

Freshman Seminars

SPRING 2017

Sector I - Society

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.

War on Drugs: Latin America

Dorothy Kronick, Assistant Professor of Political Science

The United States government has spent tens of billions of dollars on policies aimed at reducing the flow of illicit drugs from Latin America and the Caribbean. In this seminar, we will ask: On what were these billions of dollars spent? How did these policies affect the supply of drugs to the United States? How did these policies affect violence in Latin American countries? How did they shape the revenues and political power of drug trafficking organizations? In what ways have counternarcotics policies changed the functioning of democracy across Latin America? What does the move toward legalization of marijuana mean for the counternarcotics policies of the United States? Through readings and discussion, we will analyze one of the central tenets of the relationship between the United States and Latin America.

PSCI 010 401 LALS 107 401

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

Politics of Reproduction

Dawn Teele, Assistant Professor of Political Science

The idea that the "personal" is "political" finds no greater example than in the politics of reproduction. From inheritance laws, the rights of the offspring of enslaved peoples, or policies to reduce (or increase) fertility, the modern nation state has had a great deal to say about the use and produce of women's bodies. In this course we will examine how formal and informal institutions have governed reproductive practices over the past 200 years. We will look at how family structures and economic development map onto fertility, and at how technological innovations in fertility control (including birth control and IVF) have influenced women's economic and political participation. We will also examine the "dark side" of reproductive policies -- not only sterilization campaigns but also the treatment of sex workers and IVF -- to understand how state policies have divided women based on race, class, and occupation. Throughout the course we will analyze how formal and informal institutions can and have been subverted through collective action.

Cultural Diversity in the U.S.

PSCI 010 402 GSWS 010 402

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 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

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

Poverty and Inequality

Michael Reay, *Lecturer in Sociology*

What does it mean to live in poverty in the land of plenty? In this seminar, we will explore this question and others related to poverty in contemporary America. We will discuss topics such as poverty measurement, current poverty trends, the causes of poverty, and poverty-related outcomes. We will also consider inequalities in other related domains (e.g., the labor market, health, family, education, and the justice system) and how they help produce, maintain, and reproduce poverty and inequality. Throughout the semester, we will consider the roles of race/ethnicity, gender, age, and place. Lastly, we will examine anti-poverty policy programs in the U.S, their effectiveness, and how they compare to programs in other countries. To encourage engaged class discussions, students will complete short weekly response papers regarding course readings.

Cultural Diversity in the U.S.

SOCI 041 302

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

Work & Careers in 21st Century

Jerry Jacobs, Professor of Sociology

The premise of the class is that the workplace is undergoing major transformations that may well generate jobs, careers and organizations quite different from those currently in place. Many inter-related changes are underway, including: globalization, the information and internet revolutions, the diffusion of monitoring and evaluation systems, the mechanization and automation of many jobs and industries, the prospect of working remotely and the growing diversity of the labor force. These changes can be best understood by studying contemporary developments along with placing these changes in an historical perspective. By examining how the theory and practice of work have evolved over the last century and a half, we will be in a better position to understand the changes already in progress and those that may transform work and the workplace over the course of your careers.

The course is divided roughly into three sections. In the first section, we will discuss contemporary trends with an emphasis on technological change, the decline in career stability and the rise in inequality. The second section puts these developments in a broader historical and theoretical context. These early sessions will draw on research and scholarship from diverse fields such as economics, sociology and history. The third section of the course will examine issues of diversity and inequality, including gender, race, ethnicity, culture and aging. Throughout the semester, we will juxtapose established theories, current practices, and anticipated future developments.

SOCI 041 303

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

Sector II - History & Tradition

Yoga and Philosophy

Lisa Miracchi, Assistant Professor of Philosophy

"Yoga" means to yoke in Sanskrit. Metaphorically, this is often interpreted as union, or integration. This course will explore central aspects of yogic philosophy and practice, and how they relate to, and might be integrated with, contemporary analytic philosophy, college life, and beyond. We will focus on three key issues: (1) What is yogic philosophy? How does it relate to the western philosophical tradition more commonly taught in philosophy departments in the U.S.? (2) What does the practice of yoga have to do with theoretical understanding? (3) Is it possible to integrate a yogic worldview and a scientific worldview? Is there scientific evidence that yoga "works"? What does that even mean? This course will contain both a theoretical component and a practice component. In addition to writing analytical essays on these topics, students will maintain a yoga practice and a reflective journal throughout the course. No prior experience with yoga is required.

Cross-Cultural Analysis

PHIL 051 301

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

Sector III - Arts & Letters

First-Year Seminar: Writing About Art

Susan Bee Laufer, Lecturer, Creative Writing Program

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, the Barnes Collection, and the

Pennsylvania Academy of the Fine Arts. 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

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

Travel

David Wallace, *Professor of English*

Travel writing is both an ancient literary genre and a modern one, stretching from the Biblical Book of Exodus to the present day. In this course you will both study travel writing as a genre and become a travel writer yourself.

We begin by trying to grasp issues of genre: how can travel writing be defined, exactly? Is it an activity for the privileged and the wealthy, rather than the desperate and the refugee? What is a traveller looking for when they set out, and what is she or he trying to tell us? What details of a journey are included, and what is left out? Does a particular traveller prepare for the journey by studying the history, culture, and language of the places to which s/he travels, or just leave home with little preparation in the spirit of adventure, open to what happens?

We will find that our study of travel writing brings up some associated issues, such as matters of ecology and business. How is the environment affected by this new phenomenon of mass travel? What kind of businesses does it generate?

The course should appeal to students from a wide range of backgrounds, with interests ranging from literature and Creative Writing to ecology and business. A consistent emphasis on this course, however, will be on writing; close attention will be paid to all aspects of composition in your essays, with correction and commentary given via Track Changes, plus commentary on literary style. The aim is that you should end the semester with a long essay to be proud of, the fruit of considerable effort on your part.

During Spring break you will travel somewhere, experiencing everything as a travel writer. You need not feel obliged to book an exotic vacation to Cancun; a trip across Walnut bridge to Reading Terminal Market may be just as revealing. For a travel writer, everything that happens can become part of the narrative: cancelled flights, random encounters, "getting lost." After Spring break each student will work on a draft of their personal travel narrative, which will be workshopped in class. We will read other texts, but the perfection of your own account will be the main aim.

Assessment: one short tune up essay, a standard essay or two, and then the longer project, with class participation to include presentation of your draft travel writing.

ENGL 016 302

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

JM Coetzee: From Africa to Australia

Jean-Michel Rabaté, *Professor of English*

J. M. Coetzee has emerged as one of the most important authors writing in English today. This has been confirmed not just by his Nobel prize but by the sense that each new novel is a new departure bringing a new perspective and a sense of style to the topics he treats. This class provides a general introduction to his collected works. We will begin with the South African context and his resistance to Apartheid, tackling issues of colonialism, torture, marginalization, femininity, intertextuality, and violence so as to define Coetzee's blend of modernism and postmodernism. We will split the corpus into three groups of four novels, in which we will read closely one only (in bold here) while surveying the others. We will begin with the African sequence of *Dusklands*, ***In the Heart of the Country***, *Waiting for the*

Barbarians, and *Life & Times of Michael K*. This will be followed by the polyphonic exploration of a broader world, with ***Foe***, *Age of Iron*, ***The Master of Petersburg*** and ***Disgrace***. Finally, the last novels will take us to Adelaide or beyond, to a future utopia. With ***Slow Man***, *Diary of a Bad Year*, ***The Childhood of Jesus*** and ***The Schooldays of Jesus***, we will assess the change brought about by the displacement to Australia. We will also engage with the question of animals as presented in *Elizabeth Costello* and take into account the critical dialogue with psychoanalysis of *The Good Story*.

Requirements: one film journal (*Disgrace*) and two papers of 12 pages.

ENGL 016 303

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

Italian Food Culture in Art, Cinema and Literature

Alessandra Mirra, *Visiting Scholar in Italian Studies*

The course has a twofold structure. On one side, it will investigate how the development of the Italian culinary tradition and the variety of eating habits mirror the historical and economical changes that occurred in Italian society over the centuries. We will embark on a journey across time, social classes and geographical regions. On the other side, the course will analyze images of food in literary works (from Dante to Futurism) and in Italian films (from Pasolini to Guadagnino), in order to understand how food became an important defining element of “Italianness” and “Italicity” in the common imaginary. While the core of the syllabus centers on Italian culture and society, we will also look at it transnationally. In particular, we will reserve a section of the course to the Italian-American interpretation of Italian cuisine, as well as to the business of Italian food on the U.S. market.

Literary texts include, but are not limited to: Dante, Boccaccio, Manzoni, Leopardi, Verga, Marinetti. Films will include: *La Ricotta* (Pier Paolo Pasolini, 1962); *Mid-August Lunch* (Gianni Di Gregorio, 2008); *La grande bouffe* (Marco Ferreri, 1973); *Big Night* (Campbell Scott and Stanley Tucci, 1996); *The Dinner* (Ettore Scola, 1998); *His Secret Life and Saturn in Opposition* (Ferzan Özpetek, 2001 and 2007); *I am Love* (Luca Guadagnino, 2009).

*This course will be taught in English. Materials and writing assignments may be provided in Italian for students interested in pursuing a Major or Minor in Italian Studies.

ITAL 100 401 CIMS 014 401 COML 107 401

Monday, Wednesday, and Friday | 1:00 p.m. to 2:00 p.m.

Feith Family Seminar: That’s My Song!: Musical Genre as Social Contract

Guthrie Ramsey, *Professor of Music*

Music in American history has been fundamental to identity formation because, as one scholar notes, it comprises “the deepest feelings and qualities that make a group unique. Through moving and sounding together in synchrony, people can experience a feeling of oneness with others.” This freshman seminar examines how various musical genres have served as “social contracts” among audiences throughout the process of this country’s nation building process. Within America’s melting pot ideal, communities of listeners have asserted their powerful convictions about social identity through musical praxis and its “rules of engagement.” The discourses surrounding the notion of “genre” have often made these meanings legible, audible and powerful for many. From Protestant church performance practices, to minstrelsy, to Tin Pan Alley to rock and hip-hop, the social agreements of musical genres help us understand the dynamism of American identities.

MUSC 016 301

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

Songwriting

Anna Weesner, *Professor of Music*

In this seminar we will explore the craft of songwriting as listeners, as practitioners, and as scholars. We will analyze both music and lyrics in a deliberately wide range of repertoire, both historical and contemporary, including art songs, pop songs, songs of tin pan alley, and more. We will engage in specific, hands-on exercises to hone our own skills as possible songwriters and we will also consider broader questions about music as part of culture generally. What makes for a wonderful melody? Is ambiguity in terms of genre or style even possible? The work for the course will involve some composing, though musical background is not a prerequisite for the course. Indeed, one topic of discussion might involve the question of what specific musical technique can serve a songwriter and why. Assignments will further include listening, analysis, reading, writing and presentation.

MUSC 016 302

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

Sector IV - Humanities & Social Sciences

Emotions

Rita Copeland, *Professor of Classical Studies*

The field known as “History of the Emotions” has gained tremendous prominence in literary and cultural studies. But do emotions have a history? If so, what methods do we use for discovering and recounting that history? To what extent does history of the emotions borrow from other fields? These include all the fields that relate to what we call “emotions studies”: psychology, sociology, political theory, philosophy, and neuroscience. In this seminar we will explore some key methodologies and subject matters for history of the emotions. We’ll look at some philosophical reflections on emotion (including Plato, Aristotle, and the Stoics, as well as more recent moral philosophers); we’ll also look at political theorists, including Thomas Hobbes; we’ll explore psychoanalytic perspectives, historical research, and some of the work of neuroscientists; and we will take these ideas into explorations of art, literature, and music.

I encourage students to bring their interests to the seminar and to make their fields part of what we study. We’ll have some basic readings that we all do, but we will also follow lines of research that are important to you. The paths that your research takes will shape our course.

ENGL 015 402 CLST 019 402

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

Music in Urban Places

Molly McGlone, *Assistant Dean for Academic Advising*

Open only to students enrolled in this seminar in Fall 2016.

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>)

/musicandsocialchange) where most class participants live together. All participants volunteer in music classrooms for 3 hours per week, are expected to go to at least two concerts in the community during the year, attend the seminar weekly and complete all assignments.

Cultural Diversity in the U.S.

MUSC 018 401 URBS 018 401

Friday | 2:00 p.m. to 4:00 p.m.

Enhancing the Human Mind through Technology

Gary Purpura, *Assistant Dean for Academic Advising*

Transhumanists seek to extend the capacities of the human mind beyond the bounds of the human brain and body through technology. Indeed, for them, such an extension of human thinking and feeling represents the next big step in human cognitive evolution. In this course, we will examine the philosophical conception of a mind that underpins this movement to extend the human mind beyond human biology. Through an examination of the hypothesis that there can be non-biological thinking and feeling, we consider whether technologies that enable or enhance human mental faculties might one day completely supplant the biological machinery of the human body. We will also consider the moral issues surrounding the creation of transhumans. The questions that we consider in this course will get to the heart of what it means to possess a human mind and indeed to be a human being.

PHIL 032 301

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

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

Music and 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

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

The Superbug Epidemic

Hillary 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 | 10:30 a.m. to 12:00 p.m.

Sector VI - Physical World

The Human-Environment Interface: Freshman Seminar in Environmental Science

Alain Plante, *Associate Professor of Earth and Environmental Science*

This seminar is offered to interested students enrolled in ENVS100: Introduction to Environmental Science. The course as a whole explores 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.

Quantitative Data Analysis

ENVS 100 301

Monday | 11:00 a.m. to 12:30 p.m.

Sector VI - Physical World

Honors Physics II: Electromagnetism and Radiation

A. T. Johnson, *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 | 3:00 p.m. to 5:00 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

Ponzy Lu, *Professor of Biology*

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

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

Seminars in Mathematics

Proving Things: Algebra

Ron Donagi, *Professor 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.

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., or

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

MATH 203 301

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

Math in the Age of Information

Ted Chinburg, *Professor of Mathematics*

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.

Quantitative Data Analysis

MATH 210 301

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

Other seminars open to freshmen (no sector)

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

Andrew Rappe/John Vohs, *Professor of Chemistry/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.

VIPER 120 301

Tuesday | 11:00 a.m. to 12:00 p.m.