | 0300PM-0430PM | | MCNEIL BUILDING 110

**Fulfills:** Sector I: Society

## **Poverty and Inequality**

Regina Baker, Assistant Professor of Sociology

What does it mean to live in poverty in the "land of plenty" and experience inequality in the "land of opportunity?" This Freshman Seminar explores these questions and others related to poverty and inequality in contemporary America. The first part of this course focuses on poverty. We will examine topics such as poverty perceptions and measurement, poverty trends, causes of poverty, poverty-related outcomes, and anti-poverty policy. The second part of this course focuses on inequality more broadly. We will examine how inequality is defined and what it looks like in the U.S. We will compare the "Haves" and the "Have Nots" and discuss social class, mobility, wealth, and privilege. Lastly, we will explore how different domains (e.g. education, the labor market, health, the justice system) produce, maintain, and reproduce inequalities. Throughout the semester, we will consider the roles of race/ethnicity, gender, age, and place, and how they help deepen our understanding of poverty and inequality.

### **SOCI 041 303**

W || 0200PM-0500PM || COLLEGE HALL 311F

**Fulfills:** Sector I: Society | Cultural Diversity in the U.S.

## **Social Inequality and Health**

Courtney Boen, Assistant Professor of Sociology

Eat well. Exercise regularly. Get 7-9 hours of sleep. We have all been bombarded with this type of advice for achieving and maintaining optimal health. But how are our health behaviors and outcomes shaped, influenced, and constrained by social factors? How does where we live influence how—and how long—we live? And how do racism, gender inequality, and other forms of social exclusion, oppression, and domination impact health and well-being? This course provides an introduction into how social forces, broadly, and social inequality, specifically, impact individual and population health. We will begin by learning about how health is more than the product of individual lifestyle choices and genetic factors by exploring the social determinants of health. We will then examine how social inequality—particularly along lines of race, immigration status, social class, and gender—contributes to population health differences. We will analyze how racism, gender inequality, and other forms of social stratification both shape access to health promoting resources and opportunities such as well-paying jobs and healthy and affordable foods and also pattern exposure to harmful stressors and toxins such as discrimination and violence. Finally, we will discuss and debate policy and programmatic approaches aimed at reducing population health disparities. In this course, we will examine concepts related to social inequality and health through a process called "active learning," which involves activities such as watching and reacting to films, reading about and responding to current events, and active dialogues and debates with classmates.

### **SOCI 041 304**

MW || 0200PM-0330PM || PSYCHOLOGY LAB A30

**Fulfills:** Sector I: Society | Cultural Diversity in the U.S.

## **Mistakes, Accidents and Disasters**

Charles Bosk, Professor of Sociology

The purpose of this seminar is to provide a basic understanding of some rather ubiquitous social phenomena: mistakes, accidents and disasters. We will look at these misfirings across a number of institutional domains: aviation, nuclear power plants, and medicine. Our goal is to understand how organizations "think" about these phenomena, how they develop strategies of prevention, how these strategies of prevention create new vulnerabilities to different sorts of mishaps, how organizations respond when things go awry, and how they plan for disasters. At the same time we will be concerned with certain tensions in the sociological view of accidents, mistakes and disasters at the organizational level and at the level of the individual. Accidents, mistakes and disasters are embedded in organizational complexities; as such, they are no one's fault. At the same time, as we seek explanations for these adverse events, we seek out whom to blame and whom to punish. We will explore throughout the semester the tension between a



view that sees adverse events as the result of flawed organizational processes versus a view that sees these events as a result of flawed individuals.

**SOCI 041 305**

T || 0130PM-0430PM || MCNEIL BUILDING 409

**Fulfills:** Sector I: Society

**Vagelos Integrated Program in Energy Research (vipr) Seminar, Part I**

Andrew Rappe, Professor of Chemistry; John Vohs, Professor of Chemical and Biomolecular Engineering

This is the first part of the two-semester seminar designed to introduce students to the VIPER program and help them prepare for energy-related research. Research articles on various energy-related topics will be discussed, and students will be guided toward their research topic selection. Library research, presentation of data, basic research methods, research ethics, data analysis, advisor identification, and funding options will also be discussed. Sample energy topics discussed will include: Applications of nanostructured materials in solar cells; Solid oxide fuel cells; Global climate modeling: radiant heat transfer; Nanocrystal-based technologies for energy storage; Photo-bioreactor systems for mass production of micro-algae; Advanced rare earths separations chemistry; Modeling of oxides for solar energy applications; and Electronic transport in carbon nanomaterials.

**VIPR 120 301**

T || 1100AM-1200PM || CHEMISTRY BUILDING 119