

# FALL 2023

## Discovery Seminars

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### *TRANSFER – Exploration, & Discovery+ Seminars:*

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Please note that if a listed seminar does not last the full 10 weeks, the drop deadline may be sooner.

Update 8/28/2023

### **INT 186AB - “Quantum Calculations Applied to Chemistry and Biochemistry”**

- **Seminar Type:** Transfer Discovery
- **Department:** Chemistry and Biochemistry
- **Instructor:** Donald Aue
- **Instructor Email:** [aue@chem.ucsb.edu](mailto:aue@chem.ucsb.edu)
- **Day - Time - Room:** Monday 5:00-5:50 in GIRV 1106 \*The class is well-suited for chemistry and biochemistry majors, but would also be good for some students with majors within MCDB , Physics, and Engineering (like the fields of Chem E and Materials Science). Please email Professor Aue for an add code
- **Enroll Code:** 71019

**Course Description:** Quantum calculations will be applied to problems in Chemistry and Biochemistry using Unix computers. Students will be able to use their Mac or PC computers as terminals to access UCSB Unix computers and supercomputers to carry out the calculations using Molden and Gaussian software packages. John Pople from Northwestern University and Walter Kohn from UCSB received the 1998 Nobel Prize in Chemistry for the development of the theory and software for the Gaussian program, which has had an enormous effect on the modern chemistry research (<https://www.nobelprize.org/prizes/chemistry/1998/summary/>). Instruction will use a combination of in-person meetings, Zoom meetings and GauchoSpace web resources to assist students in learning to use the software and gaining a general understanding of the computational and quantum concepts involved in the calculations. The class is well-suited for chemistry and biochemistry majors, but would also be good for some students with majors within MCDB , Physics, and Engineering (like the fields of Chem E and Materials Science).

**Bio:** Professor Emeritus Donald Aue has taught organic chemistry at UCSB for 55 years, won the UCSB Academic Senate's Distinguished Teaching Award, and has published research in the areas of physical organic chemistry and quantum computational chemistry.

## INT 186AC - "Formerly-Incarcerated Students and Higher Education"

- **Seminar Type:** Transfer Discovery
- **Department:** Writing Program
- **Instructor:** Peter Huk
- **Instructor Email:** phuk@ucsb.edu
- **Day - Time - Room:** Monday 10:00-10:50 in HSSB 1232 \*Students interested within sociology, psychology, and education please email Professor Huk for an add code.
- **Enroll Code:** 71258

**Course Description:** This seminar will introduce students to a number of issues facing the formerly-incarcerated student population. Topics treated will include the social construction of crime and punishment within the United States, the physiological effects of incarceration, current educational opportunities for incarcerated and formerly incarcerated individuals, activism and advocacy concerning prison reform, identity and empowerment, and the role of education in community reintegration. Speakers will include Underground Scholars from UCSB.

**Bio:** Peter Huk teaches a variety of writing classes, primarily the engineering writing sequence, Writing for Global Careers, Writing for Film, and Writing for the Humanities. His pedagogy and research interests include contemplative inquiry and reflection in the writing classroom, representation in documentary film, and prison pedagogy.

## INT 186AE - "SciTrek: improving critical thinking in university students"

- **Seminar Type:** Transfer Exploration
- **Department:** chemistry and biochemistry
- **Instructor:** Norbert Reich
- **Instructor Email:** reich@chem.ucsb.edu
- **Day - Time - Room:** Wednesday 12:00-12:50 in ILP 3316 \*This seminar will meet the first two Wednesdays of the quarter in ILP 3316 at UCSB, and the last two weeks of the quarter. Please note that 6 hours of this seminar will be off campus at the High School and at various times. You will sign up for the time that works best for your schedule.
- **Enroll Code:** 57976

**Course Description:** Improve your ability to think critically, probably the most important skill you will be hired for in the future, whatever your degree is in. This course is a blend of instruction from Biochemistry Professor Norbert Reich, who works on drug development for cancer and antibiotics, through reading and discussing papers on critical thinking, and your involvement in UCSB's largest outreach, "SciTrek". The outreach brings university students into local classrooms (this class will focus largely on Junior High and High School classes) to help run inquiry into diverse topics such as math, biology, chemistry, and physics. The outreach does not require that you be a STEM major. Prior university students have improved in their critical thinking even in this one quarter of in class and outreach engagement.

**Bio:** Professor of biochemistry and cofounder of SciTrek

## INT 187AA - "Music in Nature"

- **Seminar Type:** Transfer Discovery+
- **Department:** College of Creative Studies, &
- **Instructor:** Claudia Tyler and Leslie Hogan
- **Instructor Email:** [tyler@ucsb.edu](mailto:tyler@ucsb.edu), [leslie.hogan@ccs.ucsb.edu](mailto:leslie.hogan@ccs.ucsb.edu)
- **Day - Time - Room:** Thursday in HSSB 4201 1:00-2:50. Meet in classroom on Sept 28, Oct 5, Oct 12, Oct 26;  
Field Trip Dates - Sat Oct 14 (1-7pm), Sat Oct 21 (10am – 4pm)
- **Enroll Code:** 65516

**Course Description:** In this interdisciplinary seminar we will investigate natural soundscapes, i.e., sounds produced by the natural world, and the creation of music inspired by those sounds. Beginning with soundscape ecology we will discuss both geophony – sounds produced by non-living components of the environment – and biophony created by animals. We will then learn about and listen to musical compositions created with sounds from nature or inspired by them. We will take 2 weekend-day field trips to do active listening and group activities designed to deepen students' understanding of the concepts presented in previous sessions. After recording "nature" sounds in the field, we will spend time in the computer lab to learn how to import these into the audio software "Audacity" to create short compositions. This course is open to all majors with no pre-requisites.

**Bio:** **Claudia Tyler** is a senior lecturer in the College of Creative Studies. She teaches biology courses including ecology, conservation biology, science ethics, and physiology of stress. Her research focuses on dynamics of shrubland and oak woodland communities. She greatly enjoys introducing students to the natural history and biodiversity of our region.

**Leslie Hogan** is a senior lecturer in the College of Creative Studies. She teaches composition lessons, primarily for majors, and seminars on related topics. Her seminars run the gamut from experiential courses designed to get students thinking about their art in new ways (Landscape Music & Music and Food, for example) to seminars focusing on specific compositional techniques (counterpoint, variation). The music she writes reflects a longtime fascination with other art forms and with the potential of music to reflect or respond to visual stimuli from the natural world.

## INT 187AN - "An Ecological Tour of UC Santa Barbara"

- **Seminar Type:** Transfer Discovery
- **Department:** Geography & EEMB
- **Instructor:** Anna Trugman & Leander Anderegg
- **Instructor Email:** [att@ucsb.edu](mailto:att@ucsb.edu), [landeregg@ucsb.edu](mailto:landeregg@ucsb.edu)
- **Day - Time - Room:** Tuesday 11:00-12:50 in ARTS 1356
- **Enroll Code:** 57992

**Course Description:** This seminar will explore the local ecology surrounding us on the UCSB campus from the intertidal zone to the Campus Lagoon to the North Campus Open Space and beyond. Students will get the opportunity to know local ecological processes surrounding them at UCSB and undergraduate research opportunities in ecology. Each class will consist of a different 'lab' around campus to visit different areas of ecological importance.

**Bio:** Anna Trugman is a professor in the Geography department with an interdisciplinary background in the Earth Sciences. Professor Trugman's research focuses on how changes in climate impact ecosystem diversity, productivity, and resilience across scales. Her work integrates field measurements, large datasets and models to gain new insight into the biological processes impacting climate-vegetation interactions.

Leander Anderegg is a physiological ecologist interested in plant responses to global change. Professor Anderegg's research seeks to scale up the physiological responses of plants to biotic and abiotic stress to explain population, community, and biogeographic processes using field measurements and remote sensing techniques.