Unofficial Guide to Fall 2023 Climate-Related Courses
V1.2 UPDATED AUG 30 2023

Follow links to the course catalogue for more detail

Are we missing a climate-related class? E-mail bruceriordan@berkeley.edu

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Ecology and Climate Change

RHETOR 145 001 - LEC 001 offered through Rhetoric(opens in a new tab)
Shannon Jackson
Aug 23 2023 - Dec 08 2023
Tu, Th
3:30 pm - 4:59 pm
Dwinelle 88 (opens in a new tab)
Class #:30733
Units:4

Instruction Mode: In-Person Instruction

No Open Seats

What is the role of narrative in science and conversely? How do images supplement or displace these narratives? How important are images to the rhetoric of scientific persuasion? How can science itself be narrated or visually represented? This course will examine critical discussions of these questions, focusing specifically on the science, social movements, and aesthetic practices surrounding ecology and climate change. Scientists, politicians, policy-makers, and activists struggle to sensitize global citizens to the threat of climate change. In this nexus, artists and writers work to articulate and propel climate advocacy through creative practices that re-imagine the systems of the world. What is the varied role of the arts as an ecological practice? How do different artistic mediums—literature, visual art, live performance, film and video, site-specific art, and cross-media practices—similarly and differently engage with ecological issues. How do these artistic practices reinforce vital links between the environmental science and longstanding social justice concerns around indigenous rights, gender and sexuality, racism, food security, urban and rural development, and more. In addition to critical reading, students will examine the practices of a range of artists as well as climate arts initiatives on campus, at the UC Field Stations, and at Bay Area arts organizations, responding as cultural critics, emerging curators, and creative-makers as well. Readings and case studies will likely draw from works by Theodor Adorno, John Akomfrah, Emily Apter, Andrea Bowers, Octavia Butler, Carolina Caycedo, TJ Demos, EARTH Lab, Olafur Eliasson, Extinction Rebellion, Jeffrey Gibson, Eduoard Glissant, Allison Janae Hamilton, Donna Haraway, Bruno Latour, Ursula LeGuin, Ana Mendieta, Timothy Morton, Kim Stanley Robinson, Anna Tsing, Mackenzie Wark, and more.

Biological Impacts of Climate Change

INTEGBI 24 003 - SEM 003 offered through Integrative Biology(opens in a new tab)
Caroline Margaret Williams
Aug 23 2023 - Dec 08 2023
Tu
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.

**Reporting on Climate Change and the Environment**

**JOURN 298 007 - SEM 007** offered through [Graduate School of Journalism](opens in a new tab)

Class #:32875  
Units:3  
Instruction Mode: In-Person Instruction

Open Seats

17 Unreserved Seats

**Climate Change Economics**

2023 Fall  
**IAS C176 001 - LEC 001** offered through [Interdisciplinary Social Science Programs](opens in a new tab)

David Anthoff  
Aug 23 2023 - Dec 08 2023  
M, W, F  
10:00 am - 10:59 am  
[Li Ka Shing 245](opens in a new tab)  
Class #:23166
Units: 4

Instruction Mode: In-Person Instruction

Open Seats

1 Unreserved Seats

Also offered as: ENERES C176, ENVECON C176

This course is a self-contained introduction to the economics of climate change. Climate change is caused by a large variety of economic activities, and many of its impacts will have economic consequences. Economists have studied climate change for more than two decades, and economic arguments are often powerful in policy decisions. The course will familiarize students with these arguments and equip them with the tools to participate in discussions of climate change policy through an economic lens.

The American City - From Segregation to Climate Change

2023 Fall
XENGLIS R1A 001 - LEC 001 offered through UC Berkeley Extension (opens in a new tab)
Balthazar I Beckett
Aug 23 2023 - Dec 08 2023
Tu, Th
4:00 pm - 5:29 pm
1995 University 211 (opens in a new tab)
Class #: 30389
Units: 4

Instruction Mode: In-Person Instruction

No Open Seats

FPF Thread: Social Justice. The American city is an incredibly complex and dynamic organism—and the subject of a great body of literature, both fiction and non-fiction. This course will trace and critically engage how American urban development has been written about from the late nineteenth century to today. We will follow how writers have addressed the dramatic changes that American urban spaces underwent from the progressive era, turn-of-the-century segregation, and the experience of the Great Migration to redlining, white flight, and suburbanization in the wake of the New Deal. Studying metropolitan areas across the nation—from New York City to the Bay Area and from Chicago to New Orleans—this course asks students to write critically about urban development from the battles over “urban renewal”
and the anti-eviction campaigns of the Civil Rights era to the impact of 1970s neoliberal policies, the “war on drugs” and militarized policing, and the urban uprisings of the early 1990s. We will end this semester by studying how writers address the impact that hyper-gentrification and climate chaos (from disaster capitalism to grassroots organizing) have on American cities today.

**Introduction to Climate Change**

2023 Fall  
**EPS 7 001 - LEC 001** offered through [Earth and Planetary Science(opens in a new tab)](Earth and Planetary Science)  
David M Romps  
Aug 23 2023 - Dec 08 2023  
M, W, F  
2:00 pm - 2:59 pm  
Internet/Online  
Class #:23396  
Units:3  

Instruction Mode: Online  

Open Seats  

680 Unreserved Seats  

This course covers the physical processes that determine Earth's past, present, and future climate, with a particular focus on the essentially irreversible climate change (a.k.a., global warming) caused by the burning of coal, oil, and natural gas. Topics will also include the estimation of future warming and impacts, the Earth resources that can be used to combat climate change, and the policies being used to shift towards the use of those resources.

**Magnificent Diversity: Eco-Thinking in the Age of Climate Change**

2023 Fall  
**COLWRIT R1A 016 - LEC 016** offered through [College Writing Programs(opens in a new tab)](College Writing Programs)  
Teri Crisp  
Aug 23 2023 - Dec 08 2023  
Tu, Th  
2:00 pm - 4:59 pm  
[Haviland 321 (opens in a new tab)](Haviland 321)  
Class #:21164  
Units:6
Instruction Mode: In-Person Instruction

No Open Seats

Climate Change Adaptation

2023 Fall
CIVENG 108 001 - LEC 001 offered through Civil and Environmental Engineering(opens in a new tab)
Mark Stacey
Aug 23 2023 - Dec 08 2023
Tu, Th
12:30 pm - 1:59 pm
McCone 141 (opens in a new tab)
Class #:30875
Units:3

Instruction Mode: In-Person Instruction

Open Seats

5 Unreserved Seats

In this course, we will examine the local manifestation of global climate change and consider interventions and responses that anticipate long-term change in communities. The course will integrate environmental sciences, civil and environmental engineering, and the social sciences to both understand the impacts of global change and to quantitatively evaluate possible adaptation interventions. Upon completing the course, you will have a holistic perspective on the challenges associated with climate change adaptation, an understanding of the wide range of potential solutions and interventions that may be possible, and an awareness of the strengths and weaknesses of those solutions.

Climate Story Lab

2023 Fall
JOURN 219 005 - WOR 005 offered through Graduate School of Journalism(opens in a new tab)
Jason Spingarn-Koff
Aug 23 2023 - Nov 27 2023
M
12:00 pm - 1:59 pm
Open to all J-School students and faculty interested in covering climate change, this is an interdisciplinary gathering place for collective learning and discussion about reinventing climate journalism, with some of the leading researchers and practitioners in the field. Meeting every other week, each session consists of two parts. First is a guest lecture — drawn from scientists, researchers, journalists and filmmakers — who share new work and key learnings from topics such as climate science, the energy transition, biodiversity conservation, public policy, climate justice, and storytelling for public impact. Second, we’ll hold an open discussion where students and faculty share their own ideas and works in progress for feedback from the group. (Note the fall semester is not a reporting or production class, but can complement reporting and production projects from other classes.)

**Systems Change for a Small Planet**

2023 Fall  
PBHLTH 290 005 - SEM 005 offered through School of Public Health(opens in a new tab)  
William B Rosenzweig, Kristine Ann Madsen  
Aug 23 2023 - Dec 08 2023  
Th  
8:00 am - 10:59 am  
Berkeley Way West 1213  
Class #:32788  
Units:1 to 4  

Instruction Mode: In-Person Instruction  

Open Seats  

8 Unreserved Seats  

The roots of our major public health and cultural crises — including climate change, diet-related disease, and economic, educational and health inequities — lie in our current economic system. At present, with gross domestic product (GDP) as our key measure of ‘progress,’ our economic
system is extractive rather than regenerative, and produces health and other systemic inequities rather than mutual flourishing. In this course, students will use systems thinking to explore how we arrived at our current economic system, the power dynamics and feedback loops that keep the current system in place, and how the system creates or contributes to “sticky” problems like health inequities and climate change. In interdisciplinary teams, students will analyze real-world examples of emerging models (including regenerative and ecological economics, ‘doughnut economics,’ and the circular economy) that fundamentally reframe the system’s goals to support a flourishing population and planet. Working with other students from multiple disciplines, students will clarify their own values, articulate a vision for a more just and sustainable future, and identify pathways towards achieving their goals.

**Political Ecologies of Climate Change Adaptation**

2023 Fall  
**ENERES C266 001 - SEM 001** offered through [Energy and Resources Group](https://energyandresources.berkeley.edu)  
Megan Mills-Novoa  
Aug 23 2023 - Dec 08 2023  
M  
2:00 pm - 4:59 pm  
[Giannini 332](https://www.berkeley.edu)  
Class #:32835  
Units:3

Instruction Mode: In-Person Instruction

No Open Seats

Also offered as: **ESPM C266**

As the climate crisis escalates and mitigation efforts stagnate, adaptation has come to the forefront of public debates and funding priorities. This course will explore the varied political ecologies of climate change adaptation. By drawing on political ecology, this course will include both foundational and emerging scholarship that explores how climate change adaptation is shaping and being shaped by the material impacts of climate change, the political economy of climate governance and finance, and the agency of experts, funders, promoters, and the individuals and collectives adapting to climate change. We will examine the history of climate change adaptation concepts and governance while also exploring emerging frontiers in the field.

**Climate Dynamics**

2023 Fall  
**GEOG 142 001 - LEC 001** offered through [Geography](https://geography.berkeley.edu)  
John Chiang
Aug 23 2023 - Dec 08 2023
M, W
2:00 pm - 3:29 pm
Mc Cone 145 (opens in a new tab)
Class #:26748
Units:4

Instruction Mode: In-Person Instruction

Open Seats

32 Unreserved Seats

The course presents a conceptual basis for understanding of the workings of the global climate system, and how they conspire to bring about change. The goal is to give the student a climate dynamics basis for understanding global climate change. Covered topics include observations of the climate system; the earth's energy balance; atmospheric radiative transfer; atmospheric circulation; the role of the ocean and the cryosphere; climate variability on various timescales; climate feedbacks and climate change.

CLIMATE JUSTICE

2023 Fall
ENERES C160 001 - LEC 001 offered through Energy and Resources Group(opens in a new tab)
Megan Mills-Novoa
Aug 23 2023 - Dec 08 2023
Tu, Th
5:00 pm - 6:29 pm
Cory 277 (opens in a new tab)
Class #:27899
Units:4

Instruction Mode: In-Person Instruction

Open Seats

31 Seats Reserved for Students with 3 or more Terms in Attendance

Also offered as: ESPM C176

Climate change is transforming our world in ways we are only beginning to understand, and in many ways we cannot yet imagine. The emerging theoretical and practical lenses of social and environmental justice (EJ) provide tools with which to examine and understand this new world.
Using literature, media, and engaged field experiences, this course brings together the scholarship, scientific and engineering innovation, policy, literature and media, and activism around the interacting themes of climate change and social justice.

**Indigenous Peoples and Environmental Change in the North American West**

2023 Fall

ETHSTD 180 002 - LEC 002 offered through Ethnic Studies(opens in a new tab)

NATAMST 179 001 - LEC 001 offered through Ethnic Studies(opens in a new tab)

John J Dougherty

Aug 23 2023 - Dec 08 2023

Tu, Th

2:00 pm - 3:29 pm

Dwinelle 215 (opens in a new tab)

Class #:23749

Units:4

Instruction Mode: In-Person Instruction

Open Seats

6 Seats Reserved for Ethnic Studies Majors

This course explores the dynamic relationships between indigenous communities and the continuously changing environmental landscapes of the North American West from before European contact to the present, and how these communities have continually adapted traditional cultural practices to meet ever-changing environmental realities. With this broader context, this course examines how specific indigenous communities have navigated their relationship with the natural world amidst the challenges of colonialism, globalization, environmental ruin, and climate change in the North American West. Additionally, this course highlights the active role of Native peoples in regional and environmental histories of the region.

**Global Change Biology**

2023 Fall

ESPM 152 001 - LEC 001 offered through Environmental Science, Policy, and Management(opens in a new tab)

Adrienne Correa

Aug 23 2023 - Dec 08 2023

M, W
The course will focus on understanding how anthropogenic changes to the global environment (e.g., climate change, habitat destruction, global trade) impact organisms. We will evaluate responses to global change in a wide diversity of organisms (from microbes to mammals) and ecosystems (from arctic to temperate to tropical). We will also explore conservation and mitigation strategies in the face of global change. Discussions will draw on recent primary research and case studies.

**Climates of the World**

2023 Fall
[ GEOG 149A 001 - LEC 001](#) offered through Geography(opens in a new tab)
Norman L Miller
Aug 23 2023 - Dec 08 2023
M, W
9:30 am - 10:59 am
[McCone 145 (opens in a new tab)]
Class #:24231
Units:3

Instruction Mode: In-Person Instruction

Open Seats

18 Unreserved Seats

This course provides a very basic description of atmospheric physics and dynamics at the large scale, followed by region-specific climate systems and response. We examine the inter-relationships between the role of climate variations and change to impacts, risk and adaptation.
Each week's reading will be integrated into class participation with examples from recent weather events. Class begins with a brief weather review that focuses on a specific geographic region, followed by the topic of the day, a break, and class discussion of weather events and impacts related to the topic. There will be four homework sets, four quizzes, a mid-term and final exam.

**Global Change Biogeochemistry**

2023 Fall  
**GEOG 143 001 - LEC 001** offered through [Geography](https://www.geography.ucsb.edu)  
Robert C Rhew  
Aug 23 2023 - Dec 08 2023  
Tu  
9:00 am - 9:59 am  
[McCone 575](https://www.geography.ucsb.edu)  
Aug 23 2023 - Dec 08 2023  
Th  
9:00 am - 10:59 am  
[McCone 575](https://www.geography.ucsb.edu)  
Class #:33305  
Units:3  

Instruction Mode: In-Person Instruction  

Open Seats  

32 Unreserved Seats  

How does the chemical makeup of Earth make it suitable for life? And how does life in turn alter the chemistry of our planet? Biogeochemistry is the field of science that explores the imprint of biota (including humans) on the chemistry of the ocean, land and atmosphere. This interdisciplinary field addresses global problems, including climate change feedbacks, air quality, land use change, and marine ecosystem health. We will provide an overview of the major biogeochemical cycles, discuss the biogeochemistry of major ecosystems, and introduce the major biogeochemical questions being asked today. We also cover measurement techniques, including hands-on activities to introduce students to experimental methods and data analysis.

**Climate, Energy and Development**

2023 Fall  
**DEVP 221 001 - LEC 001** offered through [Development Practice Graduate Group](https://www.development.ucsb.edu)  
Fredrich Kahrl
Graduate seminar examining the role of energy science, technology, and policy in international development. The course will look at how changes in the theory and practice of energy systems and of international development have co-evolved over the past half-century, and what opportunities exist going forward. A focus will be on rural and decentralized energy use, and the issues of technology, culture, and politics that are raised by both current trajectories, and potential alternative energy choices. We will explore the frequently divergent ideas about energy and development that have emerged from civil society, academia, multinational development agencies, and the private and industrial sector.

Oil Futures: Critical Approaches to Energy, Law, and the Climate Crisis

2023 Fall
ANTHRO R5B 004 - LEC 004 offered through Anthropology(opens in a new tab)
Caylee J Hong
Aug 23 2023 - Dec 08 2023
Tu, Th
9:30 am - 10:59 am
Giannini 201 (opens in a new tab)
Class #:26179
Units:4
Instruction Mode: In-Person Instruction
No Open Seats

The future of fossil fuels is one of today’s most urgent issues. People and institutions around the world and across the political spectrum have begun to recognize that climate change is happening, that fossil fuel use contributes significantly to greenhouse gas emissions, and that our changing climate dramatically shapes our livelihoods, quality of life, and our natural and
built environments. Today, even oil companies espouse net zero ambitions. However, what
must be done, by whom, and how quickly is still vigorously contested. The goal of this course is
to critically examine and confidently navigate key debates about the climate crisis, fossil fuels,
and the just transition. Particularly, we focus on oil. We examine i) the emergence of oil as a
dominant energy source and a powerful new industry over the last hundred years, ii) its effects
on our political, financial, legal, and social worlds; and iii) the diverse responses (legal, and
otherwise) to oil and our oil era—namely, how indigenous peoples, frontline communities,
fossil fuel companies, governments, and NGOs are imagining our energy and ecological futures.

Data Science in Global Change Ecology

2023 Fall
ESP 157 001 - LAB 001 offered through Environmental Science, Policy, and
Management(opens in a new tab)
Carl Boettiger
Aug 23 2023 - Dec 08 2023
M, W
12:00 pm - 1:59 pm
Social Sciences Building 110
Class #:27664
Units:4

Instruction Mode: In-Person Instruction

No Open Seats

Many of the greatest challenges we face today come from understanding and interacting with
the natural world: from global climate change to the sudden collapse of fisheries and forests,
from the spread of disease and invasive species to the unknown wealth of medical, cultural,
and technological value we derive from nature. Advances in satellites and micro-sensors,
computation, informatics and the Internet have made available unprecedented amounts of
data about the natural world, and with it, new challenges of sifting, processing and synthesizing
large and diverse sources of information. In this course, students will learn and apply
fundamental computing, statistics and modeling concepts to a series of real-world ecological
and environment

Introduction to Climate Modeling

2023 Fall
EPS 229 001 - LEC 001 offered through Earth and Planetary Science(opens in a new tab)
Aug 23 2023 - Dec 08 2023
Tu, Th
9:30 am - 10:59 am
Class #:27094
Units: 3

Instruction Mode: In-Person Instruction

Open Seats

38 Unreserved Seats

This course emphasizes the fundamentals of the climate system via a hierarchy of climate models. Topics will include energy balance, numerical techniques, climate observations, atmospheric and oceanic circulation and heat transports, and parameterizations of eddy processes. The model hierarchy will also explore nonlinear and stochastic processes, and biogeochemistry. Students will build computational models to investigate climate feedbacks, climate sensitivity, and response times.

Inequity and Change: Class, Culture, and Health Care

2023 Fall
COLWRIT R4B 039 - SEM 039 offered through College Writing Programs(opens in a new tab)
Margi Wald
Aug 23 2023 - Dec 08 2023
Tu, Th
11:00 am - 12:29 pm
Mulford 230 (opens in a new tab)
Class #:32676
Units:4

Instruction Mode: In-Person Instruction

No Open Seats

This class explores crucial questions about health care, medicine, and social inequality in the U.S. Students will research (a) cultural differences in the experiences of illness and practices of healthcare and (b) biases and disparities in access created by social, political, and economic forces. Students will also conduct their own fieldwork, examining in-depth local agencies that work toward lessening disparities and thus toward social change. The final project will ask students to view a particular issue of their choice through the theoretical lenses provided by course texts -- and perhaps make recommendations for addressing it. Through a combination of small-class discussion, in-class workshops, as well as online forums, students will craft papers that analyze and apply information from course texts; gather primary and secondary outside sources on a topic related to our course theme; and create a research portfolio including an annotated bibliography, short reports, research notes, a project proposal, and a final paper.
Disaster Technology: Creating Innovative Solutions to Environmental Change

2023 Fall
ENGIN 183C 002 - SEM 002 offered through Engineering(opens in a new tab)
Thomas Azwell
Aug 23 2023 - Dec 08 2023
M, W
2:00 pm - 3:59 pm
Cal Memorial Stadium 122 (opens in a new tab)
Class #:29285
Units:4

Instruction Mode: In-Person Instruction

Open Seats

11 Seats Reserved for Undergraduates in the College of Engineering, L&S Computer Science and Data Science Majors

In this course, students will learn about how innovative technologies are used to detect, prevent, and manage environmental disasters, such as those used for oil spills or wildfires. Students will learn about the technology gaps that exist at every level of disaster response, and how new solutions can help experienced individuals from industry, government, and beyond become more effective at preventing and managing disasters. By understanding the stakeholders, end-users, and problems involved, students will utilize the Berkeley Method of Entrepreneurship and Lean Methodology to ideate and innovate potential solutions. Students from all majors are encouraged to enroll in the Disaster Technology challenge lab. Students will work in teams for the majority of projects and teams with a cross-disciplinary background have the advantage of creating more holistic and adoptable solutions. Corporations, start-ups, and mentors from governmental agencies, will provide context and feedback to teams as they engineer new innovations to combat the many challenges presented by environmental disasters.

Leadership & Social Change

2023 Fall
SOCIOL 119L 001 - LEC 001 offered through Sociology(opens in a new tab)
Joseph Klett
Aug 23 2023 - Dec 08 2023
M, W, F
10:00 am - 10:59 am
Mulford 159 (opens in a new tab)
Leadership has many meanings in society. What works well in one context cannot always be applied in another. And contexts have history. What works well in one domain does not necessarily work for all time. In this course we will reflect on the meaning of leadership in society. Our focus will be modern ideas of leadership, and how these ideas evolved, succeeded or failed in moments of social change. We will read in the area of organizational sociology with a focus on interactions, institutions and culture. In addition, we will consider work from political science, management studies and history as we attempt to unravel what leadership looks like across a variety of social domains in different states of change.

**Politics and Social Change**

2023 Fall  
[SOCIOl 140 001 - LEC 001](Sociology(opens in a new tab)) offered through Sociology(opens in a new tab)  
Laleh Behbehanian  
Aug 23 2023 - Dec 08 2023  
Tu, Th  
3:30 pm - 4:59 pm  
[Morgan 101 (opens in a new tab)]  
Class #:26208  
Units:4

Instruction Mode: In-Person Instruction

Open Seats

1 Seats Reserved for Sociology Majors

This course introduces students to theories and concepts of political sociology through utilizing them to make sense of major developments in our contemporary world. Part I of the course explores scholarship on the relationship between State and Economy. We begin with Marxist approaches that help us understand our current economic crisis by contextualizing it within a larger history of capitalist crises from the Great Depression to the Great Recession. We then proceed to examine two major state projects in the contemporary era of neoliberal capitalism:
mass incarceration and mass deportation. In Part II, we shift our focus to scholars that forefront State Violence. We begin by utilizing Weberian approaches that emphasize the state’s monopoly of legitimate violence to examine the US’ “War on Terror,” followed by scholarship that historically traces the development of state power through war, borders and money. We conclude in Part III with Feminist Revisions of the approaches we studied in the first two parts of course, providing us with radically different perspectives on states, capitalism, violence, and particularly the current pandemic and crisis of social reproduction.

**Future of Technology: How Innovators Critically Examine Game Changing and Time Wasting Technologies**

2023 Fall  
**ENGIN 283 004 - SEM 004** offered through [Engineering](http://engineering.com)  
Lukasz Kowalski  
Aug 23 2023 - Dec 08 2023  
M  
4:00 pm - 6:59 pm  
[Hearst Mining 390](http://hearth-mining390.com)  
Class #:29294  
Units:3  

Instruction Mode: In-Person Instruction

No Open Seats

Why did Altavista fail, and Google succeed? Same for Myspace and Facebook? Was it technology, marketing, people, luck, execution, or something else? It is trivial to discern good ideas and profound technological shifts after the fact. But how could you become your own futurist and learn to analyze emerging trends and foretell the outcome? We will study and analyze both failures and successes in virtual reality, blockchain, artificial intelligence, healthtech, and other technologies. Students will conduct literature reviews, netnographic analysis, and case studies in order to identify patterns that they could later apply to their own research, career decisions, or entrepreneurial ventures. The format of the class will include lectures, guest speakers from distinguished entrepreneurs and innovators, peer-reviewed presentations, quantitative and qualitative data gathering, and group exercises. Students will produce a technical report highlighting the barriers for adoption of emerging technologies. The report has the potential to be published and added to your professional portfolio. Critical thinking and the ability to question everything are the only prerequisites for this analytical survey course.

**Radiation and Its Interactions with Climate**

2023 Fall  
**EPS 230 001 - LEC 001** offered through [Earth and Planetary Science](http://earth-sci.org)  
William D Collins
Aug 23 2023 - Dec 08 2023
Tu, Th
11:00 am - 12:29 pm
McCone 325 (opens in a new tab)
Class #:23966
Units:3

Instruction Mode: In-Person Instruction

Open Seats

8 Unreserved Seats

Introduction to role of radiative processes in structure and evolution of the climate system. Electromagnetism; solar and terrestrial radiation; interactions of radiation with Earth's atmosphere, ocean, and land surface; greenhouse and runaway greenhouse effects; radiative balance of the climate system; energy-balance climate models; effects of clouds and aerosols; interactions of radiation with atmospheric and oceanic dynamics; radiative processes and paleoclimate; radiative processes and anthropogenic global warming.

Agroecology in a Planet in Crisis Class

ESPM 198 002 - GRP 002 offered through Environmental Science, Policy, and Management(opens in a new tab)
Miguel A Altieri
Sep 18 2023 - Oct 09 2023
M
4:00 pm - 6:59 pm
Mulford 132 (opens in a new tab)
Class #:27841
Units:1

Instruction Mode: In-Person Instruction

No Open Seats

The systemic nature of the polycrisis affecting humanity, reveals the hidden tragedy of animal factory farming and endless monocultures, supported by huge agribusiness, which has led to dramatic biodiversity loss, soil and water contamination, malnutrition, obesity, zoonotic diseases, appalling working conditions for migrant workers, broadly spread food insecurity and undermining livelihoods of small farmers. Modern agriculture is failing the resiliency test and is
inadequate to feed the world in the face of impacts of climate, pandemics and the war. The way industrial farming is being practiced poses major risks to human wellbeing and ecosystem integrity, thus the continuation of the current agricultural paradigm is not an option. Transformative change of current food systems is fundamental in order to match (and hopefully reverse) the relentless progression of environmental threats tied to the continuous expansion of industrial agriculture. Agroecology holds a transformative potential to cope with future challenges posed by ecological ruptures like climate change and COVID-19, by exhibiting high levels of diversity and resilience, while delivering reasonable yields and providing key ecosystem services to society. Agroecology shows a different way forward by providing the principles on how to design and manage agricultural systems best able to withstand future crises – pest outbreaks, pandemics, climate disruptions, or financial meltdowns, by territorializing food production and consumption and democratizing the food systems.

How to be a Rausser CNR Scientist: Creating a Climate of Inclusion

2023 Fall
NATRES 76 001 - SEM 001 offered through Rausser College of Natural Resources(opens in a new tab)
Kate O’Neill
Aug 23 2023 - Dec 08 2023
Tu
2:30 pm - 3:59 pm
Mulford 132 (opens in a new tab)
Class #:32304
Units:1

Instruction Mode: In-Person Instruction

Open Seats

25 Seats Reserved for Students with Enrollment Permission

Do you want to take part in research in RCNR or on campus as a whole, but are unsure of how or where to start? This course is designed for students who would like to explore their own identity as scientists at Rausser College and learn how to best access opportunities for research, internships, and jobs. Through this course, students develop a network of supportive peers, tour laboratory facilities, connect with RCNR faculty & staff, learn about campus resources, and explore & practice skills in communication & professionalism. Class conversations will also include understanding the structure of the university, the inclusiveness (or not) of its systems and structures, and using scientific resources to think critically not only about the science (physical, social, biological), but about whose scientific voices may be prioritized or silenced. Course content administered by the RCNR Office of Instruction and Student Affairs. A central course tenet is a commitment to bolstering equity and inclusion in science, encouraging students to question stereotypes about scientific identity. Students must first fill out the
NATRES 76 Interest Form and then add themselves to the waitlist for the class. Space is limited and priority will be given to first year RCNR students. Students who qualify for Educational Opportunity Program (EOP) services are strongly encouraged to apply. https://tinyurl.com/NATRES76interestform

Environmental Justice in South Asian Literature

2023 Fall
XSEASIA R5A 001 - LEC 001 offered through UC Berkeley Extension(opens in a new tab)
Aug 23 2023 - Dec 08 2023
M, W, F
12:00 pm - 12:59 pm
1995 University 211 (opens in a new tab)
Class #:30504
Units:4

Instruction Mode: In-Person Instruction

Open Seats

5 Unreserved Seats

FPF Thread: Social Justice. This course approaches the core question of environmental justice through close reading and discussion of diverse literary and cinematic texts from South Asia. In the current crisis of climate change and rising awareness of many intersecting forms of social injustice, how can we begin to listen and learn from diverse perspectives on environmental justice? We will read works written in English and translated from Mundari, Hindi, Bangla, and other languages.

Human Health and the Environment in a Changing World

2023 Fall
PBHLTH 150B 001 - LEC 001 offered through School of Public Health(opens in a new tab)
Ajay Pillarisetti
Aug 23 2023 - Dec 08 2023
Tu, Th
12:30 pm - 1:59 pm
Li Ka Shing 245 (opens in a new tab)
Class #:30038
Units:3

Instruction Mode: In-Person Instruction

Open Seats
205 Seats Reserved for Public Health Majors

The course will present the major human and natural activities that lead to release of hazardous materials into the environment as well as the causal links between chemical, physical, and biological hazards in the environment and their impact on human health. The basic principles of toxicology will be presented including dose-response relationships, absorption, distribution, metabolism, and excretion of chemicals. The overall role of environmental risks in the pattern of human disease, both nationally and internationally, will be covered. The engineering and policy strategies, including risk assessment, used to evaluate and control these risks will be introduced.

Ecology and Diversity of California Forests

2023 Fall
ESPМ 190 001 - LEC 001 offered through Environmental Science, Policy, and Management(opens in a new tab)
Rainbow Desilva
Aug 23 2023 - Dec 08 2023
Tu, Th
2:00 pm - 3:29 pm
Dwinelle 209 (opens in a new tab)
Class #:19195
Units:3

Instruction Mode: In-Person Instruction

Open Seats

20 Unreserved Seats

California has over 30 million acres of forest land which includes the world’s oldest, tallest, and largest trees. Healthy forests play a crucial role in the fight against climate change and are critical to California’s economy. In this course, we will learn about the complex interactions among forest inhabitants and explore how the abiotic environment shapes the establishment of forests. We will focus on factors affecting forest structure, composition, and productivity and discuss how forests change over time. We will also examine the many challenges forests face under global change and learn about science-based methods of forest management and restoration. This course is designed to introduce students to key ecological processes and provide fundamental knowledge of forest function that will be useful to both foresters and non-foresters alike.
History and Evolution of Planet Earth

2023 Fall
EPS 102 001 - LEC 001 offered through Earth and Planetary Science(opens in a new tab)
Daniel A Stolper
Aug 23 2023 - Dec 08 2023
M, W, F
3:00 pm - 3:59 pm
Hearst Mining 390 (opens in a new tab)
Class #:24124
Units:4

Instruction Mode: In-Person Instruction

Open Seats

25 Unreserved Seats

Formation and evolution of the earth. Nucleosynthesis; formation of the solar system; planetary accretion; dating the earth and solar system; formation of the core, mantle, oceans, and atmosphere; plate tectonics; heat transfer and internal dynamics; stratigraphic record of environment, and evolution; climate history and climate change.

Natural Resource Economics

2023 Fall
ENVECON C102 001 - LEC 001 offered through Agricultural and Resource Economics and Policy(opens in a new tab)
Larry S Karp
Aug 23 2023 - Dec 08 2023
Tu, Th
3:30 pm - 4:59 pm
Lewis 100 (opens in a new tab)
Class #:27288
Units:4

Instruction Mode: In-Person Instruction

Open Seats

40 Unreserved Seats
Also offered as: ECON C102

Introduction to the economics of natural resources. Land and the concept of economic rent. Models of optimal depletion of nonrenewable resources and optimal use of renewable resources. Application to energy, forests, fisheries, water, and climate change. Resources, growth, and sustainability.

Stories of Sustainability

2023 Fall
COLWRIT R4B 009 - SEM 009 offered through College Writing Programs(opens in a new tab)
Kimberly Freeman
Aug 23 2023 - Dec 08 2023
Tu, Th
11:00 am - 12:29 pm
Social Sciences Building 118
Class #:21180
Units:4

Instruction Mode: In-Person Instruction

No Open Seats

Whether or not one believes our climate is changing or that humans are contributing to these changes, one can’t deny the prominence of the idea in our current global culture. Not only is it a common occurrence on newspaper front pages and a popular theme in social media like Twitter, but it is also an issue that affects an array of subcultures, from nations and neighborhoods to academic disciplines and the arts. The aim of this course is not to prove or disprove any particular aspect of climate change or sustainability. Rather the theme of this course focuses on the stories we tell about sustainability. We’ll read and watch an array of media, from popular forms, such as films, T.V. shows, newspapers, and web sites. One of the ways that we tell stories is through our different academic disciplines, so we'll also get a taste of writing in different disciplines as well as in different academic forms, such as research articles and reviews, from a variety of disciplines, such as biology, international relations, and economics. Authors included are Phillip Squarzoni, Christiana Figueres and Tom Rivett-Carnac, and Robin Wall Kimmerer, among others. Students will write a variety of analytical essays, as well as write their own research project.

Stories of Sustainability

2023 Fall
Whether or not one believes our climate is changing or that humans are contributing to these changes, one can’t deny the prominence of the idea in our current global culture. Not only is it a common occurrence on newspaper front pages and a popular theme in social media like Twitter, but it is also an issue that affects an array of subcultures, from nations and neighborhoods to academic disciplines and the arts. The aim of this course is not to prove or disprove any particular aspect of climate change or sustainability. Rather the theme of this course focuses on the stories we tell about sustainability. We’ll read and watch an array of media, from popular forms, such as films, T.V. shows, newspapers, and web sites. One of the ways that we tell stories is through our different academic disciplines, so we'll also get a taste of writing in different disciplines as well as in different academic forms, such as research articles and reviews, from a variety of disciplines, such as biology, international relations, and economics. Authors included are Phillip Squarzoni, Christiana Figueres and Tom Rivett-Carnac, and Robin Wall Kimmerer, among others. Students will write a variety of analytical essays, as well as write their own research project.

Responding to Eco Apocalypse

2023 Fall

COLWRIT R4A 018 - SEM 018 offered through College Writing Programs(opens in a new tab)

Mary Grover
Aug 23 2023 - Dec 08 2023
M, W, F
3:00 pm - 3:59 pm
Internet/Online
Class #:32642
Units:4

Instruction Mode: Online
No Open Seats

We are now experiencing what some might call harbingers of eco-apocalypse: rampant wildfires, hurricane proliferation, crop-annihilating drought and floods, famine. Meanwhile, political, scientific and social communities struggle to respond productively, even while vulnerable peoples suffer the brunt of climate change and its ecological fallout. What are the consequences of environmental depredation? What are the causes? What should or can we do? How bleak is the outlook? In this course, we will make sense of our predicament, discussing and analyzing non-fiction texts, children's books, academic articles, and news articles.

Responding to Eco Apocalypse

2023 Fall
COLWRIT R4A 019 - SEM 019 offered through College Writing Programs(opens in a new tab)
Mary Grover
Aug 23 2023 - Dec 08 2023
M, W, F
4:00 pm - 4:59 pm
Internet/Online
Class #:32643
Units:4

Instruction Mode: Online

Open Seats

3 Seats Reserved for The ELWR must be completed before enrolling in this class. Check your Transfer Credit Report in Cal Central to confirm receipt of exam scores. Details on ELWR-https://admission.universityofcalifornia.edu/elwr

We are now experiencing what some might call harbingers of eco-apocalypse: rampant wildfires, hurricane proliferation, crop-annihilating drought and floods, famine. Meanwhile, political, scientific and social communities struggle to respond productively, even while vulnerable peoples suffer the brunt of climate change and its ecological fallout. What are the consequences of environmental depredation? What are the causes? What should or can we do? How bleak is the outlook? In this course, we will make sense of our predicament, discussing and analyzing non-fiction texts, children's books, academic articles, and news articles.

Environmental Archaeology

2023 Fall
ANTHRO 135B 001 - LEC 001 offered through Anthropology(opens in a new tab)
This course examines major issues, research objectives and methods in environmental archaeology, with a focus on recent discussions on long-term sustainability of human-environmental interaction in the fields of archaeology, ecological anthropology and related disciplines. Key issues that will be discussed in this course include: 1) food and subsistence diversity, 2) networks (including the mobility of people, goods and information), 3) social inequality, 4) rituals, traditional ecological knowledge and indigenous rights, 5) implications of technological developments, 6) landscapes, and 7) climate change. Contributions of archaeological studies to the debates on contemporary environmental issues will be emphasized. This course examines major issues, research objectives and methods in environmental archaeology, with a focus on recent discussions on long-term sustainability of human-environmental interaction in the fields of archaeology, ecological anthropology and related disciplines. Key issues that will be discussed in this course include: 1) food and subsistence diversity, 2) networks (including the mobility of people, goods and information), 3) social inequality, 4) rituals, traditional ecological knowledge and indigenous rights, 5) implications of technological developments, 6) landscapes, and 7) climate change. Contributions of archaeological studies to the debates on contemporary environmental issues will be emphasized.

A Sustainable World: Challenges and Opportunities

2023 Fall
PBHLTH 101 001 - LEC 001 offered through School of Public Health(opens in a new tab)
Lauren Anne van der Walt, Marlon Maus
Aug 23 2023 - Dec 08 2023
M
10:00 am - 11:59 am
Internet/Online
Class #:31066
Units:3
Instruction Mode: Online

No Open Seats

Students now attending Berkeley will confront an extremely different set of challenges than the current faculty experienced. Economic growth cannot continue exponentially in a finite world. Human activity and human numbers threaten the possibility of irreversible damage to the fragile biosphere on which all life depends. In this 3-unit interdisciplinary course, students will focus on finding creative solutions to the problems faced by their generation. Each week, experts will discuss problems and solutions concerning sustainability and climate change that they’re passionate about. Topics include energy consumption, food security, population growth and family planning, migration, climate change, policy, and governance.

**Topics in Science and Technology Studies**

2023 Fall
[HISTORY C250 001 - SEM 001](#) offered through [History](#)
Massimo Mazzotti
Aug 23 2023 - Dec 08 2023
M
10:00 am - 11:59 am
[Stephens 470](#)
Class #:21569
Units:3

Instruction Mode: In-Person Instruction

Open Seats

3 Unreserved Seats

Also offered as: [ESPM C252], [STS C200]

This seminar is designed to provide a rigorous foundation in the interdisciplinary field of Science and Technology Studies (STS). This course provides a strong foundation for graduate work in STS, a multidisciplinary field with a signature capacity to rethink the relationship among science, technology, and political and social life. The course will proceed in two parts. In the first half of the course, we’ll discuss the emergence of major themes and issues in the field and assess strengths and weaknesses of leading theories and research methodologies. We’ll explore the relationship between science, technology, culture, and politics through exemplary case-studies from different periods and contexts. In the second half of the course, we will think about these problems on the grounds of terms and disciplinary foci that have come to the forefront of our field(s). From climate change to population genomics, access to medicines and the impact of new media, the problems of our time are simultaneously scientific and social,
technological and political, ethical and economic. This reading seminar is a required core course for the Designated Emphasis in Science and Technology Studies (DE in STS).

Performance and History: Performance and Environmental Justice

2023 Fall
THEATER 125 001 - LEC 001 offered through Theater, Dance, and Performance Studies
Aug 23 2023 - Dec 08 2023
Tu, Th
11:00 am - 12:29 pm
Dwinelle 209
Class #:25845
Units:4

Instruction Mode: In-Person Instruction

Open Seats

18 Unreserved Seats

The twenty-first century has seen the rapid acceleration of climate change and biodiversity loss as well as increasingly creative responses to the ecological crisis by activists, artists, and communities. This course will examine the strategies, tactics, and aesthetics of the modern environmental justice movement as well as its historical precursors - for example, anti-enclosure rebellions in sixteenth-century England and rural uprisings against deforestation in eighteenth-century India. We will approach places like the Standing Rock Reservation, People’s Park, Berkeley, and the Weelaunee Forest in South Atlanta as sites of eco-drama, where our society’s contradictory values about its responsibilities toward the earth manifest as open conflict. We will also read, watch, and discuss plays and performances that bring imagistic, symbolic, and emotional communication to the climate conversation. Our overarching goals will be to survey the landscape of environmental activism (and “artivism”) so as to find our place within it, or in relation to it, as well as to empower ourselves to take personal and collective action.

"OK, boomer"

2023 Fall
COLWRIT R1A 002 - LEC 002 offered through College Writing Programs
Becky Hsu
Aug 23 2023 - Dec 08 2023
M, W, F
10:00 am - 11:59 am
Wheeler 100
An intensive, accelerated course satisfying concurrently the requirements of the UC Entry Level Writing Requirement and the first half of Reading and Composition. Readings will include imaginative, expository and argumentative texts representative of the range of those encountered in the undergraduate curriculum and will feature authors from diverse social and cultural backgrounds and perspectives. Instruction in writing a range of discourse forms and in the revision of papers.

In 2020, Chloe Swarbrick, a 25-year-old Australian lawmaker at that time, used the phrase “OK, boomer” to dismiss a heckler who interrupted her speech on the need to act against climate change. In those two, simple, cutting words, Swarbrick expressed the intense anger many Millennials and Gen Zers now feel against those in the Boomer generation (born within the years 1946 and 1964), who continue to hold most of the political and economic power in the world, and yet have not acted in any meaningful way against the most pressing issues we face today, such as climate change, economic inequality, racial strife, women’s rights, and - in the US - mass shootings. In fact, many, like Bruce Gibney, author of A Generation of Sociopaths: How the Baby Boomers Betrayed America, argue that the Boomer generation has been directly responsible for many of these global problems through policies that have benefitted Boomers, rather than younger generations. We will take this phrase and the generational divide it points to, as our inspiration for this course. You will write 3 different core essays, plus a reflective essay, that will culminate in a final portfolio of up to 5500 words. However, this course isn’t about churning out essays right before their deadlines. Instead, you will be asked to embrace the concept that writing is a process and that the process matters just as much - if not more - than final drafts. Thus, your papers will undergo many revisions in order to reach “portfolio”-level.

Environmental and Resource Economics
Instruction Mode: In-Person Instruction

Open Seats
9 Unreserved Seats

Consent of instructor required for enrollment.

Theory of renewable and nonrenewable natural resource use, with applications to forests, fisheries, energy, and climate change. Resources, growth, and sustainability. Economic theory of environmental policy. Externality; the Coasian critique; tax incidence and anomalies; indirect taxes; the double dividend; environmental standards; environmental regulation; impact of uncertainty on taxes and standards; mechanism design; monitoring, penalties, and regulatory strategy; emissions markets.

Environmental Determinants of Infectious Disease

2023 Fall
PBHLTH 273 001 - LEC 001 offered through School of Public Health(opens in a new tab)
Justin V Remais
Aug 23 2023 - Dec 08 2023
Th
2:00 pm - 4:59 pm
Berkeley Way West 1206
Class #:31020
Units:3

Instruction Mode: In-Person Instruction

No Open Seats

The course takes a global perspective, examining the environmental phenomena that influence the transmission of infectious diseases. The epidemiological significance of environmental processes are explored, including weather, climate extremes, hydrology, development projects, and land usage change. Analytical tools are discussed and critiqued with respect to their ability to resolve the role of environmental factors in shaping disease distributions and pathogen fate, transport, and persistence.

The Politics and Practice of Sustainability Transitions

2023 Fall
ESPM 101A 001 - LEC 001 offered through Environmental Science, Policy, and Management(opens in a new tab)
Alastair T Iles
Human societies have significant knowledge about environmental and social problems, such as climate change, biodiversity loss, and chemical pollution, as well as the underlying causes. We have a growing sense of what could be done to make societies more sustainable and just. Yet there appear to be many obstacles and much inertia in progressing towards implementing deeper changes in complex social and economic systems, from the food system to chemical manufacturing to urban transportation. This course explores sustainability transitions as a way to work through the politics and practice of making significant changes in societies, economies, and political institutions.

### Poetry and Nature in Translation

2023 Fall
**COMLIT 190 001 - LEC 001** offered through [Comparative Literature](https://www.berkeley.edu/)
Anne-Lise Francois
Aug 23 2023 - Dec 08 2023
Tu, Th
3:30 pm - 4:59 pm
**Dwinelle 183 (opens in a new tab)**
Class #:19101
Units:4

Instruction Mode: In-Person Instruction

Open Seats

6 Unreserved Seats

It’s been said that poetry is what is untranslatable, yet one poem often translates another, and many of us only read one another’s languages in translation. As a catch-all concept for whatever resists being captured in human terms, “Nature” can also be thought of as a language only ever encountered in translation. In this senior seminar we will explore the complex
relationships between these three shape-shifting terms—“poetry,” “nature,” “translation”—as we read together poems and essays from various linguistic traditions, including Chinese, English, French, German, Greek, Japanese, Latin, and Spanish. Each of you will be responsible for a poet in the language in which you are working. All readings will be provided in English, with bilingual editions used wherever possible. We will track poetry's investment in metamorphosis and movement between organic and inorganic states, while considering the relation between the emergent fields of ecopoetics and world literature. Other questions will include: What happens when we conceive of “world literature,” not in terms of national linguistic traditions and political territories, but in terms of the elements or agents traditionally understood to compose the material world (wood, fire, earth, metal, and water in the Chinese tradition; earth, water, air, and fire in the Greek tradition)? If in many traditions poetry is intimately bound up with the notation of seasonal change, circadian rhythms, and other temporal cycles, what becomes of poetry in a time of accelerating global climate change, accelerating species (and language) extinction and habitat-loss, and 24/7 round-the-clock modes of production and consumption?

The Refugee “Crisis” in Fiction, Film and Photography

2023 Fall
FRENCH 141 001 - LEC 001 offered through French(opens in a new tab)
Debarati Sanyal
Aug 23 2023 - Dec 08 2023
Tu, Th
9:30 am - 10:59 am
Moffitt Library 103 (opens in a new tab)
Class #:26159
Units:4

Instruction Mode: In-Person Instruction

No Open Seats

This course seeks to accompany the journey of refugees attempting to cross borders into Europe. How are dominant views of the refugee “crisis” currently shaped by the media? How does activist or experimental art change these visions? We will use contemporary film, fiction, photography, VR platforms and the press, to explore the experiences and stories of those fleeing poverty, violence and climate change. How are the exiled trapped by land and sea borders? How do they confront, challenge, and cross these borders? How do they offer new ways of thinking about becoming and belonging? We will consider border technology, surveillance, encampment and detention, the asylum process, resettlement and sanctuary. Our viewing and readings will also migrate from the French-speaking world to places such as the US-Mexico border and Ukraine. Narrative fiction by Marie NDiaye, Joyce Carol Oates, Ali Smith,
Valeria Luiselli, Shumona Sinha, Natacha Appanah. Art installations (photography, VR platforms) by Zach Blas, Alejandro Iñárritu, Darryl Emerson, Hito Steyerl, Richard Mosse and John Akomfrah. Films include "Welcome" by Philippe Lioret, "The Messengers" by Hélène Crouzillat and LaetitiaTura, "Those Who Jump" by Abou Bakar Sidibé, Estephan Wagner and Moritz Siebert, "Dheepan" by Jacques Audiard, "His House" by Remi Weekes

**Economics of Sustainable Resource Development**

2023 Fall  
**DEVP 222 001 - LEC 001** offered through Development Practice Graduate Group(Opens in a new tab)  
David Zilberman, David Wells Roland Holst  
Aug 23 2023 - Dec 08 2023  
M, W  
2:00 pm - 3:29 pm  
**GSPP 250 (opens in a new tab)**  
Class #:27264  
Units:3

Instruction Mode: In-Person Instruction

Open Seats

25 Seats Reserved for Master of Developmental Practice Students

This course will introduce the basic concepts including economic welfare, externality, public good, global commons, policy approaches for dealing with externality, and techniques for quality analysis. It will include case studies where groups will design economic incentives and policy solutions to major problems. It will have sections on particular problems including climate change, water and air quality, animal waste, toxic contamination, forestry and fishery policy.

**Water & Wastewater Systems Design and Operation**

2023 Fall  
**CIVENG 112 001 - LEC 001** offered through Civil and Environmental Engineering(Opens in a new tab)  
Kenichi Soga  
Aug 23 2023 - Dec 08 2023  
M, W  
11:00 am - 11:59 am  
**O'Brien 212 (opens in a new tab)**  
Class #:29255  
Units:3
Water and wastewater systems serving communities are complex, large, and were built and expanded over many decades. The infrastructure includes a network of reservoirs, pipelines, pump stations, treatment plants, and other facilities that are connected to natural systems such as watersheds, rivers, groundwater basins, and bay and ocean environments. The planning, design, operation, and maintenance of urban water and wastewater systems require balancing many factors including aging infrastructure, changing regulations, climate change, costs, and community impacts. One of the greatest challenges facing civil engineers in the 21st century is the stewardship of the infrastructure to protect public health and the environment.

Introduction to Earth System Science
2023 Fall
GEOG 40 001 - LEC 001 offered through Geography
John Chiang
Aug 23 2023 - Dec 08 2023
M, W
11:00 am - 12:29 pm
McCone 145
Class #:21431
Units:4

The goals of this introductory Earth System Science course are to achieve a scientific understanding of important problems in global environmental change and to learn how to analyze a complex system using scientific methods. Earth System Science is an interdisciplinary field that describes the cycling of energy and matter between the different spheres (atmosphere, hydrosphere, biosphere, cryosphere, and lithosphere) of the earth system. Under the overarching themes of human-induced climate change, stratospheric ozone depletion, and biodiversity loss, we will explore key concepts of solar radiation, plate tectonics, atmospheric and oceanic circulation, and the history of life on Earth.
California Public Policy and Politics

2023 Fall
ETHSTD 180 004 - LEC 004 offered through Ethnic Studies(opens in a new tab)
Philip Y Ting
Sep 18 2023 - Nov 06 2023
M, W
10:00 am - 11:59 am
Social Sciences Building 587
Class #:32213
Units:3

Instruction Mode: In-Person Instruction

No Open Seats

This course will explore a variety of public policy issues facing California. Weekly classes will discuss contemporary issues, public policy formation and analysis, key stakeholders and political pressures. Key issues explored will be higher education, housing and homelessness, climate change and racial violence. Course objectives will be to learn and understand what skills, experience, training, and resources are needed to be effective policy analysts and advocates. The course also provides students with an invaluable opportunity to gain insights into the inner workings of our legislative bodies and policy making processes, to reflect on their work and interests in public and community service, and to connect and build relationships with lawmakers for future career development. The seminar will be a 8-week course that combines classroom lectures and discussion with opportunities for students to engage issues and communities in different ways, including through policy and community impact research. Students in related field studies courses and internship programs across all programs are encouraged to enroll in this seminar. This course will meet for 8-weeks (September 18th thru November 6th).

Video/Art/Performance: Genealogies of Time-based Media Art Practice

2023 Fall
THEATER 266 002 - SEM 002 offered through Theater, Dance, and Performance Studies(opens in a new tab)
Shannon Jackson
Aug 23 2023 - Dec 08 2023
W
2:00 pm - 4:59 pm
Dwinelle 44B (opens in a new tab)
Developed from the mixed media experiments of the 1960s through to new digital and virtual aesthetics of our current moment, time-based media art offers an opportunity to explore cross-pollination amongst many art forms—including painting, sculpture, photography, cinema, dance, theater, and performance art. Sometimes video art begins as documentation of another art form; sometimes it is conceived as a limited edition art form of its own. Sometimes the screen is positioned as a delivery system of art and performance; sometimes the screen is incorporated as artistic material. We will consider these questions of form and system next to social and political questions of theme and content. How have video artists engagement with some of the most pressing issues of our time, including climate change, racial inequity, gender and sexuality, decolonization, globalization, pandemic politics, and the social impact of ever-new technology? The course will take advantage of local exhibitions and screenings as well as a variety of online tools and video collections. Students will engage as scholars throughout the course while also experimenting in curation and video-making themselves. Readings and case studies will likely include Marina Abramovic, Doug Aitken, John Akomfrah, Erika Balsom, Janet Cardiff, TJ Demos, Jeffrey Gibson, Allison Janae Hamilton, Lynn Hershman, Arthur Jafa, Kahlil Joseph, Joan Jonas, William Kentridge, Barbara London, Richard Mosse, Shirin Neshat, and many more, including the examples and projects that students bring to a growing a archive.

Latinx And The Environment

2023 Fall
CHICANO 175 001 - LEC 001 offered through Ethnic Studies(opens in a new tab)
Federico Castillo
Aug 23 2023 - Dec 08 2023
Tu, Th
12:30 pm - 1:59 pm
Social Sciences Building 140
Class #:26603
Units:4

Instruction Mode: In-Person Instruction

Open Seats

2 Seats Reserved for Undergraduate Students: Chicano Studies or ChicanX LatinX Studies Majors
2 Seats Reserved for Ethnic Studies Majors

This course will review various theories that explore the relationship between environmental drivers and socio-economic outcomes as they relate to the Latinx community. In addition, the course will use case studies to illustrate methodological approaches and topic specific impacts of environmental conditions on socioeconomic outcomes. Topics such as climate change adaptation, agricultural labor chemical exposure, access to clean water, the impact of education on environmental outcomes and others areas will be explored. Environmental equity and justice will permeate and are fundamentally integrated in all topics as they address the Latinx communities.

**Using Economics for Public Policy**

2023 Fall
ECON 130 001 - LEC 001 offered through Economics(opens in a new tab)
Julien M Lafortune
Aug 23 2023 - Dec 08 2023
M, W
6:30 pm - 7:59 pm
Physics Building 4
Class #:25638
Units:4

Instruction Mode: In-Person Instruction

No Open Seats

This course explores how economics can be used to understand and evaluate public policies. We will use both economic theory and empirical evidence to study the varying impacts and incentives created by public policies. An emphasis will be placed on the application of economic tools to policy questions. The course will provide an overview of key research in several policy areas, including inequality and opportunity, the social safety net, education, criminal justice, tax policy, climate change and the environment, health care, and structural barriers to racial equity. The course will also provide an introduction to empirical techniques common in economics and policy analysis, including regression, cost-benefit analysis, and causal inference.

**International Environmental Economics**

2023 Fall
ENVECON C132 001 - LEC 001 offered through Agricultural and Resource Economics and Policy(opens in a new tab)
Joseph S Shapiro
Aug 23 2023 - Dec 08 2023
Tu, Th
This course studies the following question: How should policymakers and scholars design and analyze environmental policy in a globalized world where much economic activity and pollution crosses political borders? The course addresses issues including climate change, air and water pollution, deforestation, species extinction, and others. The course also analyzes a variety of ways that countries and regions interact, including trade, foreign direct investment, outsourcing, international agreements and treaties, and others. The course also teaches a range of tools used to analyze these issues, including life-cycle(also called environmental footprint) analysis, simple econometrics, environmental market design, non-market valuation, and the data.

**Carbon Cycle Dynamics**

- 2023 Fall
- **EPS 251 001 - LEC 001** offered through Earth and Planetary Science
- Inez Y Fung
- Aug 23 2023 - Dec 08 2023
- Tu, Th
- 9:30 am - 10:59 am
- **Wheeler 20**
- Class #:25727
- Units:3

Instruction Mode: In-Person Instruction

Open Seats

1 Unreserved Seats

In this course, we will focus on the (unsolved) puzzle of the contemporary carbon cycle. Why is the concentration of atmospheric CO2 changing at the rate observed? What are the terrestrial and oceanic processes that add and remove carbon from the atmosphere? What are the processes responsible for long-term storage of carbon on land and in the sea? Emphasis will be placed on the observations and modeling needed to evaluate hypotheses about carbon sources...
and sinks. Past records will be examined for clues about sensitivity of carbon processes to climate variations.

**Introduction to Security Policy**

2023 Fall  
**PUBPOL 155 001 - LEC 001** offered through [Richard and Rhoda Goldman School of Public Policy](opens in a new tab)  
Daniel J Sargent, Janet Ann Napolitano  
Aug 23 2023 - Dec 08 2023  
M, W  
9:00 am - 10:29 am  
[GSPP 105](opens in a new tab)  
Class #:29833  
Units:4  

Instruction Mode: In-Person Instruction  

No Open Seats  

This course introduces students to the arena of security policy. Students will learn the origins and evolution of the governing framework for security policy in the United States, including the post-9/11 creation of Homeland Security, and key methodologies of security policy, including risk assessment. The course will evaluate the variety of scales at which security policy is enacted, from state/local to federal and even international. The course delves into defining security dilemmas of the present: the challenge of securing democracy against both internal and external threats; the challenge of cybersecurity in a networked world; and global climate change. The course concludes with a required one-day crisis simulation exercise.

**Writing the American City: New York to California**

2023 Fall  
**ENGLISH R1B 014 - LEC 014** offered through [English](opens in a new tab)  
Balthazar I Beckett  
Aug 23 2023 - Dec 08 2023  
Tu, Th  
8:00 am - 9:29 am  
[Dwinelle 134](opens in a new tab)  
Class #:24417  
Units:4  

Instruction Mode: In-Person Instruction  

No Open Seats
The American city is an incredibly complex and dynamic organism—and the subject of a great body of literature—both fiction and non-fiction. This course will trace and critically engage how American urban development has been written about from the early twentieth century to today. We will follow how writers have addressed the dramatic changes that American urban spaces underwent from the progressive era, turn-of-the-century segregation and the experience of the Great Migration to redlining, white flight, and suburbanization in the wake of the New Deal. Studying metropolitan areas across the nation, from New York City to the Bay Area and from Chicago to New Orleans, this course asks students to write critically about urban development from the battles over “urban renewal” and the anti-eviction campaigns of the Civil Rights era to the impact of 1970s neoliberal policies, the “war on drugs” and militarized “broken windows” policing, and the urban uprisings of the early 1990s. We will end this semester by studying how writers address the impact that hyper-gentrification and climate chaos (from disaster capitalism to grassroots organizing) have on American cities today. Building on the skills students acquired in R1A, this course will continue to develop reading, writing, and research skills with the aim to practice writing longer essays that are rhetorically aware and partake in relevant scholarly conversations. Over the course of this semester, students will submit two shorter essays, before concluding the course by submitting a research paper in which they will partake in a scholarly debate that they feel passionate about.

**Writing the American City: New York to California**

2023 Fall  
[ENGLISH R1B 027 - LEC 027](#) offered through [English](#)  
Balthazar I Beckett  
Aug 23 2023 - Dec 08 2023  
Tu, Th  
11:00 am - 12:29 pm  
[Dwinelle 254](#)  
Class #:31557  
Units:4  

Instruction Mode: In-Person Instruction

No Open Seats

The American city is an incredibly complex and dynamic organism—and the subject of a great body of literature—both fiction and non-fiction. This course will trace and critically engage how American urban development has been written about from the early twentieth century to today. We will follow how writers have addressed the dramatic changes that American urban spaces underwent from the progressive era, turn-of-the-century segregation and the experience of the Great Migration to redlining, white flight, and suburbanization in the wake of the New Deal. Studying metropolitan areas across the nation, from New York City to the Bay Area and from Chicago to New Orleans, this course asks students to write critically about urban development from the battles over “urban renewal” and the anti-eviction campaigns of the
Civil Rights era to the impact of 1970s neoliberal policies, the “war on drugs” and militarized “broken windows” policing, and the urban uprisings of the early 1990s. We will end this semester by studying how writers address the impact that hyper-gentrification and climate chaos (from disaster capitalism to grassroots organizing) have on American cities today. Building on the skills students acquired in R1A, this course will continue to develop reading, writing, and research skills with the aim to practice writing longer essays that are rhetorically aware and partake in relevant scholarly conversations. Over the course of this semester, students will submit two shorter essays, before concluding the course by submitting a research paper in which they will partake in a scholarly debate that they feel passionate about.

Writing the American City: New York to California

2023 Fall
ENGLISH R1B 013 - LEC 013 offered through English(opens in a new tab)
Balthazar I Beckett
Aug 23 2023 - Dec 08 2023
Tu, Th
2:00 pm - 3:29 pm
Wheeler 122 (opens in a new tab)
Class #:24416
Units:4

Instruction Mode: In-Person Instruction

No Open Seats

The American city is an incredibly complex and dynamic organism—and the subject of a great body of literature—both fiction and non-fiction. This course will trace and critically engage how American urban development has been written about from the early twentieth century to today. We will follow how writers have addressed the dramatic changes that American urban spaces underwent from the progressive era, turn-of-the-century segregation and the experience of the Great Migration to redlining, white flight, and suburbanization in the wake of the New Deal. Studying metropolitan areas across the nation, from New York City to the Bay Area and from Chicago to New Orleans, this course asks students to write critically about urban development from the battles over “urban renewal” and the anti-eviction campaigns of the Civil Rights era to the impact of 1970s neoliberal policies, the “war on drugs” and militarized “broken windows” policing, and the urban uprisings of the early 1990s. We will end this semester by studying how writers address the impact that hyper-gentrification and climate chaos (from disaster capitalism to grassroots organizing) have on American cities today. Building on the skills students acquired in R1A, this course will continue to develop reading, writing, and research skills with the aim to practice writing longer essays that are rhetorically aware and partake in relevant scholarly conversations. Over the course of this semester,
students will submit two shorter essays, before concluding the course by submitting a research paper in which they will partake in a scholarly debate that they feel passionate about.

**Energy & Civilization**

2023 Fall  
**UGBA 193B 001 - LEC 001** offered through Walter A. Haas School of Business(opens in a new tab)  
Christine A Rosen, Ahmed Badruzzaman  
Aug 23 2023 - Dec 08 2023  
Tu, Th  
12:30 pm - 1:59 pm  
Class #:20018  
Units:4  

Instruction Mode: In-Person Instruction  

Open Seats  

18 Seats Reserved for Business Administration Majors with 5 or more Terms in Attendance or EAP Reciprocity  

Energy is one of the main drivers of civilization. Today we are at the precipice of what many hope will be a major paradigm shift in energy production and use. Two transitions are needed. On the one hand, we must find ways to extend the benefits of our existing energy system to the impoverished people living in the developing world while continuing to provide these benefits to the people of the developed world. On the other hand, we must completely overhaul the existing system to fight climate change and other forms of air and water pollution. Are these shifts truly within our reach? Can we achieve both simultaneously? If so, how? This Big Ideas course will grapple with these questions using an interdisciplinary systems approach.  

**Reading and Composition**

**Literature of Destruction**

2023 Fall  
**SLAVIC R5A 002 - LEC 002** offered through Slavic Languages and Literatures(opens in a new tab)  
Robyn M Jensen  
Aug 23 2023 - Dec 08 2023  
Tu, Th  
8:00 am - 9:29 am  
Dwinelle 258 (opens in a new tab)  
Class #:22740  
Units:4
Instruction Mode: In-Person Instruction

Open Seats

6 Unreserved Seats

The modern world we live in seems to be a constant procession of overlapping and intersecting catastrophes. From climate change to the Covid-19 pandemic, it appears that we are living in a unique historical period. However, to truly understand the world of crises we currently inhabit, one must look back. The Russian and Yiddish literary traditions provide just such a means of seeing how culture preserves the scars of tragedy, along with testimonies of survival and perseverance which inspire us today. To think about how culture responds to historical catastrophe, Russian and Yiddish literature make for a good comparison. Both traditions predominantly developed in Eastern Europe and responded to many of the same, or co-occurring, historical events. By the late 19th century, many Yiddish writers were actively turning to models developed in the Russian literary tradition, and many Russian writers were grappling with the social injustices which Jews faced in the Russian Empire through their prose. However, despite their similarities, Russian and Yiddish literature developed distinct forms for representing and responding to historical catastrophe. This course will look at the broad arc of Russian and Yiddish literature’s reaction to moments of destruction and rupture throughout history. Starting with the Book of Lamentations, we will then turn to an investigation of texts which primarily respond to the historical catastrophes of the modern era including the pogroms of the late 19th century, the Holocaust, and the Gulag. Throughout the course we will ask ourselves the questions: how do writers develop and adopt literary forms in depicting historical catastrophe? How do literary texts work with and present the dynamics of cultural memory and collective trauma? How do ideas such as messianism and millenarianism inform our understanding of historical catastrophe? Authors may include Nikolai Gogol, Lev Tolstoy, Anton Chekhov, Maxim Gorky, Isaac Babel, I.B. Singer, Lamed Shapiro, and Varlam Shalamov. The focus of this course will be academic writing and literary analysis. By the end of the class students should be able to produce short and medium length compositions which are tightly argued, text-based, and stylistically appropriate. Students will also learn how to closely read texts, place texts in their appropriate cultural and historical contexts, and utilize concepts foundational to literary analysis such as: genre, style, point-of-view, figurative language, and intertext.

Connected Life: How Mobile/AI/Internet of Things Will Improve Our Lives

2023 Fall
ENGIN 183C 001 - SEM 001 offered through Engineering(opens in a new tab)
Gert R Christen
Aug 23 2023 - Dec 08 2023
F
2:00 pm - 5:59 pm
Wheeler 212 (opens in a new tab)
Many of us lead an “always-on” lifestyle - e.g. using smartphones to stay in touch with faraway friends. And under pressure from Covid companies have learned to use technologies to enable employees to work remotely. “Always-on” has indeed become ubiquitous: With Apps for people, data for companies, IoT for machines, AI for decision making, robotics for automation, and many, many more. To be “always-on” means to be always connected. And technologies including 5G enable the real-time connecting of people, machines, and sensors, regardless of distance. These technologies empower entrepreneurs to solve previously unsolvable problems: A surgeon can now use technology to save the lives of patients on the other side of the world. And anyone can be automatically alerted if a faraway family member needs help. However, some questionable uses have also appeared: Off-the-shelf drones are used for real-time targeting of artillery fire in the war in Ukraine, and there is a constant battle to protect private data against illegal use for commercial, political, or criminal uses. And not everybody has equal access to this technology, putting them at a disadvantage in our increasingly connected world. This class explores the use of technologies that are at the foundation of connectivity for people, communities, businesses, factories, and the environment. Each student will choose a team to join based on their own interests and knowledge. Each team will apply “always-on” connectivity to an area to develop and test possible solutions, build prototypes and develop a new business. The following are proposals for areas that teams may choose: Connected me (personal use, food, hygiene, shopping) Connected community (friends, family, and neighborhood use) Connected health (health, health care, fitness, free time, aging) Connected study (learning, both as students and as teachers) Connected work (in-person and remote work, teamwork) Connected factory (manufacturing, robotics, Industry 4.0, agriculture) Connected planet (environment, climate change) This class is open to anyone who wants to examine how technologies such as 5G, Mobile, IoT Internet of Things, or AI could be leveraged to improve our lives in private, at work, at play, for companies, for communities, and for our planet. The objective of this Challenge Lab is to plan new start-up companies with scalable business models. We are not working on non-profit business models. Students from all majors, both undergraduate and graduate are welcome. Preference will be given to masters-level students, seniors, and juniors with experience or demonstrated interest in technology businesses and startups. Application: https://forms.gle/P7sYnJhyhsY22uHs7
Science Fiction, Science Imaginaries

2023 Fall
AMERSTD 10 002 - LEC 002 offered through Undergraduate Interdisciplinary Studies(opens in a new tab)
Shannon Steen
Aug 23 2023 - Dec 08 2023
Tu, Th
2:00 pm - 3:29 pm
Physics Building 385
Class #: 25710
Units: 4

Instruction Mode: In-Person Instruction

Open Seats

25 Seats Reserved for Students with Enrollment Permission

Consent of department required for enrollment.

NOTE: ALL SEATS ARE RESERVED FOR FIRST YEAR STUDENTS PARTICIPATING IN THE PATHWAYS PROGRAM. What precisely is “science fiction?” A form of fantasy? An anxious dystopic rendering of technological change? A hopeful engagement with changes in human scientific capacities? In this course, we’ll read, view, and listen to a range of science fiction works from fiction to film to music, in order to explore how this form of cultural production can help us think through the social challenges brought about by technological change. In addition to thinking through the ways science fiction frames technological and social change, we will also think about its framing of social systems like race, class, and gender. Class will include guest speakers on core topics, and two cultural outings.

Comparative Economics

2023 Fall
ECON 260A 001 - LEC 001 offered through Economics(opens in a new tab)
Gerard R Roland
Aug 23 2023 - Dec 08 2023
W
1:00 pm - 2:59 pm
Evans 648 (opens in a new tab)
Class #: 31249
Units: 3

Instruction Mode: In-Person Instruction
Renewable Energy Policy in the United States

Steven A Weissman
Aug 23 2023 - Dec 08 2023
Tu, Th
3:30 pm - 4:59 pm
GSPP 250 (opens in a new tab)
Class #:29832
Units:3

Instruction Mode: In-Person Instruction

Offered through Richard and Rhoda Goldman School of Public Policy(opens in a new tab)

Hours & Workload section closed

3 hours of instructor presentation of course materials per week, and 6 hours of outside work hours per week.

Class Description

This course provides a great opportunity to participate in the formation of renewable energy policy. It will focus on the evolution and current status of those policies on the federal, state, and local levels. It will consider the context for promoting renewables in a country that has long subsidized fossil production and nuclear power and encouraged greater consumption. We will explore the tools and perspectives that governments on different levels bring to the challenge and the ways various governmental bodies have seized that opportunity. We will move beyond consideration of broad policies to examine the specific policy challenges and opportunities faced by proponents of each of the major renewable energy technologies. This course provides a practicum experience. Students will be divided into small groups to work directly with policymakers at the California Energy Commission to study topics that the Commission identifies as being of critical importance. Based on this work, the teams will offer policy recommendations to the Commission.
Climate Change and Business Strategy  3 units
Haas MBA 292T
This course addresses a wide range of topics that cover many of the principal elements of how business is affected by climate change, and how changing business practices can improve (or worsen) the climate outlook. Topics include: (a) Understanding and communicating the business implications of a changing climate; (b) Developing strategies for business sustainability in the context of a changing climate; (c) Defining and carrying out the actions businesses can take to improve the climate outlook; (d) Helping businesses prepare for the emergence of a climate-aware economy; (e) Engaging with changing consumer expectations in the context of Climate Change; (f) Responding to the demands that Climate Change place on corporate strategy.

Climate Change Essentials for Business Leaders
Haas MBA 296  1 unit
The course addresses the business implications of Climate Change integrated with a bit of Climate Science for grounding. We cover the business implications of Climate Risk, Climate Resiliency, and Climate Opportunity. In particular, we focus on how business practices can improve or worsen the climate outlook. Topics include strategies for business sustainability in the context of a changing climate, and guiding businesses to prepare for the emergence of a substantially more climate-aware customer base.

Ecologies, Aesthetics, and Histories of Art
HISTART 290 001
Sugata Ray
Aug 23 2023 - Dec 08 2023
Th
2:00 pm - 4:59 pm
Doe Library 308B (opens in a new tab)
Class #:30873
Units:2 4

Instruction Mode: In-Person Instruction

Offered through History of Art(opens in a new tab)

Nuclear disasters. Acid rain. The mass extinction of animal and plant species. The devastating environmental crisis that the planet faces today has fundamentally transformed the way we perceive human interaction with the natural environment. New forms of thinking such as postcolonial ecophilosophy, actor-network theory, new materialisms, and posthumanism have challenged Enlightenment distinctions between natural and human history. Can art history, a discipline primarily engaged in the study of human creativity, also breach the natural/human history binary? What, this seminar asks, would such a history of art and architecture look like? As a discipline, art history takes objects, structures, and artistic representations produced by
the human species as its principal archive and locus of analysis. But could intersubjective paradigms such as floraesthesis (life patterns of plants in relation to human and nonhuman ecologies) allow us to see visual representations of the natural world as something more than a mode of human ordering of the environment? Could an engagement with the vital materialism of stone lead us to rethink the history of lithic architecture? Inescapably located in deep time, the ecological is omnidirectional and rhizomatic in its scalarity. Therefore, rather than focusing on specific temporal periods, the seminar will explore the interconnected ecologies of planetary systems and art and architecture practices across space and time through specific case studies. Our case studies will range from hydrology in the ancient worlds, medieval bestiaries, early modern landscape painting, and the biopolitics of colonial tropicalism to media images of environmental catastrophes and the ecological turn in recent art.

**Art and Climate Change**  
**HA 18**  
How might we relate microeconomics to the earth’s geological history? And what has art got to do with the economics of climate change? Bringing together the sciences, the social sciences, and the humanities, the three courses in this cluster will prompt you to explore the interconnected ecologies of planetary systems through interdisciplinary frameworks and hands-on creative workshops that emphasize decolonial histories, radical futures, and new imaginaries of life. The course will include walking tours of downtown Berkeley, visits to the Berkeley Art Museum and the UC Botanical Garden, and more. The course serves as a hub course for the College of Letters & Science First-Year Pathways course cluster on “Art, Environment, and Economic Policy.”

**Atmospheric Physics and Dynamics**

**EPS C181 001 - LEC 001**

William R Boos  
Aug 23 2023 - Dec 08 2023  
M, W  
2:00 pm - 3:29 pm  
McCone 325 (opens in a new tab)  
Class #:21384  
Units:3  

Instruction Mode: In-Person Instruction  

Offered through Earth and Planetary Science(opens in a new tab)  

This course examines the processes that determine the structure and circulation of the Earth’s atmosphere. The approach is deductive rather than descriptive: to figure out the properties and behavior of the Earth's atmosphere based on the laws of physics and fluid dynamics. Topics will
include interaction between radiation and atmospheric composition; the role of water in the energy and radiation balance; governing equations for atmospheric motion, mass conservation, and thermodynamic energy balance; geostrophic flow, quasigeostrophic motion, baroclinic instability and dynamics of extratropical cyclones.

**Design for Sustainability Colloquium**

ARCH 142/242

Gail S Brager  
Aug 23 2023 - Dec 08 2023  
F  
10:00 am - 10:59 am  
[Wurster 112 (opens in a new tab)](Wurster 112 (opens in a new tab))  
Class #:20692  
Units:1 or 2

Instruction Mode: In-Person Instruction

Offered through [Architecture(opens in a new tab)](Architecture(opens in a new tab))

Presentations on a variety of topics related to sustainability, offering perspectives from leading practitioners: architectural designers, city planners, consultants, engineers, and researchers. Students can enroll for one unit (required attendance plus reading) or two units (with additional writing assignments).

**Building Energy Simulations**

Arch 246:

Stefano Schiavon  
Aug 23 2023 - Dec 08 2023  
Tu  
2:00 pm - 4:59 pm  
[Wurster 104 (opens in a new tab)](Wurster 104 (opens in a new tab))  
Class #:20797  
Units:3

Instruction Mode: In-Person Instruction

Offered through [Architecture(opens in a new tab)](Architecture(opens in a new tab))
Energy saving in buildings is among the most cost-effective and environmentally sustainable measures to reduce greenhouse gasses emissions and energy consumption. 40% of the primary energy use and 75% of total U.S. electricity consumption is used in buildings. Computer-based energy analysis tools are important for architects, building designers, engineers, and sustainability consultants to use for evidence-based design, sustainability ratings, energy code compliance, building control and optimization, policy development, and assessment.

**Environmental Science for Sustainable Development**

**LDARCH 12 001 - LEC 001**

Cristina Nicole Bejarano

Aug 23 2023 - Dec 08 2023
Tu, Th
12:30 pm - 1:59 pm
Internet/Online
Class #:20675
Units:4

Instruction Mode: Online

Offered through [Landscape Architecture and Environmental Planning](https://landscapearchitecture.berkeley.edu)

**Collective Comfort I: A Public Program for Heat Resilience**

**ARCH 149 002 - LEC 002** offered through [Architecture](https://architecture.berkeley.edu)
Liz Gálvez
Aug 23 2023 - Dec 08 2023
M
9:30 am - 12:29 pm
[Wurster 172](https://architecture.berkeley.edu/wurster-172)
Class #:33540
Units:3

5 Seats Reserved for Architecture Majors with 7 or more Terms in Attendance

American desert cities designed and built at the turn of the century, in collaboration with the advent of air-conditioning technologies, have been able to house millions of Americans by relying primarily on fossil-fuels to supply relief from extreme hot weather. The increased probability of a longer-lasting heat-wave, combined with the over demand of electrical power supply during extreme weather events can be catastrophic, especially to the most vulnerable communities. To address equitable-cooling in relationship with an over-reliance on private
mechanical, electrically powered air-conditioning technologies, the Collective Comfort course sequence aims to develop a public program that re-thinks the cooling center as an educational climate resilience hub.

During the Fall semester, seminar students will collectively develop design principles and strategies that can inform the cooling center as a heat resilience and climate education hub. This year-long interdisciplinary endeavor proposes a research seminar in the fall followed by an advanced collaborative architecture studio in the spring. The sequence brings interdisciplinary partners from resiliency planning, engineering, and community stakeholders into collaboration with architecture students. The work from the seminar and studio will be showcased in a forthcoming exhibition and is partially funded by the SOM Foundation’s 2023 Faculty Research Prize.