Freshman and Sophomore Seminars Course Offerings

Aerospace Studies
- AERO 24, Section 1- From the Earth to the Stars in One Giant Leap

Anthropology
- ANTHRO 24, Section 1- Tourism, Heritage and Ritual

Engineering
- Engineering 24, Section 1- Boeing 737 MAX: Money, Machines, and Morals in Conflict

English
- English 24, Section 1- The Writings of Valeria Luiselli

Environmental Science, Policy and Management
- ESPM 24, Section 2 - History and Ecology of East Bay Regional Parks

Global Studies
- GLOBAL 24, Section 1- Diversity, Identity, and Social Justice: America in Global Perspective

Integrative Biology
- INTEGBI 24, Section 1- Biological Impacts of Climate Change
- INTEGBI 24, Section 2- Extreme Mammals!
- INTEGBI 24, Section 3- Behavior at Berkeley

Linguistics
- LINGUIS 24, Section 1- One State, Many Voices: Linguistics diversity in California

Mathematics
- MATH 24, Section 1- Classical and Quantum Walks

Materials Science and Engineering
- MATSCI 24, Section 1- Becoming a Latinx Engineer at Cal

Middle Eastern Languages and Cultures
- MELC 24, Section 1- Animals in Ancient Egypt

Molecular and Cell Biology
- MCELLBI 90B, Section 1- The challenge of neurodegenerative disease

Nuclear Engineering

- NUC ENG 24, Section 1- How It's Made
- NUC ENG 24, Section 2- Everything You Ever Wanted To Know About NUC ENG But Were Afraid To Ask

Nutritional Sciences and Toxicology

- NUSCTX 24, Section 1- Eating Green: The science behind the grassroots food movement

Physics

- PHYS 24, Section 1- The LHC Experiments: an Introduction to Experiment-Driven, Evidence-Based Science

Psychology

- PSYCH 24, Section 1- The Shattered Mind

Public Health

- PBHLTH 24, Section 1- The Economics of Innovation in the Life Sciences

Undergraduate Business Administration

- UGBA 24, Section 1- Passion and Purpose: Exploring the Meaning of Meaning

German

- German 39S, Section 1- Language Origins and Development

Legal Studies

- Legal Studies 39D, Section 1- Current Political and Moral Conflicts and the Constitution

Architecture

- ARCH 84, Section 1- Making and Seeing

Astronomy

- ASTRON 84, Section 1- Astrophysical origins of chemical elements

Gender and Women's Studies

- GWS 84, Section 001- Critical Aesthetics

History

- HIST 84, Section 1- Algorithmic life: The social impact of automation

Seminars Open to Freshman Only

Aerospace Studies

AERO 24, Section 1- From the Earth to the Stars in One Giant Leap

Dr Lawrence Kuznetz
Tuesday 3:00-4:00PM, 237 Cory, Class number: 32937 (1 unit, P/NP)

This course is an introduction to space exploration. Where we've been, where we are and where we're going. From the people, jobs and industries on the ground, to the paradigm-changing Moon missions of Apollo to living and working in LEO (low earth orbit) to the push to Mars and beyond, we'll explore what it takes to put humans and robots in space and why we're doing it. So Buckle up Starfleet wannabes, and get ready for one giant leap from your desk to the stars.

Anthropology

ANTHRO 24, Section 1- Tourism, Heritage and Ritual

Professor Nelson Graburn
Friday 1:00-2:00, 221 Anthro/Art Practice Building, Class number: 24089 (1 unit, LG)

The course focuses on anthropological approaches to the two main topics: tourism and cultural heritage. Tourism is a form of secular ritual involving travel, commonly associated with modernity; there is a close relationship between tourism and pilgrimage. Heritage includes tangible and intangible parts of culture, especially forms of art, consciously preserved from the past, often for tourism. We will discuss the topics from participants' point of view–identity, learning, self-fulfillment, and adventure–and the impacts of these modern movements–such as 'over-tourism', commoditization, and co-creativity. The class will focus on the students' own experiences in family heritage and social rituals, arts and travel experiences, in relation to ideas discussed in class and in the digitally distributed readings.

Particularly suitable for students with minority, cross-cultural and mixed identity, and those who have traveled or lived elsewhere and are willing to explore the arts, the world and themselves. There will be weekly in person "office hours" for optional individual discussions with the professor. Students may also be interested in events offered through the Tourism Studies Working Group later on Friday afternoons. See www.tourismstudies.org.
For questions, please email graburn@berkeley.edu.

Nelson Graburn studied Social Anthropology at Cambridge, McGill Montreal and the University of Chicago. After a postdoc at Northwestern, researching Inuit-Naskapi/Cree identities, he was hired at UC Berkeley. He has taught the anthropology of kinship, art, tourism, and about the Inuit, China and Japan. He has held visiting positions in Canada, France, UK, Japan, and Brazil and has lectured at forty universities in China. He has lived in 22 Inuit [Eskimo] communities in the Canadian Arctic researching kinship, cultural change, art and identity, and has carried out research on domestic tourism, multiculturalism and heritage in Japan, and China (since 1991). Among his books are *Ethnic and Tourist Arts* (1976); *Japanese Domestic Tourism* (1983); *The Anthropology of Tourism* (1983); *Multiculturalism in the New Japan* (2008); 旅游人类学论文集 [Anthropology in the Age of Tourism] (2009); *Tourism Imaginaries: Anthropological Approaches* (2014).and *Indigenous Tourism Movements* with Alaska Native Alexis Bunten (2018).

Faculty web site: https://anthropology.berkeley.edu/nelson-h-graburn

Engineering

Engineering 24, Section 1- Boeing 737 MAX: Money, Machines, and Morals in Conflict

Professor Brian Barsky
Wednesday 4:00-6:00, 606 Soda Hall, Class number: 29482 (1 unit, P/NP)

This seminar explores the ethical issues of corporate behavior as well as lack of government oversight leading to crashes of the newest commercial passenger airplane. Within two years of its first commercial flight, the Boeing 737 MAX aircraft suffered two crashes within five months of each other. In both incidents, pilots could not control the aircraft shortly after takeoff resulting in tragic crashes with no survivors. Despite the similar characteristics of the two crashes, the FAA resisted international pressure to ground the aircraft, but then grounded it for nineteen months. Due to concerns about financial losses, there was pressure to resume the use of the 737 MAX for commercial passenger flight as soon as possible notwithstanding continued safety concerns. The FAA ungrounded it in November 2020, despite many lingering safety questions. Examination of the many factors that led to these disastrous consequences illuminates disquieting ethical issues of corporate behavior and lack of government oversight. The crashes were due to a flawed design and there is a complex web of concerns involved. At the heart is a computer software that controls the aircraft (Maneuvering Characteristics Augmentation System, or MCAS) which was a key element in the crashes. Possible topics to be discussed include physics of flight, aeronautics, avionics, aircraft design, engineering ethics and the social responsibility of engineers, corporate interest and business ethics, the role of responsible government, issues of increased reliance on complex software replacing humans, etc.

This seminar will require students to research and present some of the issues involved in this timely matter. Students from all academic disciplines are welcome and encouraged to enroll. The class will not meet every week. Professor Barsky will work out exact arrangements directly with the students. Attendance at all classes and other course-related activities is required to receive a “pass” grade, except for prior arrangement with the instructor or documented emergencies. “Guidelines Concerning Scheduling Conflicts with Academic Requirements” state “faculty may decline to enroll students in a class who cannot be present at all scheduled activities.” This class could switch to an online format if circumstances warrant.

Prof. Barsky became involved in this topic when his friend’s granddaughter was among the 346 people killed in the crashes. He met with the head of the Aviation Accident Investigation Sub-Committee of the National Transportation Safety Committee of Indonesia in Jakarta to obtain first-hand the details of the first crash. He is in frequent contact with many engineers, pilots, and consumer advocates about this issue. Prof. Barsky has lectured globally on this topic. He was featured prominently in a recent Smithsonian documentary shown in the U.S. and U.K. His full-page op-ed in the Globe and Mail was discussed in the Parliament of Canada.

Students are welcome to contact the instructor, Prof. Barsky, via email address <barsky@berkeley.edu> with any questions.

Brian A. Barsky is Professor of the Graduate School. He is a Warren and Marjorie Minner Faculty Fellow in Engineering Ethics and Professional/ Social Responsibility. Prof. Barsky has faculty affiliations in Electrical Engineering and Computer Sciences (EECS), Optometry, Vision Science, Bioengineering, the Berkeley Institute of Design (BID), the Berkeley Center for New Media (BCNM), the Arts Research Center (ARC), and the Berkeley Canadian Studies Program. He received his Ph.D. from the University of Utah in Computer Science. His research interests include computational photography, contact lens design, computer methods for optometry and ophthalmology, image synthesis, computer aided geometric design and modeling, CAD/CAM/CIM, interactive and realistic three-dimensional computer graphics, visualization in scientific computing, computer aided cornea modeling and visualization, medical imaging, vision correcting displays, and virtual environments for surgical simulation.

Faculty web site: http://people.eecs.berkeley.edu/~barsky

English

English 24, Section 1- The Writings of Valeria Luiselli

Professor Eric Falci
Tuesdays 10-12, 306 Wheeler, Class number: 32704 (1 unit, LG)
February 21, 2023 - April 18, 2023

Valeria Luiselli is a prominent contemporary novelist and essayist who publishes in both Spanish and English, and whose work focuses on – among many other topics – issues around translation, migration, asylum-seeking, indigeneity, and the politics of family, race, and ethnicity. She will be visiting the English department in Spring 2023, where she will deliver a lecture as part of the Bedri Distinguished Writers Series. In this seminar, we will read and discuss her work and career within the context of contemporary literature, culture, and politics. The class will feature guest visits from several faculty members in the English Department, and our final class session, on the day after the Bedri Lecture, will feature a visit from Luiselli herself.

Eric Falci is Chair of the English Department and Professor of English at the University of California, Berkeley. He is the author of Continuity and Change in Irish Poetry, 1966-2010 (2012), the Cambridge Introduction to British Poetry, 1945-2010 (2015), and The Value of Poetry (2020), as well as a number of essays on twentieth- and twenty-first-century Irish and British poetry. With Paige Reynolds, he is the co-editor of Irish Literature in Transition, 1980-2020 (2020). His first book of poetry, Late Along the Edgelands, appeared in 2019 from Tuumba Press.

Environmental Science, Policy and Management

ESPM 24, Section 2 - History and Ecology of East Bay Regional Parks

Environmental Science, Policy, and Management 24, Section 2
History and Ecology of East Bay Regional Parks (1 unit, P/NP)
Dean, Rausser College of Natural Resources David Ackerly
Friday/Saturday , Fridays: 132 Giannini; Saturday: Off Campus, Class number: 27526
2/10 2-3:30; 2/11 9:00a-4:00p; 2/25 9:00a-4:00p (back up if 2/11 rained out); 4/21 2-3:30p; 4/22 9:00a-4:00p

In this seminar, we will learn about the history of the East Bay Regional Parks District, and then spend three Saturdays in the field learning about plant ecology and park management. Topics will include an introduction to tree identification, fire ecology, and climate-smart conservation strategies. Participants should be comfortable walking up to 5 miles on park trails. Transportation to/from parks will be provided for Saturday field trips.

David Ackerly is a climate change biologist and professor in the departments of Integrative Biology and Environmental Science, Policy, and Management and Dean of the Rausser College of Natural Resources at UC Berkeley. Ackerly's research group studies the impacts of climate change on biodiversity in California, and post-fire forest dynamics in mixed hardwood and oak woodlands. He has focused on the importance of spatial climate heterogeneity at landscape and regional scales to enhance resilience and facilitate range shifts for native plants and animals. Ackerly is a recipient of the 2011 Distinguished Faculty Mentor Award, a Senior Fellow with the Berkeley Institute of Data Sciences, a Fellow of the California Academy of Sciences, and a Fellow of the Ecological Society of America.
Faculty web site: https://ackerlylab.org/

Global Studies

GLOBAL 24, Section 1- Diversity, Identity, and Social Justice: America in Global Perspective

Lecturer Darren Zook
Wednesday 1:00-2:00, 104 Dwinelle Hall, Class number: 23735 (1 unit, P/NP)

Diversity is perhaps the most important social issue in America. As a concept, diversity includes and relates to a number of other issues, such as racism, discrimination, social justice, immigration, marginality, integration, and so forth. Many a program has been put in place to address and resolve these issues, in the hope that, over time, America would come together and make all of its differences work collectively as one harmonious and integrated society. For some people, this is already happening. For others, America seems more divided now than ever, and diversity has failed to deliver on its promise.

This seminar will delve into the complexities of this thing we call diversity, to explore the rhetoric and the reality of diversity as it currently exists in America. We will do this by reading accounts of diversity as it happens—not just in the news but also in a variety of different media—and then learning how to discuss critically the central issues of diversity. The goal is not just to talk about diversity, but also to learn how to talk about diversity in ways that are both critical and constructive. Diversity is an extraordinarily sensitive issue, and too many people simply avoid the conversation to avoid the discomfort that might ensue.

Darren Zook has been a member of the faculty at the University of California, Berkeley, since 2000. He teaches in International and Area Studies and in Political Science. He has taught previously at the University of California, Davis, and at the Claremont Colleges in southern California. In 2012, he was a Fulbright Research Scholar in Singapore working on a project that focused on cybersecurity in the Asia-Pacific region.

During his time at the University of California, Berkeley, Darren Zook has taught and published on a wide variety of topics, including the politics of the Asia-Pacific region, human rights and international law, terrorism and security studies, multiculturalism and diversity, and economic policy with a focus on anti-corruption programs. His research interests have continuously grown into an unusually broad portfolio of international and comparative projects, and his work has taken him to various parts of Asia, the Pacific Islands, and northern Europe.

Zook has recently published a four-book series, entitled Ourselves Among Others: The Extravagant Failure of Diversity in America and An Epic Plan to Make It Work, which is an engaged critique of current diversity policy and practice in the United States and elsewhere in the world.

Faculty web site: https://globalstudies.berkeley.edu/people/faculty/darren-zook/

Integrative Biology

INTEGBI 24, Section 1- Biological Impacts of Climate Change

Professor Caroline Williams
Tuesday 2:00-3:00, 4110 Valley Life Science Building, Class number: 21735 (1 unit, P/NP)

The pace of current climate change is orders of magnitude faster than any changes experienced in the Earth's past. This is reconfiguring biological diversity in ways that we are only beginning to recognize. Organisms are shifting their distributions in time and space, and experiencing population fluctuations and extinctions. In this seminar we will explore the biological impacts of climate change on plants, animals (including humans), communities, and ecosystems. This seminar is for anyone who cares about the planet and wants to understand climate change research and become a more effective advocate for understanding climate change. You must be prepared to fully engage with the course, contribute actively to discussions, and do all the readings.

Caroline Williams is an Associate Professor in Integrative Biology. She is an evolutionary physiologist who studies the evolution of metabolism in response to environmental perturbations. One of her research foci is the responses of insects to winter climate change.

Faculty web site: http://cmwilliamslab.com

INTEGBI 24, Section 2- Extreme Mammals!

Professor Jack Tseng
Tuesday 9:00-10:00, 3007 Valley Life Science Building, Class number: 21736 ((1 unit, P/NP)

From whales to bats, living mammals are among the most visible and well-studied animals in Earth's biosphere. Although many people perceive mammal biodiversity from species living today, the story of mammals goes back in time at least to the Jurassic Period. In this course, you will participate in discussions and readings of some of the "greatest hits" of mammalian adaptations to the changing Earth over the past 200 million years and explore what modern paleontology and anatomy research have to offer in understanding "extreme mammals"! This course is intended for anyone interested in learning about the amazing adaptations of mammals of the past and present. Students who are considering the Integrative Biology major or opportunities in the Museum of Paleontology are particularly encouraged to come learn more about the types of research questions and approaches used in the study of fossil and living mammals, their anatomy, and unusual adaptations.

Jack is a vertebrate paleontologist interested in all bitey things. As an one-time Cal undergrad, he got his start working with bones in the Museum of Vertebrate Zoology and Museum of Paleontology on campus. After getting his graduate degree at the Natural History Museum of Los Angeles County and stints in New York City and Buffalo, he joined the faculty of Integrative Biology at Cal in 2020. He specializes in hyena evolution, but is known to be a dog and cat person at home.

Faculty web site: https://sites.google.com/site/zjtseng/

INTEGBI 24, Section 3- Behavior at Berkeley

Professor Eileen Lacey
Wednesday 3:00 - 5:00, 3059 VLSB, Class number: 21737 (1 unit, P/NP)

8 2-hr sessions beginning on 17 January and ending on 7 March 2023

Who doesn't enjoy watching animals? From frisky squirrels to the Cal falcons, the Berkeley campus is full of interesting examples of animal behavior. Join us as we use observations of the critters on campus to explore the science of animal behavior, including how to develop and test hypotheses regarding the functional significance of the intriguing things that animals do. This discovery-based seminar is a great way to gain hands-on experience with behavior, biology, and the Berkeley campus. Already an experienced observer? Brand new to thinking about behavior? Anyone with interest and curiosity is welcome!

Professor Lacey is a behavioral biologist who studies social relationships in mammals. In particular, she is interested in understanding why some species of mammals live in family groups while other species are solitary, meaning that each adult lives alone. She explores these themes by studying South American rodents known as tuco-tucos, tojos, tokoros, and cururos. Her work with these animals has taken her to multiple remote locations in Argentina, Uruguay, Peru and Chile. At Berkeley, Professor Lacey teaches courses on animal behavior, mammals, and natural history museums.

Faculty web site: http://ib.berkeley.edu/labs/lacey/

Linguistics

LINGUIS 24, Section 1- One State, Many Voices: Linguistics diversity in California

Professor Line Mikkelsen
Tuesday 2:00 - 3:00PM, 174 Social Sciences Building, Class number: 32677 (1 unit, P/NP)

The goal of this seminar is to give you a sense of the linguistic landscape of California. The questions we'll be addressing include: What languages are spoken in California? How do these languages relate to each other linguistically? How, where, and when did they come to be spoken in California? And what factors and pressures have shaped the linguistic landscape of California today?The seminar is organized chronologically, starting with the linguistic landscape before colonization, and ending with the current linguistic landscape. Throughout we will consider the relationships between language and other aspects of life, including identity, community, health, and the law. For some meetings you will be assigned a short text to read, for others you will be asked to look up information or make observations about linguistic diversity in your every day life. The course is open to any freshman. No enrollment instructions.

Line Mikkelsen received a Ph.D. in linguistics from the University of California, Santa Cruz. Her research spans the morphology, syntax, semantics, and pragmatics, and the interactions among these in languages of the world. Her particular languages of expertise are Chochenyo (the first language of the East Bay), Danish, English, Kalaallisut (the official language of Greenland), and Karuk, an indigenous language of Northern California. Her work proceeds in close collaboration with elders, language teachers, language learners and language activists in the the Chochenyo, Kalaallisut and Karuk communities.

Faculty web site: http://linguistics.berkeley.edu/~mikkelsen/

Mathematics

MATH 24, Section 1- Classical and Quantum Walks

Professor F. Alberto Grunbaum
Thursday 10:00-12:00, 939 Evans Hall, Class number: 22017 (1 unit, P/NP)

Classes will take place the first seven weeks of the semester, for two hours each week from January 19th - March 2nd, 2023.

Random walks (whatever they are) have been used as models to understand all sorts of phenomena. More recently this has been enriched with the introduction of so-called "quantum walks." I will explain what this is all about and illustrate some of the surprising results one can explain with these tools by looking at the so-called Parrondo's paradox (you may want to Google this one). All students in the physical sciences, economics or people in the social sciences who are interested in quantitative reasoning are welcome to the course.

Alberto Grunbaum has taught in Berkeley starting in 1974. Previously he has taught at New York University and Caltech. He is a regular visiting faculty in several places in Europe, China, and South America.

Faculty web site: https://math.berkeley.edu/people/faculty/f-alberto-gruenbaum

Materials Science and Engineering

MATSCI 24, Section 1- Becoming a Latinx Engineer at Cal

Professor Oscar Dubon
Wednesday 4:00-5:00 pm, 350 Hearst Memorial Mining Building, Class number: 29252 (1 unit, P/NP)

Embarking on your engineering education at UC Berkeley can be stressful, intense, exciting and more. You will be taking rigorous courses, and the climate can be highly competitive and even intimidating. Finding your place in Berkeley Engineering and seeing yourself as a future engineer are keys to success. In this freshman seminar, we will unpack what it means to be an engineer in a multi-cultural society and what it means to bring your full self as a technical player toward a thriving world. Through readings, discussions, and speakers we will probe the nexus of engineering and Latinx identities.

Oscar Dubón is a Professor of Materials Science and Engineering at UC Berkeley and Faculty Scientist at the Lawrence Berkeley National Laboratory. He received a BS from UCLA and MS and PhD degrees from UC Berkeley. Prior to joining UC Berkeley as a faculty member in 2000, he was a postdoctoral fellow in applied physics at Harvard University. His research focuses on the synthesis and properties of semiconductors as well as the interplay between point defects and the electrical and optical behavior of materials. Oscar has held several administrative appointments at UC Berkeley including Vice Chancellor for Equity & Inclusion (2017-2021) and associate dean in Berkeley Engineering (2012-2017). He has received several honors including the Presidential Early Career Award for Scientists and Engineers (2004). Oscar was born in Hollywood, CA, from Nicaragua parents. When not working, he enjoys spending time with his family and tinkering with his bicycles.

Middle Eastern Languages and Cultures

MELC 24, Section 1- Animals in Ancient Egypt

Assoc Prof Egyptian Arch Carol Redmount
Tuesday 1:00-2:00, 271 Social Sciences Building, Class number: 26345 (1 unit, LG)

The ancient Egyptians had a rich and multifaceted relationship with the natural world around them, especially with animals. Animals, domestic and wild, played symbolic roles in the Egyptian universe as representatives and manifestations of various deities, and practical roles in the lives of ancient Egyptians where they functioned as pets, food, and offerings to the gods. In this one-hour seminar we will look at some of the many different ways the ancient Egyptians related to the animals populating their universe. Students with an interest in ancient Egypt and animals. No prior knowledge anticipated or required.

Carol Redmount is an archaeologist who has been excavating in the Middle East, and especially Egypt, for over thirty years. Her fieldwork research has taken place in Egypt, Jordan, Israel, Cyprus, Tunisia and the United States. Over the years she has adopted cats from Israel and Jordan and sponsored a dog and a cat from Egypt for adoption. She has always been fascinated by the ancient Egyptians' complex relationships with the many animals in their world and looks forward to exploring these further in this seminar. She lives in Berkeley with four rescue animals—one small dog and two cats—as well as two parrots.

Faculty web site: https://melc.berkeley.edu/faculty/redmount.html

Molecular and Cell Biology

MCELLBI 90B, Section 1- The challenge of neurodegenerative disease

Professor Randy W. Schekman
Tuesdays 9:00-11:00AM, 4110 VLSB, Class number: 22218 (1 unit, P/NP)

The class will meet on the following Tuesdays between 9-11AM: 1/24/23, 1/31/23, 2/7/23, 2/14/23, 2/21/23, 2/28/23, 3/7/23

Unlike progress in cancer and heart disease, neurodegenerative diseases such as Alzheimer's, Parkinson's, and ALS are on the rise with no effective treatments available in the near future. We will review what is known about these diseases including genetic and possible environmental influences and discuss the tremendous impact these diseases have on the patient, the family and society in general. Class discussions will include social implications, the cost of care and burden to society and the prospects for effective treatments in the years ahead. Students with an interest in medical research and the societal implications of long term illnesses and the rising cost of medical care are welcome to join. Some background in high school biology and chemistry is suggested but not required. Students with an interest in medical research and the societal implications of long term illnesses and the rising cost of medical are welcome to join. Some background in high school biology and chemistry is suggested but not required.

Dr. Randy Schekman is a Professor in the Department of Molecular and Cell Biology, University of California, Berkeley, and an Investigator of the Howard Hughes Medical Institute. He studied the enzymology of DNA replication as a graduate student with Arthur Kornberg at Stanford University. His current interest in cellular membranes developed during a postdoctoral period with S. J. Singer at the University of California, San Diego. Schekman's laboratory investigates the mechanism of membrane protein traffic in the secretory pathway in eukaryotic cells. In recent years his lab has turned to aspects of vesicular traffic in human cells, most recently on the biogenesis and sorting of small RNAs into extracellular vesicles.Among his awards are the Gairdner International Award, the Albert Lasker Award in Basic Medical Research and the Nobel Prize in Physiology or Medicine, which he shared with James Rothman and Thomas Südhof. From 2006 - 2011 he served as Editor-in-Chief of the Proceedings of the NAS. In 2011, he founded and until 2019 served as the Editor-in-Chief of the Open Access journal, eLife, sponsored by the HHMI, Wellcome Trust and the Max Planck Society. Beginning in 2018, Schekman assumed a leadership role in an effort supported by the Sergey Brin Family Foundation to identify and support basic research on the mechanisms of Parkinson's Disease initiation and progression (https://parkinsonsroadmap.org).

Faculty web site: https://mcb.berkeley.edu/labs/schekman/

Nuclear Engineering

NUC ENG 24, Section 1- How It's Made

Professor Peter Hosemann
Friday 12:00-1:00PM, 7 Evans Hall, Class number: 28603 (1 unit, P/NP)

This class is an introduction to the conventional manufacturing techniques of components used in nuclear and other engineering applications. An introduction to metal fabrication will be given, including, but not limited to, a brief introduction to refining, casting, forming, machining and joining. After an overview of the techniques available to engineers, the students will be expected to perform a literature review and discuss how specifically chosen components can be manufactured. In addition, the students will be encouraged to participate in the campus-offered machine-shop training where basic skills in machining are taught after a short introduction by the professor to the shop tools.

Originally from Vienna Austria, Peter Hosemann earned his MS in 2005 and his PhD in 2008 at the Montanuniversitaet Leoben in Austria in Materials Science. Professor Hosemann is interested in experimental materials science for nuclear applications. His main focus is on structural materials used for nuclear components (fission, fusion, spallation, etc.). His research focuses on developing a basic understanding of the materials' degradation processes in a nuclear environment and resulting consequences to engineering application.

Faculty web site: https://vcresearch.berkeley.edu/faculty/peter-hosemann

NUC ENG 24, Section 2- Everything You Ever Wanted To Know About NUC ENG But Were Afraid To Ask

Professor Eric Norman
Thursday 9:00-10:00AM, 45 Evans Hall, Class number: 28604 (1 unit, P/NP)

Have you ever wondered how a nuclear power plant produces electricity, or what makes a nuclear bomb explode, or how radiation can both cause and treat cancer? What caused the nuclear disaster at Fukushima? What powers the Perseverance rover on Mars? In this seminar, we will examine the basic science behind these and other topics and explore the engineering methods that underlie such technologies. Seminar is open to all interested freshmen.

Eric Norman is currently a Professor in the Graduate School. He previously taught both undergraduate and graduate courses in the Nuclear Engineering Department from 2006 to 2014. Before joining the faculty at Cal, he was a senior staff scientist at Lawrence Livermore National Lab from 2004 to 2008 and at Lawrence Berkeley National Lab. from 1984 to 2004. His research interests include neutrino physics, nuclear astrophysics, and applications of nuclear science in medicine and national security.

Faculty web site: https://nuc.berkeley.edu/people/eric-norman/

Nutritional Sciences and Toxicology

NUSCTX 24, Section 1- Eating Green: The science behind the grassroots food movement

Professor Amy Joy
Thursday 3:00-4:00, Online / Synchronous, Class number: 27972 (1 unit, P/NP)

Nutrition has become a hot-bed of controversy. Every day we are bombarded with new and seemingly unsubstantiated claims about a nutrient or dietary supplement with miraculous results that appear too good to be true. Other claims of products that boost our immune system or decrease our risk of heart disease may have little or no clinical significance. We hear concerns about the impact of agricultural methods on our environment as well as frightening reports on devastating illnesses associated with contaminated foods purchased in supermarkets or restaurants. How can we determine if these claims and others are credible? The goal of this freshman seminar is to analyze, discuss, and critically appraise the scientific basis for many controversial health and nutrition-related questions. What constitutes a healthy diet? What does eating healthy really mean? Are organic foods better for the environment? Am I eating enough fiber? Is sugar addictive? How can I reduce my intake of empty calories? How can I avoid food borne illness? These, as well as other current nutrition controversies, will be studied. Students will also examine their own dietary habits and participate in focus group interviews.

Amy Block Joy, Professor Emerita, was educated at UC Berkeley (PhD, Nutritional Sciences; BA, Biochemistry/Bacteriology) and has worked at the University of California for over three decades. She directed a poverty program receiving over $150 million in grants to improve the health and well-being of low-income Californians. She has authored three books, published dozens of scholarly peer-reviewed journal articles, served on educational and editorial boards, and prepared and presented hundreds of government reports on the study of health disparities among vulnerable populations. She is currently directing a faculty/student team to prepare original reseach on how undergraduates at Berkeley choose their college major.

Faculty web site: https://www.amyblockjoy.com/about/

Physics

PHYS 24, Section 1- The LHC Experiments: an Introduction to Experiment-Driven, Evidence-Based Science

Professor Haichen Wang
Thursday 12:00-1:00 PM, 122 Latimer, Class number: 22861 (1 unit, P/NP)

This seminar will be a conversation about experiment-driven, evidence-based science, using examples from the Large Hadron Collider (LHC) experiments. The LHC is the most powerful particle collider ever built, hosted by the European Organization of Nuclear Research in Geneva, Switzerland. Scientists use the LHC to study the most fundamental building blocks of the Universe and their interactions. In 2012, two experiments at the LHC, ATLAS and CMS, discovered the Higgs boson, which completed a highly successful theoretical framework known as the Standard Model of particle physics. However, big questions remain in the field of particle physics: why is gravity so much weaker than electroweak interactions? Why does our Universe have more matter than antimatter? What is the nature of Dark Matter? Are there extra spatial dimensions? This list can go on and on. Scientists are using LHC to look for answers to these questions. Each week, the instructor or a guest speaker will give a lightning talk on a topic related to the Large Hadron Collider experiment. Then students, instructors, and guest speakers engage in an open discussion, which could cover the research topic itself, the broader impacts of the research topic, and the interplay between the research work and the guest speaker or instructor's life and career paths. Toward the end of the semester, students will deliver their own lightning talk covering a topic related to the LHC experiments but of particular interest to themselves. A conversation between students and instructors will again follow the lightning talks. Haichen Wang received a B.S. in physics from Peking University in 2007, and a Ph.D. in physics from the University of Wisconsin-Madison in 2013. His Ph.D. thesis was about the discovery of the Higgs boson using data collected by the ATLAS experiment at CERN's Large Hadron Collider. He was an Owen Chamberlain fellow at the Lawrence Berkeley National Laboratory from 2013 to 2018 before joining the Physics Department in January 2019. In 2021, he received a CAREER award from the National Science Foundation to develop novel machine learning applications for particle physics and construct detectors for the High Luminosity Large Hadron Collider.

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Faculty web site: https://physics.berkeley.edu/people/faculty/haichen-wang

Psychology

PSYCH 24, Section 1- The Shattered Mind

Professor Mark D'Esposito
Monday 12:00-1:00, 134 Dwinelle, Class number: 26179 (1 unit, P/NP)

In this seminar, we will read and discuss chapters from a book entitled "The Shattered Mind" by Dr. Howard Gardner. As Dr. Gardner states, "It is my purpose in this book to demonstrate that a host of critical issues in psychology can be illuminated by a thoughtful study of the behavior and testimony of brain-damaged individuals." Such topics will include aphasia, amnesia, and the frontal lobe syndrome. The case studies that are presented in the book will be supplemented by patients seen and cared for by Dr. D'Esposito, who is a practicing neurologist.

I am a Professor of Neuroscience and Psychology, the former Director of the UC Berkeley Brain Imaging Center, as well as a practicing neurologist.

Faculty web site: http://despolab.berkeley.edu

Public Health

PBHLTH 24, Section 1- The Economics of Innovation in the Life Sciences

Professor James Robinson
Monday 1:00 - 2:00PM, 104 Genetics & Plant Biology, Class number: 30755 (1 unit, P/NP)

The COVID pandemic is dramatically accelerating investment in new vaccines, drugs, and diagnostic tests and will exert a strong influence on innovation policy after the pandemic has passed. In particular, we may see a growth in governmental grants for commercialization, expanded support for basic science, expanded tax incentives, and other 'push' mechanisms that offset the costs of R&D. We may see new 'pull' mechanisms that reward successful innovation, including innovation prizes and advance market commitments. This may be accompanied by a decline in net prices and profits, which have come under market and bipartisan political pressure. This seminar will introduce students to the innovation ecosystem, viewed through the lens of economics, and follow the evolution of policy and payment through the semester. There will be one short required reading for each week. Students will be required to write a short (one page) response, highlighting aspects that seem particularly interesting and identifying remaining questions. Seminar limited to 15 freshmen led by senior faculty on broad topics in public health such as financing health care, promoting preventive behavior, controlling major public health problems such as world hunger, AIDS, drugs, and the population explosion.

James Robinson is Leonard D. Schaeffer Professor of Health Economics at the University of California at Berkeley and Director of the Berkeley Center for Health Technology (BCHT). Professor Robinson's research focuses on the biotechnology, medical device, digital health, and health care delivery sectors. He has published three books and 150 papers in peer-reviewed journals such as the New England Journal of Medicine, JAMA, and Health Affairs. He teaches classes on public policy, health insurance, and the economics of the life sciences industry.

Faculty web site: bcht.berkeley.edu

Undergraduate Business Administration

UGBA 24, Section 1- Passion and Purpose: Exploring the Meaning of Meaning

Distinguished Teaching Fellow Cort Worthington
Monday 10:00-12:00, C250 Cheit, Class number: 20484 (1 unit, P/NP)

Class will be held weekly on eight Mondays from January 23 through March 20, 2022.

How does one navigate this unexpected journey we call life? What fundamental forces are at play as we search for and create meaning for ourselves? And how can we forge a life that allows us to contribute our full potential to the world?

No answers are guaranteed in this 1-credit exploratory seminar, but the questions we'll be asking ourselves are assured to be compelling. We will draw upon readings from a number of provocative thinkers on this subject of purpose and life meaning. We will shine focus on each student's own life experiences and aspirations related to the question of meaning. We will challenge our individual assumptions and mental models with the goal of expanding each person's ability to seek and potentially discover greater meaning and contribution.

Along with readings and facilitated discussion, short in-session exercises will add an experiential component to our work together, helping connect the ideas we're exploring to tangible, actionable growth. Students interested in the class should 1) add themselves to the wait list and 2) send the instructor two paragraphs: one introducing themselves and one explaining their interest in the class by Wednesday December 14th (to cort@berkeley.edu). Enrollment is limited to 12 students and applications will be accepted on a rolling basis.

Cort Worthington is a Distinguished Teaching Fellow at UC Berkeley's Haas School of Business, where he designs and delivers leadership courses for undergraduates and MBA students. His consulting client list includes Pixar, Yelp, Kaiser, Samsung, the US Army, and the US Olympic Team.

Prior to his position at Berkeley, Cort was co-founder of toy company Primordial, LLC, where he raised capital and served as Director of Operations. Along with multiple stints in Central America as a political activist, Cort spent twelve years as a film producer, directing documentary crews around the world. Additional experiences include fourteen seasons leading elite teams as a forest fire fighter and parachuting U.S. Forest Smokejumper, which piqued his interest in improvisational principles as applied to leading within high-risk, dynamic situations.

Cort's current intellectual focus explores how existential questions inform a leader's approach to their own personal and professional development. He holds an MA in Communication from Stanford University, an MBA from Columbia University Business School (finance), and an MBA from the University of California, Berkeley (leadership).

Faculty web site: https://haas.berkeley.edu/faculty/worthington-cort/

Seminars Open to both Freshman and Sophomores

German

German 39S, Section 1- Language Origins and Development

Professor Thomas Shannon
Tuesday and Thursday 11:00-12:30, 263 Dwinelle, Class number: 33208 (4 units, LG)

It is often said that language is what makes humans human. In fact, it is practically impossible to imagine modern societies without language. Consequently, to understand ourselves, we must understand language. To understand language, we need to know where it came from, why it works the way it does, and how it has changed. Throughout history, such fundamental questions have engaged the minds and imaginations of myth-makers and scholars alike. And yet many of the basic questions surrounding our unequaled ability to communicate continue to raise serious challenges and much controversy among researchers in numerous, diverse fields. In this seminar we will consider the long history of thought on this topic in the Western tradition, starting from the Bible and the Greeks, through later thinkers such as Dante, Rousseau, Grimm, and Darwin, down to present-day scholars like Noam Chomsky, Sue Savage-Rumbaugh, and Michael Tomasello.

Some of the issues that will interest us include the following. What is language? How and when did language emerge? In what steps or stages? Was there one (if so, which one?) or more than one original language? How can the great diversity of the ca. 7000 current-day languages be accounted for? What is the relation between language and thought? Is language a species-specific possession of humans and how does it compare to communication among other species? Is there a specific “faculty” or “organ” of language in the mind? Although this course is offered in the German Department, it not a course in or about German. All readings will be in English, as will classroom discussion. This seminar may be used to satisfy the Historical Studies or Social and Behavioral Sciences breadth requirement in Letters and Science. This seminar may be used to satisfy the Historical Studies or Social and Behavioral Sciences breadth requirement in Letters and Science.

Thomas F. Shannon is Emeritus Professor of Germanic Linguistics, former member of the Dutch Studies Program faculty, and former director of the UC student exchange program in Germany. He holds an MA in German from SUNY Albany as well as an MA in Theoretical Linguistics and a Ph.D. in Germanic Linguistics from Indiana University Bloomington. His main areas of research are modern German and Dutch, particularly syntax and phonology, as well as contrastive cross-linguistic comparison among the West Germanic languages. And, for as long as he can recall, he has been really fascinated “that which makes us human” — language.

Faculty web site: https://german.berkeley.edu/people/thomas-shannon/

Legal Studies

Legal Studies 39D, Section 1- Current Political and Moral Conflicts and the Constitution

Mr. Alan Pomerantz
Wednesday 11:00-1:00, 106 Wheeler, Class number: 19222 (2 units, LG)

Recent Supreme Court decisions have addressed and modified numerous rights and liberties once thought to be protected by the Constitution. People differ on the effect of these decisions, which is fundamentally a debate regarding the basis for the Court to entertain and decide them, and what should be the role of the Court. Some have argued that the Court’s role includes finding and protecting fundamental, constitutional rights based on an evolving

understanding of the meaning of individual freedom, liberty and equality. Others argue that the role of the Court is to apply the Constitution as written, and where the Constitution is silent, or "neutral," the resolution of any dispute or the extent of protection from governmental abridgment should be left to the people and their democratically elected representatives. This seminar will examine the role of the Supreme Court and the conflict between fundamental, individual, constitutional rights that should be immune from governmental interference, and the power of the people--the majority--to limit, modify and (perhaps) extinguish them. Topics we will address include individual sovereignty including abortion, LGBTQ+ rights (including marriage equality and gender identity), privacy and morality; the issues caused by acts of the secular government mandating equal treatment that abridged the free exercise of religion and freedom of speech--and what is speech; and limitations on expressions and opinions including "hate" speech and college speech codes. The class will be conducted primarily using the Socratic method. We will read important historical and current Supreme Court cases, as well as political and legal commentary from across the political spectrum. The prime focus of the seminar is to encourage students to develop and defend their own views and opinions regarding the relevant topics and to enhance their critical thinking skills.

Alan J. Pomerantz, Esq., has been a practicing lawyer at major international law firms for several decades. A graduate of the NYU School of Law, he also studied under the Fulbright Program in Chile and received an advanced legal degree from the University of Amsterdam (Netherlands). He has lectured and taught widely, including at the NYU School of Law, NYU College of Arts and Science, the University of Amsterdam, Columbia Graduate School, and the University of Concepcion (Chile). He has published numerous articles and contributed to several treatises on legal topics. Mr. Pomerantz has been recognized by several peer publications as one of the world's leading lawyers. He is also the recipient of the 2015 Fulbright Commission Global Citizens Award, and the 2016 Global Award for his legal work. Mr. Pomerantz has participated in important and controversial matters affecting individual rights, including the right of public artistic expression, the right of privacy for acts of consenting adults, numerous free speech cases, and woman's rights including abortion and personal sovereignty.

Faculty web site: https://news.berkeley.edu/2017/12/13/in-this-berkeley-seminar-knowledge-begins-with-i-dont-know/

Seminars Open to Sophomore Only

Architecture

ARCH 84, Section 1- Making and Seeing

Professor Renee Y. Chow and Thomas Chastain
Wednesday 3:00-5:00PM, 370 Wurster, Class number: 33437 (2 units, P/NP)

Making and seeing are two sides of the same coin. The mind that reads is the same mind that writes. For a designer, the inevitable dilemma of sitting down to a blank piece of paper is eased by the act of observation of the world. But, this is a learned skill, a cognitive ability, and fun. This seminar will see places as our laboratory, explored through drawing as our instrument. There will be occasional readings.

Tom Chastain has over 30 years of experience in both the practice and teaching of architecture and urban design. Renee Chow is also an architect and teacher, currently serving as the Dean of the College of Environmental Design. Together, they share a design practice, Studio Urbis, that is founded in the tenets of making and seeing.

Faculty web site: www.studiourbis.com; https://ced.berkeley.edu/people/renee-chow

Astronomy

ASTRON 84, Section 1- Astrophysical origins of chemical elements

Professor Webin Lu
Tuesday 4-5pm, 121 Campbell, Class number: 31812 (1 unit, P/NP)

In this course, we will discuss (1) how and where different chemical elements in the periodic table are made in the universe; (2) how they end up on Earth and in the Solar System --- a tiny corner of our universe; (3) how do we measure chemical compositions of astronomical objects (using data from e.g., the James Webb Space Telescope); (4) the mysteries about the origin of the heaviest elements like gold, platinum and uranium; and finally (5) formation of organic molecules and life.

Lu is a theoretical astrophysicist studying various energetic transient phenomena in the universe. Observationally, these events produce the brightest sources which suddenly appear on the sky and quickly disappear afterwards --- leaving us wondering what happened in nature.

Faculty web site: https://wenbinlu.github.io

Gender and Women's Studies

GWS 84, Section 001- Critical Aesthetics

Professor Courtney Morris
Wednesday 10:00-11:00AM, 602 Social Sciences, Class number: 33227 (1 unit, P/NP)

This sophomore seminar is organized around the Gender and Women's Studies Department's spring 2023 lecture series, which will focus on contemporary feminist art, theory, and praxis. The seminar takes a multidisciplinary approach to the study of feminist art practice in the fields of performance art, photography, film, and multimedia art. It considers how how feminist art, theory, politics, protest and praxis circulate in the public sphere and how artists intervene in critical feminist debates over a range of issues including gender violence, embodied freedom, reproductive justice, authoritarian state violence, militarism, displacement, and the production of the refugee. The series invites scholars, artists, and activists studying visual art and the discursive impact of feminist artmaking. Each of the talks and guest lectures is designed to demonstrate how a feminist analysis can enliven and expand our understandings of the political implications of visual art practice and representations. Each of these speakers will give a lecture discussing one theoretical aspect or empirical case of contemporary feminist visual art and activism. The semester will culminate with a day-long symposium celebrating the work of the groundbreaking Vietnamese feminist filmmaker Trinh Minh-ha on April 29. The class will meet weekly for an hour. Each week we will either read and discuss an essay in preparation for an upcoming lecture, attend a "live" lecture, or visit an art exhibition connected to our course content and discussions.

Courtney Desiree Morris is a visual/conceptual artist and an assistant professor of Gender and Women's Studies at the University of California, Berkeley. She teaches courses on critical race theory, feminist theory, black social movements in the Americas, women's social movements in Latin America and the Caribbean, as well as race and environmental politics in the African Diaspora. She is a social anthropologist and is currently completing a book entitled To Defend this Sunrise: Black Women's Activism and the Geography of Race in Nicaragua, which examines how black women activists have resisted historical and contemporary patterns of racialized state violence, economic exclusion, territorial dispossession, and political repression from the 19th century to the present. She is currently developing a new project on the racial politics of energy production and dispossession in the US Gulf South and South Africa. Her work has been published in American Anthropologist, the Bulletin of Latin American Research, the Journal of Women, Gender, and Families of Color, make/shift: feminisms in motion, and Asterix. To see her art work visit www.courtneydesireemorris.com.

Faculty web site: https://gws.berkeley.edu/about/department-faculty/courtney-desiree-morris/

History

HIST 84, Section 1- Algorithmic life: The social impact of automation

Professor Massimo Mazzotti
Monday 11:00-12:00, 233 Dwinelle, Class number: 32678 (1 unit, P/NP)

Our life is increasingly shaped by digital infrastructures and automated processes. What are the broader implications of this phenomenon, both at the personal and the collective level? What is driving this apparently inescapable technological trajectory?

No textbook required—all readings will be made available through bCourses.

Massimo Mazzotti is a professor in the Department of History and the Director of the Center for Science, Technology, Medicine, and Society. His research focuses on the social and political dimension of science and technology.

Faculty web site: https://history.berkeley.edu/massimo-mazzotti

Integrative Biology

INTEGBI 84, Section 1- Berkeley Natural History

Lecturer Alan Shabel
Friday 3:00-4:00, 4110 Valley Life Sciences Building, Class number: 24177 (1 unit, P/NP)

California is a natural history phenomenon, with a complex geology, a diversity of ecosystems, and a rich flora and fauna. In this seminar, you will be introduced to the natural history of Berkeley through a study of the common plants and animals at the wildland-urban interface. We will combine short lectures with local field trips and an examination of museum specimens. We will give special attention to the role of fire in East Bay ecosystems. There will be no exams or homework assignments.

Professor Alan Shabel is a specialist on African mammals with a primary focus on otters, but his interests range across organismal biology and ecology, and he is fascinated by the natural history of California.

Faculty web site: http://ib.berkeley.edu/people/directory/detail/201/

INTEGBI 84, Section 2- Breaking Language Barriers in Evolution and Ecology

Professor Rebecca Tarvin
Tuesday 4:00-5:00PM, 4110 Valley Life Sciences Building, Class number: 25027 (1 unit, P/NP)

Science is a universal enterprise, yet there are many barriers to effectively communicating and understanding science. One major hurdle is the predominance of a single language for publishing and communicating science. This is an issue both for aspiring young scientists who must learn English as a second language while mastering complex scientific topics as well as for members of our communities who would benefit from scientific information that is currently unavailable in their primary language. In this class we will combine readings and discussion of papers in the fields of Evolution and Ecology with an active goal to break down language barriers in science. During the semester,

students will each translate one paper into a second language or into another creative format that communicates the science to a broad audience. Translations resulting from this seminar will be made available online at https://evolution.berkeley.edu/improving-access-to-primary-literature-in-biology-through-translation/. Bilingual and multilingual students are especially encouraged to take this seminar to help us break down language barriers. Course website: https://www.tarvinlab.org/teaching

Professor Tarvin is an Assistant Professor in the Department of Integrative Biology at UC Berkeley. She is intrigued by the evolutionary mechanisms underlying adaptation and diversification. Her interests in research are grounded in an appreciation for natural history, especially (but not limited to) frogs. Currently she studies the evolution of chemical defenses in frogs, flies, and nudibranchs. Professor Tarvin is interested in making science more accessible by breaking down language barriers in part because she has been privileged to work alongside many scientists from South America who have faced language-related economic and social barriers during their STEM training. She and her lab believe that translating science into more languages will have a positive impact on science by diversifying STEM professionals and the audiences who can access STEM content. Outside of the lab Professor Tarvin is interested in many sorts of creative projects, from 3D-printing to painting and baking. She also loves to cycle, play soccer, and follow politics.

Faculty web site: www.tarvinlab.org

Vision Science

VIS SCI 84, Section 1- Vision Research seen through Myopia (near-sightedness)

Professor Christine Wildsoet
Monday 10:00-11:00, 394 Minor Hall, Class number: 30158 (1 unit, P/NP)

As an introduction to vision research, this seminar will combine reading of relevant journal and news articles with hands-on research through mini-projects. Using myopia (near-sightedness) as a topical research example, we will explore together the field through recent review papers–what is known about the condition and the research approaches used to discover that information. Based on this literature, we will formulate research questions around which self- and small-group studies will be designed and executed. Research tools encountered will include questionnaires and instruments used to obtain objective measures of eye dimensions, refractive errors, vision, and visual experience. We will also consider the applications and relative merits of animal models and in vitro cell and tissue studies in myopia research. Anyone who suffers from myopia and/or is curious about how our eyes regulate their growth and so their size, a developmental biology question, should consider enrolling.

Professor Wildsoet is on the faculty of the School of Optometry, where she is involved in pharmacology teaching and coordinates a summer research program for Optometry graduate (OD) students. She is also a member of the Vision Science graduate PhD program. Her research is multidisciplinary as is her research group, which includes basic scientists and clinicians, both local and international. The focus of their research is myopia (nearsightedness), specifically the mechanisms underlying the development of myopia and its clinical management. The overriding goals of this research is understand the environmental factors driving the current myopia epidemic and the development of novel and improved treatments for controlling myopia onset and progression. Under optimal conditions, young eyes adjust their eye growth to correct neonatal focusing errors. Understanding how this growth regulatory process is derailed in myopia can provide the keys to new treatments. Over the course of her research career, Professor Wildsoet has had the opportunity to work with a range of animals and birds to address these and other questions related to eye design.

Faculty web site: http://wildsoetlab.berkeley.edu

VIS SCI 84, Section 2- Current Topics in US Health Care Policy

Professor Kenneth Polse and Professor Philip Cowan

Thursday 2:30-4:30pm, 360 Minor Hall, Class number: 30158 (1 unit, P/NP)

January 19, 22, February 2,9,16, 23, &; March 2, 2023

Background:
Problems associated with affordability, accessibility and quality of health care in the US began to escalate in the late 1980s. Since then, both Republican and Democratic administrations have attempted without success to address these problems. In 2008, President Obama was elected on a platform promising to change the health care system so that affordable, accessible and quality care would be available to all Americans. After considerable debate, controversy, and compromise, the Patient Protection and Affordable Health Care Act (ACA/Obamacare) was signed into law by Obama on March 23, 2010. The ACA was the most significant health care legislation passed since the Medicare Act of 1964. Even though the ACA is viewed favorably by the majority of Americans, Republicans have attempted to repeal the law over fifty times. Having been unsuccessful, the Republicans brought three legal actions before the US Supreme Court challenging the constitutionality of the ACA. All three challenges were unsuccessful. Today, the majority of Americans are concerned about health care and support efforts that will improve health care by increased accessibility, reduced costs and better quality of care. These concerns were the centerpiece of the 2020 election. Even though President Biden proposes to expand and improve the ACA and other parts of health care delivery, the path to substantive changes will not be easy since bipartisan support is needed to enact major legislation. In addition to the legislative challenges necessary to improve health care, the COVID-19 pandemic has elevated the crisis -- placing health care out of reach for many Americans and bringing issues of mental health care into focus. Given this background, our seminar will cover several topics which are listed below and designed to provide an understanding of the major issues facing US Health Policy.

Course Topics:
The seminar begins with an examination of health care prior to Obamacare, outlining many of the serious problems that were widespread prior to the passage of the ACA. Following this review, the class will examine the current state of US Health Care including the strengths and weaknesses of Obamacare and the changes that are needed to improve and sustain the ACA as well as to improve health care for all Americans. This survey will include the place of mental health care within the larger health care system and the emerging push to establish parity between physical health and mental health priorities. To place some of the major issues facing US Health Care in context, we will explore health care in other developed countries to learn how other nations are able to provide universal health coverage at considerably less cost and with better outcomes compared to the US. Finally, we will examine paradigms of what actions the Biden Administration has taken to curb the pandemic and then explore what can be done post-pandemic to improve our current system. For example, we will look at short term “repairs” and then explore more wide sweeping reform such as “Medicare for All,&”; “Public Option” and “Private;”; (e.g., no government) & health insurance for all Americans.

Course Design:
VS 84 is structured as a seminar divided into modules that cover the topics listed above. For any given module, the class may review an article, news story, media presentation, or editorial that will serve as the platform for class discussion/debate. Finally, the class will have a session on immediate changes and longer-term fixes to US Health Care Delivery. A bCourses (VS84 Spring 2023) website is available to obtain information for each seminar session. Students interested in pursuing a career in health care delivery (e.g., physician, optometrist, dentist, nurse, etc.), heath care planning/administration, public health, health law, or simply exploring the challenges that health care reform have on US society will find the seminar topics of interest. Students interested in pursuing a career in health care delivery (e.g., physician, optometrist, dentist, nurse, etc.), heath care planning/administration, public health, health law, or simply exploring the challenges that health care reform have on US society will find the seminar topics of interest. NOTE: No students admitted after first class

Related website: https://bcourses.berkeley.edu/courses/1504574

From 1972-2003 Professor Polse served as faculty member, Clinic Director, and Associate Dean in the School of Optometry, University of California, Berkeley (UCB). Recently retired, Dr. Polse is currently Professor of Graduate Studies at UCB. His research developed from years of clinical experience, convincing him that it is the clinician's

astute observations that often drive the research agenda. He also believes that discovery and clinical implementation require close collaborative efforts between basic and clinical scientists, a principle that has guided his research career. Some of Professor Polse's professional services and honors include President, International Society for Contact Lens Research; memberships on the AOA Council on Research and the National Advisory Eye Council (NIH); a Senior Fulbright Fellowship; AAO Garland Clay Award; AAO Max Shapero Lecture; BCLA Principal Keynote Speaker; UCB Sarver Endowed Chair; and Montague Ruben Medal. Since 1974, Professor Polse has had many students, residents, and post-doctoral fellows participate in his laboratory. He has received continuous research support from NIH and Industry for thirty years, resulting in many successful studies (including two NIH-sponsored randomized clinical trials) and over 140 papers published in peer-reviewed journals.

Faculty web site: https://optometry.berkeley.edu/people/kenneth-a-polse-od-ms-faao/