

Fall 2018 College Scholar Research Seminars

Extreme Virology (BME 122H) - GE: TA (Textual Analysis) David Bernick

This seminar explores life in extreme environments with an emphasis on the viruses that live there. The course integrates aspects of virology, molecular biology and computational biology. Our field study area will be the Don Edwards National Wildlife Refuge, where we will investigate a high-salt extreme environment. We will use DNA extraction methods to find molecular evidence of the organisms that live there and we will describe the genetic content of viruses and the community living in those high-salt ponds. One major term project will be assigned and will include a written journal-style paper with in-class presentations of your work.

“I Couldn’t Imagine Myself Anywhere Else:” Understanding UCSC Undergraduate Narratives (CLTE 60) - GE: PR-E Robert Majzler

In this seminar, students will work collectively to develop research skills and use them to analyze the amazing Slug Stories database. Slug Stories are a unique collection of stories, in which 1st year students narrate their development related to journey to UCSC. These stories explore the diversity of UCSC experiences, which for one student has an uncanny pull: "I couldn't imagine myself anywhere." In this class we ask, why that might be and find that students often have diverse and different reasons for being in the same place. In this course, students will acquire the skills to conduct and analyze qualitative research, which includes interviews, focus groups, testimonies, and stories. Qualitative research is an excellent mode to explore the nuance of human experiences. The seminar format of the class allows for more hands-on work and guidance from the instructor. The knowledge and tools acquired in this class will be useful to student beyond the class and include critical thinking, research, teamwork, engagement with diverse populations, and communication skills.

Professional Communication in a Digital Age (CRWN 86) - GE: PR-C Kati Greaney

In this seminar students will get the opportunity to explore a variety of methods and approaches to telling stories through digital media. With the ever changing landscape of social media, journalism and marketing, there is tremendous value in learning to create engaging and informative digital stories. In this course students will explore theories of narrative form, subjectivity, political and social engagement, and identity. We will look at a variety of methods and approaches to communicating effectively and reaching audiences. Students will have the opportunity to develop, produce, and share a final capstone project using film, photo, audio, or mixed media methods. Additionally, there will be several guest speakers who specialize in a wide range of areas related to digital technology and storytelling.

Computational Futurology: Predicting Human Behavior and Activity (CRWN 88) - GE: SR (Statistical Reasoning) Peter Rothman

It is a commonly believed trope that human behavior is unpredictable or at least very difficult to predict, however there is a large body of scientific knowledge that suggests the contrary. Meanwhile, electronic surveillance and “big data” have given rise to predictive analytics and

related technologies that claim to do exactly that. We will look at how to make and critique predictions and study our own predictability. We will study the use of powerful computational tools such as deep learning and quantum computing to make predictions of individual human actions as well as aggregate behavior of groups and organizations. We will study how individuals and organizations are using predictions to sell products and influence opinions, and perhaps even to control or topple governments and win elections. Finally, we will explore applications for good such as predictive urban environments that improve the safety and comfort of their residents by eliminating traffic congestion, anticipatory disaster responses, and methods for predicting and preventing war and other global existential risks.

Note: The seminar will assume students are familiar with basic concepts of probability and have some exposure to computational methods such as spreadsheets and computer programming.

Feel free to email the instructor (plrothma@ucsc.edu) for more information.

Social and Creative Entrepreneurship (CRWN 92) - GE: PE-H Nada Miljkovic

This seminar teaches students how to make societal impact through Social and Creative Entrepreneurship. Students are guided through the process of establishing a business to address a social or environmental problem and to direct their creative energy towards the most compatible and pressing community need. The class equips students with frameworks to identify their altruistic desires and creative passions, ascertain opportunities, form and sustain teams, and gain leadership skills. The class begins with students doing self-evaluations to understand their own personality types, values, strengths, and skills. Students form teams around a social need, develop a business plan, and choose an existing and similar case study to research. Each team is assigned a mentor that is an expert that relates to their business idea. Guest speakers and mentors will introduce various examples of Social and Creative Entrepreneurship.

Start-up Entrepreneurship Academy (CRWN 90) - GE: PR-C (Creative Process)
Nada Miljkovic

Students in this seminar will learn who their core and tertiary customers are, the marketing processes required for initial adoption and downstream sustainability, what data will be required by future partnerships and users, and core project management, financial, legal, and marketing resources needed for new companies. Students also learn to assess intellectual property and risk before they design/build as well as to identify financing and other key resources.

Unchained Memory: Slavery and the Politics of the Past (HIS 116A) - GE: TA
(Textual Analysis) Katherine Jones

Recent battles over Civil War monuments have given new currency to William Faulkner's assertion that "the past is never dead. It's not even past." In this seminar we'll explore how Americans have understood and fought over the place of slavery in U.S. history and how those conflicts have shaped larger political struggles over race and citizenship. We'll consider both scholarly and vernacular histories—meaning we'll be looking at the whole range of places and ways people develop their understandings of the past including popular culture, memorials, historic sites, and scholarly works. Students will each develop their own research projects

exploring the connections among history, memory, and slavery.

The Escapes of David George: Biographical Research on Slavery and Early America (HIS 158A) - GE: TA Greg O'Malley

This course explores the historical method as a way to understand the history of slavery. The course focuses on the remarkable life of David George (c. 1743-1810), an individual who moved in and out of enslavement and crisscrossed the early modern Atlantic world. Students will receive a glimpse "behind the curtain" of academic scholarship, as Professor O'Malley is currently writing a biography of David George, but simultaneously devise their own research agenda after learning some of the tools of historical research.

Theory and Practice of Field Studies (MERR 90) - GE: PR-S (Service Learning) Mike Rotkin

This seminar will provide an opportunity to learn about Santa Cruz, California, its contemporary history, culture, and politics. This course is about social change and community organizing. This will be much more than an opportunity to simply volunteer in the local community. We will study how things have changed in Santa Cruz, which moved in a relatively brief period from being one of the most conservative communities in the United States to one of the most progressive. Students will learn through readings, lectures, discussions, and individual field experiences working with local service and political organizations. The course will be an opportunity to learn about qualitative, interdisciplinary social science research and will be a good way to prepare for on-going, thoughtful, and effective activism in Santa Cruz and elsewhere on a wide variety of issues.

The Nuclear Pacific (STEV 90) - GE: (PE-T) Alan Christy

This seminar addresses a range of issues related to the history of nuclear weapons and nuclear energy in the Pacific Ocean region, from the dropping of the atomic bombs on Hiroshima and Nagasaki in 1945, through decades of nuclear weapons tests to the accident at the Fukushima nuclear power plant in 2011. The nuclear explosions (in war and tests), the development and dissemination of nuclear power plants and the accident at Fukushima are established facts. Our task is to investigate what they mean. What have these facts meant for the environment, politics, economies, demographics, and cultures of the Pacific region? How were these events outcomes of particular historical processes? How have humans responded (in law, politics, migration, cultural production, science and so on)? As we work on a broader overview of the history of our nuclear Pacific, we will also examine closely the response of a particular man, Earle Reynolds, and his family, using the Earle and Akie Reynolds Collection in Special Collections at McHenry Library.

We will work with both primary and secondary sources to produce a collaborative overview of the history of the nuclear Pacific as well as individual research proposals that could be pursued next academic year in the Challenge Program. In addition to researching the history of the nuclear Pacific, we will also be learning the fundamental best practices of historical research and writing.

Winter 2019 College Scholar Research Seminar

Art and Politics after Google (PRTR 90B) - GE: IM (Interpreting Arts and Media)

David Lau

This seminar will explore the growing cultural significance of the Internet, which is ever more seamlessly integrated into everyday life. Using Astra Taylor's *The People's Platform* as a guide, we will move from the early-90s flowering of "information technology," to the dotcom bubble, from there to web 2.0 and social media, and up to the present post-financial crisis period of internet surveillance. Our class emphases will fall on the study of internet cultural history, contemporary forms of digital and installation art (Hito Steyerl, Thomas Hirschhorn, and Ricardo Dominguez), and they will also include video documentary (*In the Intense Now*, Lo and Behold, *The Square*), poetry (US – by the flarf collective and fellow travelers; Egypt – Maged Zaher; Russia – Kirill Medvedev and Pavel Arsenev), and a variety of web-based cultures (the alt-right for example). We will also examine Ben Lerner's novel *10:04*. The class will conclude with the study of the popular use of art, poetry, digital video, and social media in contemporary social protest movements. In addition to writing assignments, students will develop skills to realize an independent research project.

Workshop In Computational Biology (CRWN 89) - GE: TA (Textual Analysis) Jay

Kim

Designed to engage students with training in areas related to computational biology. Covers basic biological, statistical, and computational concepts needed for hands-on research; training students to read primary literature and do collaborative work in an interdisciplinary setting. Enrollment restricted to students with some background in programming, math or biology and by permission of instructor.