

Geography

Overview

The Department of Geography provides a broad-ranging perspective on humans as inhabitants of Earth, both as transformers of nature and as the creators of social spaces. Geography provides an environmental bridge between the natural and human sciences and an interdisciplinary link among the social sciences and humanities through its concern with space and spatial relations. As geographic theory and research has expanded their horizons over the past quarter century, three research focuses have emerged to define geography at UC Berkeley:

1. Earth System Science

Earth System Science is the study of the interconnected components of our environment—the atmosphere, hydrosphere, lithosphere, cryosphere, and biosphere—and how they interact to produce an integrated whole. It utilizes the fundamental disciplines of mathematics, physics, chemistry, and biology and applies them in the context of human activities and landscapes to understand the Earth, at scales ranging from single watersheds to the entire globe. It provides a physical basis for understanding the Earth and its changes in the past, present and future, equipping us with the scientific knowledge we need to find solutions for a sustainable planet.

The research of our Earth Systems Science faculty epitomizes this interdisciplinary and global approach, and with expertise in biogeochemistry, biogeography, climate dynamics and climate change, geomorphology, glaciology, hydrology, and terrestrial ecology. Our research spans all corners of the world—from the swamps of the Everglades to the tundra of Alaska, from the ocean-atmosphere systems of the tropical Pacific to the vast ice sheets of Antarctica.

2. Human Geography

Human Geography is a social science distinguished by its attention to the relation of humanity to the earth, in two regards. The first concerns the interaction of people with nature, including the extraction of natural resources, the environmental impact of people and their activities, and the effects of natural forces on society. The second concerns the spatial organization of societies at all scales from the local to the global (and from minutes to millennia) and the production of place, territory and landscape by human imagination and activity.

We build on Berkeley Geography's long tradition of cutting-edge research that combines diverse methods to address questions of public importance in creative and compelling ways. Our faculty and graduate students work all around the world and explore an enormous range of topics: forest and range utilization in the North America, urban development in China, agrarian change and resource extraction in Africa, conflict and human rights in Latin America, and much more. We examine borders and migration, conservation and development, globalization and governance, while attending closely to the roles of race, gender, and class and of science, technology and economy in shaping the world around us.

We encourage work that spans disciplinary divides, both between physical and human geography and between geography and other fields. We are proud of our longstanding commitment to advancing theoretical inquiry through research that is solidly grounded in the real

world and to teaching and scholarship that address public problems and needs.

Geography students are expected to have diverse interests and independent thought. The department welcomes students from a variety of backgrounds, including those with professional experience who wish to deepen their education. Students are encouraged to roam freely through the curriculum and to follow their inspiration where it leads, while working in tandem with faculty advisers. Graduate students often use two or three faculty in equal measure (including faculty affiliates and members from other departments) and collaborate with faculty on research, writing, and teaching. Students are expected to read extensively, develop their research, technical, and teaching skills, and produce well-crafted papers, projects, theses and dissertations.

Undergraduate Programs

Geography (<http://guide.berkeley.edu/archive/2016-17/undergraduate/degree-programs/geography>) : BA, Minor

Graduate Program

Geography (<http://guide.berkeley.edu/archive/2016-17/graduate/degree-programs/geography>) : PhD

Geography

GEOG 1 Global Environmental Change 4 Units

Terms offered: Summer 2014 10 Week Session, Summer 2014 First 6 Week Session, Summer 2013 First 6 Week Session

The global pattern of climate, landforms, vegetation, and soils. The relative importance of natural and human-induced change, global warming, forest clearance, accelerated soil erosion, glacial/postglacial climate change and its consequences.

Global Environmental Change: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Summer: 6 weeks - 7.5 hours of lecture and 5 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Byrne

Global Environmental Change: Read Less [-]

GEOG N1 Global Environmental Change 3 Units

Terms offered: Prior to 2007

The global pattern of climate, landforms, vegetation, and soils. The relative importance of natural and human-induced change, global warming, forest clearance, accelerated soil erosion, glacial/postglacial climate change and its consequences.

Global Environmental Change: Read More [\[+\]](#)

Rules & Requirements

Credit Restrictions: Students will receive no credit for Geography N1 after completing Geography 1. A deficient grade in Geography 1 maybe removed by taking Geography N1.

Hours & Format

Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Global Environmental Change: Read Less [\[-\]](#)

GEOG 4 World Peoples and Cultural Environments 4 Units

Terms offered: Summer 2014 10 Week Session, Summer 2014 Second 6 Week Session, Summer 2013 Second 6 Week Session

Historical and contemporary cultural-environmental patterns. The development and spread of cultural adaptations, human use of resources, transformation and creation of human environments.

World Peoples and Cultural Environments: Read More [\[+\]](#)

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of laboratory per week

Summer:

6 weeks - 7.5 hours of lecture and 2.5 hours of discussion per week

8 weeks - 6 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

World Peoples and Cultural Environments: Read Less [\[-\]](#)

GEOG N4 World Peoples and Cultural Environments 3 Units

Terms offered: Summer 2017 Second 6 Week Session, Summer 2016 10 Week Session, Summer 2016 Second 6 Week Session

Historical and contemporary cultural-environmental patterns. The development and spread of cultural adaptations, human use of resources, transformation and creation of human environments.

World Peoples and Cultural Environments: Read More [\[+\]](#)

Rules & Requirements

Credit Restrictions: Students will receive no credit for Geography N4 after completing Geography 4. A deficient grade in Geography 4 maybe removed by taking Geography N4.

Hours & Format

Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

World Peoples and Cultural Environments: Read Less [\[-\]](#)

GEOG 10 Worldings - Regions, Peoples and States 4 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

Geography is a way of thinking deeply and expansively about the world we inhabit and this course is designed to transform how you think about, understand and engage in its makings and re-makings. Ideas central to the field of geography such as space, nature, empire and globalization animate the histories and politics of each of these issues and many other cases. Our approach will not be to simply learn about the regions of the world, but to think critically and geographically about how region's, peoples and states and other foundational concepts have come into being and how they might be otherwise.

Worldings - Regions, Peoples and States: Read More [+]

Objectives Outcomes

Student Learning Outcomes: # Discuss how some of the most consequential forces of modernity organized people into populations; lands into territory; and nations into states.
 # Discuss the violent and contested history surrounding the organization of regions, parks, cities, and neighborhoods whose enduring forms produce and reproduce racism, poverty, and gender inequalities.
 # Explain the practices and processes through which we have transformed climates, oceans, landforms and hydrological cycles and how these changes are creating new vastly uneven vulnerabilities.
 # Apply a solid working knowledge of how to approach politics with a geographic mindset.
 # Articulate a critical understanding of the core themes in human geography (Space, Nature, Empire, and Globalization) and explain their role in constituting the contemporary world.
 # Imagine new possibilities and alternative ways of engaging in and critically thinking about key geopolitical, social, and environmental issues that shape our modern world.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Kosek

Worldings - Regions, Peoples and States: Read Less [-]

GEOG 20 Globalization 4 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

How and why are geographical patterns of employment, production, and consumption unstable in the contemporary world? What are the consequences of NAFTA, an expanded European Community, and post-colonial migration flows? How is global restructuring culturally reworked locally and nationally?

Globalization: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Globalization: Read Less [-]

GEOG N20 Globalization 3 Units

Terms offered: Summer 2017 Second 6 Week Session, Summer 2016 10 Week Session, Summer 2016 Second 6 Week Session

Global economics and politics are undergoing a revolution. Transnational enterprises, international trade, and digitized finance are merging its formerly separate national economies. New regional and transnational treaties and institutions, from the EU and NAFTA to the IMF, the WTO and the World Bank, are arising to regulate the new global economy. Power is being transferred from national states to these institutions, not always smoothly or in predictable ways. This course is about this medley.

Globalization: Read More [+]

Hours & Format

Summer:

6 weeks - 7.5 hours of lecture per week

8 weeks - 5.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Globalization: Read Less [-]

GEOG 24 Freshman Seminar 1 Unit

Terms offered: Fall 2017, Fall 2015, Fall 2014

The Freshman Seminar Program has been designed to provide new students with the opportunity to explore an intellectual topic with a faculty member in a small seminar setting. Freshman seminars are offered in all campus departments, and topics vary from department to department and semester to semester. Enrollment limited to 15 freshmen.

Freshman Seminar: Read More [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of seminar per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: The grading option will be decided by the instructor when the class is offered. Final exam required.

Freshman Seminar: Read Less [-]

GEOG 31 Justice, Nature, and the Geographies of Identity 4 Units

Terms offered: Fall 2017, Spring 2014, Fall 2012

The intersection of nature, identity, and politics pepper the pages of newspapers almost every day from stories of toxic waste sites, crime, genetic engineering to indigenous struggles, and terrorist tendencies. In all these and many other cases, ideas of race, class, and gender intersect with ideas of nature and geography in often tenacious and troubling ways. Our approach will be to understand these traditional ideas of environmental justice as well as to examine less traditional sites of environmental justice such as the laboratory, the war zone, the urban mall, and the courtroom.

Justice, Nature, and the Geographies of Identity: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructors: Kosek, Lesser

Justice, Nature, and the Geographies of Identity: Read Less [-]

GEOG C32 Introduction to Development 4 Units

Terms offered: Fall 2017, Spring 2017, Fall 2015

This course is designed as an introduction to comparative development. The course will be a general service course, as well as a prerequisite for the upper division 100 series. It is assumed that students enrolled in 10 know little about life in the Third World countries and are unfamiliar with the relevant theory in political economy of development and underdevelopment. The course will be structured around three critical concepts: land, labor, and work.

Introduction to Development: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Summer: 8 weeks - 7.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Watts

Also listed as: DEV STD C10

Introduction to Development: Read Less [-]

GEOG 35 Global Ecology and Development 4 Units

Terms offered: Spring 2014, Summer 2013 First 6 Week Session, Summer 2012 First 6 Week Session

Problems of Third World poverty and development have come to be seen as inseparable from environmental health and sustainability. The course explores the global and interconnected character of environment and development in the less developed world. Drawing on case studies of the environmental problems of the newly industrializing states, food problems, and environmental security in Africa, and the global consequences of tropical deforestation in Amazonia and carbon dioxide emissions in China, this course explores how growth and stagnation are linked to problems of environmental sustainability.

Global Ecology and Development: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Summer:

6 weeks - 8 hours of lecture and 2 hours of discussion per week

8 weeks - 6 hours of lecture and 1.5 hours of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Watts

Global Ecology and Development: Read Less [-]

GEOG 37 The Politics of Science and Technology 4 Units

Terms offered: Spring 2014, Spring 2012

This course examines how shifting understandings of science and technology have radically remade some of our most basic social and biological categories and concepts. The course explores the field of science and technology studies. In particular, students will explore formations and understandings of truth, objectivity, universality of science and technology, and the consequences of these cultural formations in contemporary debates around the world.

The Politics of Science and Technology: [Read More](#) [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Kosek

The Politics of Science and Technology: [Read Less](#) [-]

GEOG 40 Introduction to Earth System Science 4 Units

Terms offered: Spring 2018, Fall 2017, Fall 2016

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.

Introduction to Earth System Science: [Read More](#) [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of discussion per week

Summer:

6 weeks - 7.5 hours of lecture and 5 hours of discussion per week

8 weeks - 5.5 hours of lecture and 4 hours of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Chiang, Cuffey, Rhew, Larsen

Introduction to Earth System Science: [Read Less](#) [-]

GEOG 50AC California 4 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

California had been called "the great exception" and "America, only more so." Yet few of us pay attention to its distinctive traits and to its effects beyond our borders. California may be "a state of mind," but it is also the most dynamic place in the most powerful country in the world, and would be the 8th largest economy if it were a country. Its wealth has been built on mining, agriculture, industry, trade, and finance. Natural abundance and geographic advantage have played their parts, but the state's greatest resource has been its wealth and diversity of people, who have made it a center of technological and cultural innovation from Hollywood to Silicon Valley. Yet California has a dark side of exploitation and racialization.

California: [Read More](#) [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Summer:

6 weeks - 8 hours of lecture and 2 hours of discussion per week

8 weeks - 6 hours of lecture and 1.5 hours of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

California: [Read Less](#) [-]

GEOG N50AC California 3 Units

Terms offered: Summer 2017 First 6 Week Session, Summer 2016

Second 6 Week Session, Summer 2015 Second 6 Week Session

California had been called "the great exception" and "America, only more so." Yet few of us pay attention to its distinctive traits and to its effects beyond our borders. California may be "a state of mind," but it is also the most dynamic place in the most powerful country in the world, and would be the 8th largest economy if it were a country. Its wealth has been built on mining, agriculture, industry, trade, and finance. Natural abundance and geographic advantage have played their parts, but the state's greatest resource has been its wealth and diversity of people, who have made it a center of technological and cultural innovation from Hollywood to Silicon Valley. Yet California has a dark side of exploitation and racialization.

California: [Read More](#) [+]

Hours & Format

Summer: 6 weeks - 8 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

California: [Read Less](#) [-]

GEOG C55 Introduction to Central Asia 3 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

This course will introduce the student not only to ancient and modern Central Asia, but also to the role played by the region in the shaping of the history of neighboring regions and regimes. The course will outline the history, languages, ethnicities, religions, and archaeology of the region and will acquaint the student with the historical foundations of some of the political, social and economic challenges for contemporary post-Soviet Central Asian republics.

Introduction to Central Asia: [Read More](#) [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Also listed as: NE STUD C26

Introduction to Central Asia: [Read Less](#) [-]

GEOG 70AC The Urban Experience 3 Units

Terms offered: Spring 2018, Summer 2017 First 6 Week Session, Summer 2016 First 6 Week Session

We will track the historical evolution of the American city. We'll look at the economics of city life, at the organization of metropolitan political power, and at the aesthetics of the urban scene--to see how the core cultural themes of American urban life have endured over time while continuously adjusting to new circumstances. Our approach is to focus on major themes in urban life and to show how various groups have had different kinds of experiences in these urban realms.

The Urban Experience: [Read More](#) [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Summer: 6 weeks - 8 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Johns

The Urban Experience: [Read Less](#) [-]

GEOG 80 Digital Worlds: An Introduction to Geospatial Technologies 4 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

An introduction to the increasingly diverse range of geospatial technologies and tools including but not limited to geographical information systems (GIS). Via a mix of lecture and lab-based instruction, students will develop knowledge and skills in web-mapping and GIS. How these tools are used to represent fundamental geographic concepts, and the wider socioeconomic context of these technologies will also be explored.

Digital Worlds: An Introduction to Geospatial Technologies: [Read More](#) [+]

Rules & Requirements

Prerequisites: Basic computer literacy (e.g., Excel or similar)

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: O'Sullivan

Digital Worlds: An Introduction to Geospatial Technologies: [Read Less](#) [-]

GEOG N80 Digital Worlds: An Introduction to Geospatial Technologies 4 Units

Terms offered: Summer 2017 8 Week Session

An introduction to the increasingly diverse range of geospatial technologies and tools including but not limited to geographical information systems (GIS). Via a mix of lecture and lab-based instruction, students will develop knowledge and skills in web-mapping and GIS. How these tools are used to represent fundamental geographic concepts, and the wider socioeconomic context of these technologies will also be explored.

Digital Worlds: An Introduction to Geospatial Technologies: [Read More](#) [+]

Hours & Format

Summer: 8 weeks - 3 hours of lecture and 4 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Digital Worlds: An Introduction to Geospatial Technologies: [Read Less](#) [-]

GEOG C82 Oceans 3 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

This course offers multidisciplinary approach to begin answering the question "Why are oceans important to us?" Upon a physical, chemical, and geologic base, we introduce the alien world of sea life, the importance of the ocean to the global carbon cycle, and the principles of ecology with a focus on the important concept of energy flow through food webs. Lectures expand beyond science to include current topics as diverse as music, movies, mythology, biomechanics, policy, and trade. Oceans: Read More [+]

Rules & Requirements

Credit Restrictions: Students will receive no credit for Earth and Planetary Science C82/Geography C82/Integrative Biology C82 after completing Integrative Biology 82 or Earth and Planetary Science N82.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Summer:

6 weeks - 7.5 hours of lecture and 2.5 hours of discussion per week
8 weeks - 5.5 hours of lecture and 1.5 hours of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Also listed as: EPS C82/INTEG BI C82

Oceans: Read Less [-]

GEOG 88 Data Science Applications in Geography 2 Units

Terms offered: Spring 2018, Spring 2017

Data science methods are increasingly important in geography and earth science. This course introduces some of the particular challenges of working with spatial data arising from characteristics specific to such data. These issues will be explored in a series of modules deploying data science methods to investigate contemporary topics in geography and earth science, relating to climate science, hydrology, population census and remote sensing of environment. No prior knowledge is assumed or expected.

Data Science Applications in Geography: Read More [+]

Hours & Format

Fall and/or spring: 7 weeks - 2 hours of lecture and 4 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Data Science Applications in Geography: Read Less [-]

GEOG 98 Directed Group Study 1 - 4 Units

Terms offered: Spring 2018, Spring 2017, Fall 2016

Lectures and small group discussion focusing on topics of interest that vary from semester to semester.

Directed Group Study: Read More [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of directed group study per week

Summer:

6 weeks - 1-4 hours of directed group study per week
8 weeks - 1-4 hours of directed group study per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Directed Group Study: Read Less [-]

GEOG 100 Field Study of Cuba: Landscapes of Power, Production, Promise 6 Units

Terms offered: Summer 2017 Second 6 Week Session

Field course in the cultural geography. Using the landscape as our reference, we will explore the historical transformation of Cuban cities, town, and countryside from colonial times up to the present. Focus our exploration through two particular perspectives: attention to production in key sectors of the Cuban economy at different historical moments, and the ways their attendant forms of labor, ownership, technology, and trade shape the cultural landscape. The other major point of reference for this course is representations of Cuba as a place: what has Cuba stood for over time, to Cubans and to outsiders, and how have these stories played out in the forms and functions of the Cuban land
Field Study of Cuba: Landscapes of Power, Production, Promise: Read More [+]

Hours & Format

Summer: 6 weeks - 15 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Vasile

Field Study of Cuba: Landscapes of Power, Production, Promise: Read Less [-]

GEOG 109 Prehistoric Agriculture 4 Units

Terms offered: Fall 2014, Spring 2013, Spring 2012

Agricultural origins and dispersals in the light of recent biological and archaeological evidence.

Prehistoric Agriculture: [Read More](#) [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Byrne

Prehistoric Agriculture: [Read Less](#) [-]

GEOG 110 Economic Geography of the Industrial World 4 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

Industrialization, urbanization, and economic growth in the global North.

Locational patterns in manufacturing, retailing, trade, and finance.

Geographic dynamics of technical change, employment, business organization, resource use, and divisions of labor. Property, labor, and social conflict as geographic forces. Local, national, and continental rivalries in a global economy, and challenges to U.S. dominance.

Economic Geography of the Industrial World: [Read More](#) [+]

Rules & Requirements

Prerequisites: 20 or prior courses in economic or regional development strongly suggested

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Walker

Economic Geography of the Industrial World: [Read Less](#) [-]

GEOG C112 History of Development and Underdevelopment 4 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

Historical review of the development of world economic systems and the impact of these developments on less advanced countries. Course objective is to provide a background against which to understand and assess theoretical interpretations of development and underdevelopment.

History of Development and Underdevelopment: [Read More](#) [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Hart

Also listed as: DEV STD C100

History of Development and Underdevelopment: [Read Less](#) [-]

GEOG 123 Postcolonial Geographies 4 Units

Terms offered: Fall 2015, Fall 2013, Fall 2012

Postcolonial studies focus on how processes of colonialism/imperialism continue even after the formal dissolution of empire. A central argument of this course is that critical human geography can make important contributions to understanding the interconnections between forces at play in different parts of the world. Drawing on concepts of space, place, culture, power, and difference, its purpose is to provide a set of tools for grappling with the conditions in which we find ourselves, and for thinking about the possibilities for social change.

Postcolonial Geographies: [Read More](#) [+]

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Hart

Postcolonial Geographies: [Read Less](#) [-]

GEOG 125 The American City 4 Units

Terms offered: Fall 2014, Spring 2010, Spring 2009

The American city, palimpsest of a nation. It all comes together in the modern metropolis: economy, society, politics, culture, and geography. Cities as the economic engines of capitalism, centers of industry, finance, business, consumption, and innovation. Cities as political powers and political pawns, and the government of cities, suburbs, and metropolitan areas. Cities as magnificent constructs, built of concrete, credit and land rents, from skyscrapers to housing tracts, freeways to shopping malls, airports to open spaces. Cities as landscapes of social division by class, race and nationality, and the turf battles from mean ghetto streets to the hideaways of privilege.

The American City: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

The American City: Read Less [-]

GEOG 130 Food and the Environment 4 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

How do human populations organize and alter natural resources and ecosystems to produce food? The role of agriculture in the world economy, national development, and environmental degradation in the Global North and the Global South. The origins of scarcity and abundance, population growth, hunger and obesity, and poverty.

Food and the Environment: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Summer:

6 weeks - 7.5 hours of lecture and 2.5 hours of discussion per week

8 weeks - 6 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Sayre, Watts

Food and the Environment: Read Less [-]

GEOG N130 Food and the Environment 3 Units

Terms offered: Summer 2017 First 6 Week Session, Summer 2016 10 Week Session, Summer 2016 First 6 Week Session

How do human populations organize and alter natural resources and ecosystems to produce food? The role of agriculture in the world economy, national development, and environmental degradation in the Global North and the Global South. The origins of scarcity and abundance, population growth, hunger and obesity, and poverty.

Food and the Environment: Read More [+]

Hours & Format

Summer:

6 weeks - 7.5 hours of lecture per week

8 weeks - 5.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Food and the Environment: Read Less [-]

GEOG C135 Water Resources and the Environment 3 Units

Terms offered: Spring 2018, Spring 2016

Distribution, dynamics, and use of water resources in the global environment. Water scarcity, water rights, and water wars. The terrestrial hydrologic cycle. Contemporary environmental issues in water resource management, including droughts, floods, saltwater intrusion, water contamination and remediation, river restoration, hydraulic fracturing, dams, and engineering of waterways. The role of water in ecosystem processes and geomorphology. How water resources are measured and monitored. Basic water resource calculations. Effects of climate change on water quantity, quality, and timing.

Water Resources and the Environment: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Larsen

Also listed as: ESPM C133

Water Resources and the Environment: Read Less [-]

GEOG C136 Terrestrial Hydrology 4 Units

Terms offered: Spring 2018, Spring 2017, Spring 2015, Spring 2014

A quantitative introduction to the hydrology of the terrestrial environment including lower atmosphere, watersheds, lakes, and streams. All aspects of the hydrologic cycle, including precipitation, infiltration, evapotranspiration, overland flow, streamflow, and groundwater flow. Chemistry and dating of groundwater and surface water. Development of quantitative insights through problem solving and use of simple models. This course requires one field experiment and several group computer lab assignments.

Terrestrial Hydrology: [Read More](#) [+]

Rules & Requirements

Prerequisites: Chemistry 1A, Mathematics 1A-1B, Physics 7A, or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Larsen

Also listed as: ESPM C130

Terrestrial Hydrology: [Read Less](#) [-]

GEOG 137 Top Ten Global Environmental Problems 4 Units

Terms offered: Spring 2018, Spring 2016, Spring 2015

Conceptualizing global environmental problems is difficult because of the complexity of the issues, the magnitude of the problems, and the different time scales of action versus reaction. These issues apply both to the natural earth system as well as human societies. This course will examine the scientific basis underlying the largest environmental threats, and then reframe the issues to explore the societal basis of those problems. Class is not open to freshmen.

Top Ten Global Environmental Problems: [Read More](#) [+]

Rules & Requirements

Prerequisites: Geography 40, ESPM 15, or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Instructor: Rhew

Top Ten Global Environmental Problems: [Read Less](#) [-]

GEOG 138 Global Environmental Politics 4 Units

Terms offered: Fall 2017, Summer 2017 Second 6 Week Session, Summer 2016 Second 6 Week Session

Political factors affecting ecological conditions in the Third World. Topics include environmental degradation, migrations, agricultural production, role of international aid, divergence in standard of living, political power, participation and decision making, access to resources, global environmental policies and treaties, political strife and war.

Global Environmental Politics: [Read More](#) [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Global Environmental Politics: [Read Less](#) [-]

GEOG C139 Atmospheric Physics and Dynamics 3 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

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.

Atmospheric Physics and Dynamics: [Read More](#) [+]

Rules & Requirements

Prerequisites: Mathematics 53, 54; Physics 7A-7B-7C

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Chiang, Fung

Also listed as: EPS C181

Atmospheric Physics and Dynamics: [Read Less](#) [-]

GEOG 140A Physical Landscapes: Process and Form 4 Units

Terms offered: Spring 2018, Spring 2016, Spring 2015

Understanding the physical characteristics of the Earth's surface, and the processes active on it, is essential for maintaining the long-term health of the environment, and for appreciating the unique, defining qualities of geographic regions. In this course, we build an understanding of global tectonics, rivers, hillslopes, and coastlines and discover how these act in concert with the underlying geologic framework to produce the magnificent landscapes of our planet. Through our review of formative processes, we learn how physical landscapes change and are susceptible to human modifications, which are often unintentional.

Physical Landscapes: Process and Form: Read More [+]

Rules & Requirements

Prerequisites: 1 or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Cuffey

Physical Landscapes: Process and Form: Read Less [-]

GEOG 140B Physiography and Geomorphologic Extremes 4 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

In this course we review the physical landscapes and surface processes in extreme environments: hot arid regions, glacial and periglacial landscapes, and karst terrane. Using this knowledge, plus an understanding of tectonics and temperate watersheds (gained from prerequisite courses), we explore how unique combinations of geomorphic processes acting on tectonic and structural provinces have created the spectacular and diverse landscapes of North America. Regions to be explored include the Colorado Plateau, Sierra Nevada, North Cascades, Northern and Southern Rockies, Great Plains, Appalachian Highlands, and Mississippi Delta.

Physiography and Geomorphologic Extremes: Read More [+]

Rules & Requirements

Prerequisites: 140A (formerly 140), or Geology 117, or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Instructor: Cuffey

Physiography and Geomorphologic Extremes: Read Less [-]

GEOG 142 Climate Dynamics 4 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

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 Dynamics: Read More [+]

Rules & Requirements

Prerequisites: Consent of instructor needed if student has not taken an introductory-level undergraduate physics course

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Chiang

Climate Dynamics: Read Less [-]

GEOG 143 Global Change Biogeochemistry 3 Units

Terms offered: Fall 2014, Spring 2013, Spring 2009

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.

Global Change Biogeochemistry: Read More [+]

Rules & Requirements

Prerequisites: Chemistry 1A or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Rhew

Global Change Biogeochemistry: Read Less [-]

GEOG 144 Principles of Meteorology 3 Units

Terms offered: Spring 2011, Fall 2008, Fall 2004

Weather development in relation to different scales of atmospheric circulation including analysis and forecasting with examples from the Northeastern Pacific-Western North American area.

Principles of Meteorology: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Principles of Meteorology: Read Less [-]

GEOG C145 Geological Oceanography 4 Units

Terms offered: Fall 2011, Spring 2010, Spring 2008

The tectonics and morphology of the sea floor, the geologic processes in the deep and shelf seas, and the climatic record contained in deep-sea sediments. The course will cover sources and composition of marine sediments, sea-level change, ocean circulation, paleoenvironmental reconstruction using fossils, imprint of climatic zonation on marine sediments, marine stratigraphy, and ocean floor resources.

Geological Oceanography: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 3 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Ingram

Formerly known as: Geology C145

Also listed as: EPS C146

Geological Oceanography: Read Less [-]

GEOG C146 Communicating Ocean Science 4 Units

Terms offered: Spring 2018, Spring 2016, Spring 2015

For undergraduates interested in improving their ability to communicate their scientific knowledge by teaching ocean science in elementary schools or science centers/aquariums. The course will combine instruction in inquiry-based teaching methods and learning pedagogy with six weeks of supervised teaching experience in a local school classroom or the Lawrence Hall of Science with a partner. Thus, students will practice communicating scientific knowledge and receive mentoring on how to improve their presentations.

Communicating Ocean Science: Read More [+]

Rules & Requirements

Prerequisites: One course in introductory biology, geology, chemistry, physics, or marine science required and interest in ocean science; junior, senior, or graduate standing; consent of instructor required for sophomores

Hours & Format

Fall and/or spring: 15 weeks - 2.5 hours of lecture, 1 hour of discussion, and 2 hours of fieldwork per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Ingram

Also listed as: EPS C100/INTEGBI C100

Communicating Ocean Science: Read Less [-]

GEOG 147 Communicating Climate Science 3 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

For upper division undergraduate students interested in improving their conceptual understanding of climate science and climate change through engaging in activities, demonstrations, and discussions, while also developing their science communication skills to advance the public's climate literacy. The course will combine science content, active teaching and learning methods based on how people learn, and how to engage in effective interactions.

Communicating Climate Science: Read More [+]

Objectives Outcomes

Course Objectives: As a result of this course, students will be able to 1) describe and use models to illustrate the processes, interactions and mechanisms contributing to climate change; 2) demonstrate an understanding of how people learn, and the importance and impact of social, cultural and worldview belief systems on behavior related to climate change, through effectively communicating ideas and engaging in meaningful discussions with diverse, non-expert audiences.

Rules & Requirements

Prerequisites: Prior coursework in climate change science

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Rhew, Halversen, Chiang

Communicating Climate Science: Read Less [-]

GEOG 148 Biogeography 4 Units

Terms offered: Fall 2015, Spring 2015, Spring 2014

Changing distribution patterns of plants and animals on a variety of spatial and temporal scales. The effects of "continental drift," Pleistocene climatic change, agricultural origins and dispersals. The ecology of invasions and extinctions. Island biogeography.

Biogeography: Read More [+]

Rules & Requirements

Prerequisites: 1 or a lower division course in Biology or Earth Science

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Byrne

Biogeography: Read Less [-]

GEOG C148 Biogeography 4 Units

Terms offered: Not yet offered

The course will provide a historical background for the field of biogeography and the ecological foundations needed to understand the distribution and abundance of species and their changes over time. It will also discuss developing technologies (including genomic tools and environmental models) together with the availability of big data and increasingly sophisticated analytical tools to examine the relevance of the field to global change biology, conservation, and invasion biology, as well as sustainable food systems and ecosystem services. Terms offered: Spring 2018

The course will provide a historical background for the field of biogeography and the ecological foundations needed to understand the distribution and abundance of species and their changes over time. It will also discuss developing technologies (including genomic tools and environmental models) together with the availability of big data and increasingly sophisticated analytical tools to examine the relevance of the field to global change biology, conservation, and invasion biology, as well as sustainable food systems and ecosystem services.

Biogeography: Read More [+]

Rules & Requirements

Prerequisites: BIO 1B

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Gillespie

Also listed as: ESPM C125/INTEGRI C166

Biogeography: Read Less [-]

GEOG C148 Biogeography 4 Units

Terms offered: Not yet offered

The course will provide a historical background for the field of biogeography and the ecological foundations needed to understand the distribution and abundance of species and their changes over time. It will also discuss developing technologies (including genomic tools and environmental models) together with the availability of big data and increasingly sophisticated analytical tools to examine the relevance of the field to global change biology, conservation, and invasion biology, as well as sustainable food systems and ecosystem services.,Terms offered: Spring 2018

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Biogeography: [Read More](#) [+]

Rules & Requirements

Prerequisites: BIO 1B

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Gillespie

Also listed as: ESPM C125/INTEGBI C166

Biogeography: [Read Less](#) [-]

GEOG C148 Biogeography 4 Units

Terms offered: Not yet offered

The course will provide a historical background for the field of biogeography and the ecological foundations needed to understand the distribution and abundance of species and their changes over time. It will also discuss developing technologies (including genomic tools and environmental models) together with the availability of big data and increasingly sophisticated analytical tools to examine the relevance of the field to global change biology, conservation, and invasion biology, as well as sustainable food systems and ecosystem services.,Terms offered: Spring 2018

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Biogeography: [Read More](#) [+]

Rules & Requirements

Prerequisites: BIO 1B

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Gillespie

Also listed as: ESPM C125/INTEGBI C166

Biogeography: [Read Less](#) [-]

GEOG C148 Biogeography 4 Units

Terms offered: Not yet offered

The course will provide a historical background for the field of biogeography and the ecological foundations needed to understand the distribution and abundance of species and their changes over time. It will also discuss developing technologies (including genomic tools and environmental models) together with the availability of big data and increasingly sophisticated analytical tools to examine the relevance of the field to global change biology, conservation, and invasion biology, as well as sustainable food systems and ecosystem services. Terms offered: Spring 2018

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Biogeography: Read More [+]

Rules & Requirements

Prerequisites: BIO 1B

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Gillespie

Also listed as: ESPM C125/INTEGBI C166

Biogeography: Read Less [-]

GEOG C155 Race, Space, and Inequality 4 Units

Terms offered: Spring 2018, Spring 2017

This course examines the spatial configurations of inequality and poverty and their relationship to race through an analysis of the historical, theoretical and ethnographic conceptualizations, practices, and lived experiences of that relationship. The course will cover the topics of race, space, and inequality through four interwoven thematic lenses of formation, implementation, normalization, and resistances.

Race, Space, and Inequality: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Lewis

Also listed as: AFRICAM C156

Race, Space, and Inequality: Read Less [-]

GEOG 157 The Politics of the Anthropocene 4 Units

Terms offered: Not yet offered

This course seeks to trace the rise of the anthropogenic epoch as a political epistemology, changing material milieu, and amorphous and contested political signifier. The notion of the Anthropocene challenges the very boundaries of nature and culture that have plagued and defined modernity. Natural forces and inanimate objects from storms and bodies, ocean flows and river currents, soil layers and chemical reactions are more and more commonly understood as always already natural/cultural. What are the differential ways that the universal categories of the human at the heart of the concept of the Anthropocene mask the differential responsibility and liability for these epochal changes?

The Politics of the Anthropocene: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Kosek

The Politics of the Anthropocene: Read Less [-]

GEOG C157 Central American Peoples and Cultures 4 Units

Terms offered: Spring 2014, Fall 2012, Spring 2011, Fall 2004

A comparative survey of the peoples and cultures of the seven countries of the Central American Isthmus from a historical and contemporary perspective.

Central American Peoples and Cultures: Read More [\[+\]](#)

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Manz

Also listed as: CHICANO C161

Central American Peoples and Cultures: Read Less [\[-\]](#)

GEOG 159AC The Southern Border 4 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

The southern border--from California to Florida--is the longest physical divide between the First and Third Worlds. This course will examine the border as a distinct landscape where North-South relations take on a specific spatial and cultural dimension, and as a region which has been the testing ground for such issues as free trade, immigration, and ethnic politics.

The Southern Border: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Upper division standing

Requirements this course satisfies: Satisfies the American Cultures requirement

Hours & Format

Fall and/or spring: 15 weeks - 3-3 hours of lecture and 1-1 hours of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Manz, Shaiken

Also listed as: EDUC 186AC/ETH STD 159AC

The Southern Border: Read Less [\[-\]](#)

GEOG 160B American Cultural Landscapes 4 Units

Terms offered: Spring 2016, Spring 1997, Spring 1996

Introduces ways of seeing and interpreting American histories and cultures, as revealed in everyday built surroundings--homes, highways, farms, factories, stores, recreation areas, small towns, city districts and regions. Encourages students to read landscapes as records of past and present social relations, and to speculate for themselves about cultural meaning.

American Cultural Landscapes: Read More [\[+\]](#)

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Ekman

American Cultural Landscapes: Read Less [\[-\]](#)

GEOG C160A American Cultural Landscapes, 1600 to 1900 4 Units

Terms offered: Fall 2014, Fall 2013, Fall 2012, Fall 2011

Introduces ways of seeing and interpreting American histories and cultures, as revealed in everyday built surroundings-- houses, highways, farms, factories, stores, recreation areas, small towns, city districts, and regions. Encourages students to read landscapes as records of past and present social relations and to speculate for themselves about cultural meaning.

American Cultural Landscapes, 1600 to 1900: Read More [\[+\]](#)

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Groth

Also listed as: AMERSTD C112A/ENV DES C169A

American Cultural Landscapes, 1600 to 1900: Read Less [\[-\]](#)

GEOG C160B American Cultural Landscapes, 1900 to Present 4 Units

Terms offered: Spring 2018, Spring 2017, Spring 2015, Spring 2014

Introduces ways of seeing and interpreting American histories and cultures, as revealed in everyday built surroundings--homes, highways, farms, factories, stores, recreation areas, small towns, city districts, and regions. Encourages students to read landscapes as records of past and present social relations, and to speculate for themselves about cultural meaning.

American Cultural Landscapes, 1900 to Present: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Groth

Also listed as: AMERSTD C112B/ENV DES C169B

American Cultural Landscapes, 1900 to Present: Read Less [-]

GEOG 164 The Geography of Economic Development in China 4 Units

Terms offered: Spring 2017, Spring 2015, Spring 2013

This course focuses on four issues in contemporary China: (1) the transformation of the socialist state, (2) the environmental politics, (3) the interplay of gender and class in the transitional society, (4) urban expansion and the changing rural-urban dynamics, and (5) global China. Each of these issues will be examined with reference to critical theories of development and histories of China's modernization. This is a lecture course designed mainly for upper level undergraduate students with preliminary background in East Asian-Chinese studies or development studies.

The Geography of Economic Development in China: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Hsing

The Geography of Economic Development in China: Read Less [-]

GEOG 170 Special Topics in Geography 3 Units

Terms offered: Fall 2017, Spring 2017, Fall 2016

This course is designed to provide a vehicle for instructors to address a topic with which they are especially concerned; usually more restricted than the subject matter of a regular lecture course. Topics will vary with instructor. See departmental announcements.

Special Topics in Geography: Read More [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit with different topic.

Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Special Topics in Geography: Read Less [-]

GEOG 171 Special Topics in Physical Geography 3 Units

Terms offered: Fall 2016, Summer 2016 First 6 Week Session, Fall 2015

This course is designed to provide a vehicle for instructors to address a topic in physical geography with which they are especially concerned; usually more restricted than the subject matter of a regular lecture course. Topics will vary with instructor. See departmental announcements.

Special Topics in Physical Geography: Read More [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit as topic varies. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: The grading option will be decided by the instructor when the class is offered. Final exam required.

Special Topics in Physical Geography: Read Less [-]

GEOG 172 Topics in Social Geography 4 Units

Terms offered: Fall 2012, Fall 2011, Fall 2009

This course is designed to provide a vehicle for instructors to address a topic in social geography with which they are especially concerned; usually more restricted than the subject matter of a regular lecture course. Topics will vary with instructor. See departmental announcements.

Topics in Social Geography: Read More [\[+\]](#)

Rules & Requirements

Repeat rules: Course may be repeated for credit with different instructor or different topic. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Topics in Social Geography: Read Less [\[-\]](#)

GEOG 173A Cross-listed Topics in Human Geography 1 - 4 Units

Terms offered: Spring 2010, Spring 2007

This course is designed to accommodate cross-listed courses offered through other departments, the content of which is applicable to geography majors. Content and unit values vary from course to course. Cross-listed Topics in Human Geography: Read More [\[+\]](#)

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Cross-listed Topics in Human Geography: Read Less [\[-\]](#)

GEOG 175 Undergraduate Seminars 4 Units

Terms offered: Fall 2015, Fall 2014, Fall 2013

A reading and research seminar for undergraduate students. Topics will vary with instructor.

Undergraduate Seminars: Read More [\[+\]](#)

Rules & Requirements

Repeat rules: Course may be repeated for credit. Course may be repeated for credit with different topic and consent of instructor. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Undergraduate Seminars: Read Less [\[-\]](#)

GEOG C179A GC-Maker Lab I: Skills and Theory 2 Units

Terms offered: Fall 2016

In the environmental and biological sciences, one of the biggest challenges in transitioning from student to researcher is learning how to measure something without an off-the-shelf device. This course will provide the theoretical background and the practice of building a Gas Chromatograph (GC) system for environmental research. The first semester is for students who seek to develop fundamental skills in instrumental development and design. The second semester (c179b) is only open to those who have taken this first semester course and will entail the construction of a working gas chromatograph system. This class will be especially useful for students who wish to pursue research following graduation.

GC-Maker Lab I: Skills and Theory: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Chem 3AL, or instructor permission

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Rhew

Also listed as: ESPM C179A

GC-Maker Lab I: Skills and Theory: Read Less [\[-\]](#)

GEOG C179B GC-Maker Lab II: Instrument development 4 Units

Terms offered: Spring 2017

In the environmental and biological sciences, one of the biggest challenges in transitioning from student to researcher is learning how to measure something without an off-the-shelf device. This course will involve the actual building a gas chromatograph (GC) system for environmental research. In addition, we will provide the option of building a mini datalogging sensor for measuring basic environmental parameters using the Arduino platform. This course offered in the spring semester is only open to those who have taken this first semester course (c179A), which covers the fundamental skills required to undertake this project. This class is designed for upper division undergraduates to early graduate students.

GC-Maker Lab II: Instrument development: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Chem 3AL, GC-Maker Lab I (fall semester)

Hours & Format

Fall and/or spring: 15 weeks - 6 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Rhew

Also listed as: ESPM C179B

GC-Maker Lab II: Instrument development: Read Less [\[-\]](#)

GEOG 180 Field Methods for Physical Geography 5 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

Field introduction to geomorphology, biogeography, and California landscapes. Students conduct field experiments and mapping exercises. Results of field projects are analyzed and presented as a technical report. Oral field reports are required for some trips.

Field Methods for Physical Geography: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: 1 or equivalent, and consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Field Methods for Physical Geography: Read Less [\[-\]](#)

GEOG 181 Urban Field Study 4 Units

Terms offered: Spring 2016, Fall 2015, Fall 2014

Introduction to the metropolitan Bay Area: its history, economy, social makeup. Evolution of urban landscapes and spatial patterns. Social justice and conflict in the city. Business and industry location, real estate and housing, producing and consuming in the city. Regional characteristics of class, race, gender and politics.

Urban Field Study: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 9 hours of fieldwork per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Urban Field Study: Read Less [\[-\]](#)

GEOG 182 Field Study of Buildings and Cities 3 Units

Terms offered: Summer 2017 First 6 Week Session, Summer 2016 First 6 Week Session, Summer 2015 First 6 Week Session

Traveling on foot and by BART—and with on-site lectures and discussions about architecture, urban design, cultural landscapes, and spatial patterns in Berkeley, Oakland, San Francisco, and Pleasanton—students in this course will explore the historical geography of the American city since 1850. Enrollment limited to 25 students. No pre-requisites. Both undergraduate and graduate students are welcome. Field Study of Buildings and Cities: Read More [\[+\]](#)

Objectives Outcomes

Course Objectives: The goal of this course is to introduce ways of seeing various building types, street and block forms, land use patterns, and other cultural features of the Bay Area as records of social relations and of repeating processes of American geographical history: cyclical periods of investment and disinvestment, migration and immigration, economic production and consumption, connection and disconnection, reinforcement of individual and social identities, as well as day-to-day maintenance and care

Hours & Format

Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Alternative to final exam.

Instructor: Groth

Field Study of Buildings and Cities: Read Less [\[-\]](#)

GEOG 183 Cartographic Representation 5 Units

Terms offered: Spring 2018, Fall 2017, Spring 2017

Problems in the representation of quantitative and qualitative data on thematic maps.

Cartographic Representation: Read More [\[+\]](#)

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 4 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Cartographic Representation: Read Less [\[-\]](#)

GEOG 185 Earth System Remote Sensing 3 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

This lecture-lab course is focused on Earth system remote sensing applications, including a survey of methods and an accompanying lab. This first part of the course will cover general principles, image acquisition and interpretation, and analytical approaches. The second part will cover global change remote sensing applications that will include terrestrial ecosystems, Earth sciences, the hydrosphere, and human land-use.

Earth System Remote Sensing: Read More [\[+\]](#)

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Chambers

Earth System Remote Sensing: Read Less [\[-\]](#)

GEOG 187 Geographic Information Analysis 4 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016

A spatial analytic approach to digital mapping and GIS. Given that recording the geolocation of scientific, business and social data is now routine, the question of what we can learn from the spatial aspect of data arises. This class looks at challenges in analyzing spatial data, particularly scale and spatial dependence. Various methods are considered such as hotspot detection, interpolation, and map overlay. The emphasis throughout is hands on and practical rather than theoretical.

Geographic Information Analysis: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Basic computer literacy, e.g., Excel or similar, some previous GIS or mapping useful, but not required

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 4 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: O'Sullivan

Geographic Information Analysis: Read Less [\[-\]](#)

GEOG C188 Geographic Information Systems 4 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

This course introduces the student to the rapidly expanding field of Geographic Information Systems (GIS). It addresses both theory and application and provides the student with a dynamic analytical framework within which temporal and spatial data and information is gathered, integrated, interpreted, and manipulated. It emphasizes a conceptual appreciation of GIS and offers an opportunity to apply some of those concepts to contemporary geographical and planning issues.

Geographic Information Systems: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Some computer experience

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Radke

Formerly known as: C188X

Also listed as: LD ARCH C188

Geographic Information Systems: Read Less [\[-\]](#)

GEOG H195A Honors Course 1 - 4 Units

Terms offered: Spring 2018, Fall 2017, Spring 2017

Required for Honors in Geography. Students will write a thesis. One or two semesters, at the instructor's option; if two semesters, credit and grade to be awarded upon completion of the sequence.

Honors Course: [Read More](#) [+]

Rules & Requirements

Prerequisites: Admission to Honors Program

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of independent study per week

Summer:

6 weeks - 2.5-10 hours of independent study per week

8 weeks - 1.5-7.5 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. This is part one of a year long series course. A provisional grade of IP (in progress) will be applied and later replaced with the final grade after completing part two of the series. Final exam not required.

Honors Course: [Read Less](#) [-]

GEOG H195B Honors Course 1 - 4 Units

Terms offered: Spring 2018, Spring 2017, Fall 2016

Required for Honors in Geography. Students will write a thesis. One or two semesters, at the instructor's option; if two semesters, credit and grade to be awarded upon completion of the sequence.

Honors Course: [Read More](#) [+]

Rules & Requirements

Prerequisites: Admission to Honors Program

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of independent study per week

Summer:

6 weeks - 2.5-10 hours of independent study per week

8 weeks - 1.5-7.5 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Letter grade. This is part two of a year long series course. Upon completion, the final grade will be applied to both parts of the series. Final exam not required.

Honors Course: [Read Less](#) [-]

GEOG 197 Field Study in Geography 1 - 4 Units

Terms offered: Spring 2018, Fall 2017, Fall 2016

Supervised experience in application of geography in off-campus organizations. Regular individual meetings with faculty sponsor and written reports required.

Field Study in Geography: [Read More](#) [+]

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Summer:

6 weeks - 1-4 hours of independent study per week

8 weeks - 1-5 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Field Study in Geography: [Read Less](#) [-]

GEOG 198 Directed Group Study 1 - 4 Units

Terms offered: Spring 2018, Spring 2017, Fall 2016

Directed Group Study: [Read More](#) [+]

Rules & Requirements

Prerequisites: Consent of instructor

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 1-4 hours of directed group study per week

Summer:

6 weeks - 2.5-7.5 hours of directed group study per week

8 weeks - 1.5-7.5 hours of directed group study per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Directed Group Study: [Read Less](#) [-]

GEOG 199 Supervised Independent Study 1 - 4 Units

Terms offered: Spring 2018, Fall 2017, Spring 2017

Supervised Independent Study: [Read More](#) [+]

Rules & Requirements

Prerequisites: Senior standing. Overall GPA in major of 3.00

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Summer:

6 weeks - 1-5 hours of independent study per week

8 weeks - 1-5 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Supervised Independent Study: [Read Less](#) [-]

GEOG 200A Contemporary Geographic Thought 5 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

The class has several goals. One is to give students a sound basis upon which to judge arguments. A second is to help students see, think, and write geographically--that is, to interpret the making and meaning of our physical and human landscapes. A third goal is to introduce students to the tremendous range of geographical inquiry and what is probably the major strength of geography as a form of thought: to wit, making links across space, among peoples, and between humans and the earth. The fall semester class also serves to introduce students to the practices and expectations of scholarly work more generally, including professionalization, publishing, and public speaking.

Contemporary Geographic Thought: [Read More](#) [+]

Rules & Requirements

Prerequisites: Required of all first year graduate students

Hours & Format

Fall and/or spring: 15 weeks - 5 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Contemporary Geographic Thought: [Read Less](#) [-]

GEOG 200B Contemporary Geographic Thought 2 (Geographical Difference and Differentiation) 5 Units

Terms offered: Spring 2018, Spring 2016, Spring 2015

'Geographical Difference/Differentiation' is a 5 unit course with Seminar and Workshop components. The Seminar reads canonical work in social theory against contemporary Geography, including metropolitan traditions of critique of capitalism, urbanization, space and time, discipline-biopower-sovereignty, and the now; Southern traditions of agrarian, subaltern and materialist postcolonial studies; Black radical and oceanic traditions that stretch Geography in new ways; and finally, geo-graphy as a form of Earth-writing concerned with the unraveling subject, ruined landscapes mixtures of form. The Workshop runs in parallel on particular weeks, focusing on geographic problematization and the research process.

Contemporary Geographic Thought 2 (Geographical Difference and Differentiation): [Read More](#) [+]

Rules & Requirements

Prerequisites: Required of all first-year graduate students

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar and 2 hours of workshop per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Contemporary Geographic Thought 2 (Geographical Difference and Differentiation): [Read Less](#) [-]

GEOG 203 Nature and Culture: Social Theory, Social Practice, and the Environment 4 Units

Terms offered: Fall 2016, Fall 2011, Fall 2008

The relationship between societies and natural environments lies at the heart of geographical inquiry and has gained urgency as the rate and scale of human transformation of nature have grown, often outstripping our understanding of causes and effects. The physical side of environmental science has received most of the emphasis in university research, but the social basis of environmental change must be studied as well. Recent developments in social theory have much to offer environmental studies, while the latter has, in turn, exploded many formerly safe assumptions about how and what the social sciences and humanities ought to be preoccupied with. This seminar allows students to explore some classics in environmental thought as well as recent contributions that put the field on the forefront of social knowledge today. Nature and Culture: Social Theory, Social Practice, and the Environment: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Sayre

Nature and Culture: Social Theory, Social Practice, and the Environment: Read Less [-]

GEOG 214 Development Theories and Practices 4 Units

Terms offered: Spring 2011, Spring 2010, Spring 2009

This course examines how concepts and theories of "development" have been produced, maintained, used, and challenged in different regions of the world economy. It will offer a framework for analyzing how changing and contending models of development both reflect and shape social processes and practices.

Development Theories and Practices: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Hart

Development Theories and Practices: Read Less [-]

GEOG 215 Seminar in Comparative and International Development 4 Units

Terms offered: Spring 2017, Spring 2015, Fall 2010

This seminar is designed for students intending to do research on topics of comparative development, the organization of work, and access to resources in different regions of the world economy. Participants in the seminar will be expected to write a research proposal and to participate actively in reading and responding to each other's work.

Seminar in Comparative and International Development: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructors: Hart, Hsing

Seminar in Comparative and International Development: Read Less [-]

GEOG 220 Capital, Value, and Scale 4 Units

Terms offered: Spring 2013, Spring 2009, Spring 2007

This seminar focuses on major works in political economy and social theory concerning capitalism, human action, and space-time. We grapple with what "value" means in "Capital", paying particular attention to issues of historical specificity, abstract labor time, and the "value theory of labor." We spatialize the argument by a close reading of David Harvey, and we look at attempts to understand capital's relation to human action and other forms of value, in anthropology and the work of Pierre Bourdieu. Finally, we take up the issue of scale in hope of formulating a coherent conceptual framework for integrating across scales, from the human-body (or even smaller scales) up to global, economic, cultural and ecological processes

Capital, Value, and Scale: Read More [+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Sayre

Capital, Value, and Scale: Read Less [-]

GEOG 221 Speculative World-Building: Games and Simulation 4 Units

Terms offered: Spring 2018

This class will introduce the theory, background, and practice of (analog) gaming, and simulation, or, more generally speculative world-building. These activities are increasingly important in contemporary culture, and also in science, policy, business, planning, and government, in situations where understanding how the world works, how the world might work, or how things might work differently are important. In addition to approaching games as objects of study, students will design new games on topics of their choice, alone or in groups, as a practical component of this class.

Speculative World-Building: Games and Simulation: Read More [\[+\]](#)

Objectives Outcomes

Course Objectives: This class is a revised version of a class called 'Spatial simulation modeling' (Geography 228), but replaces computer simulation with board games as a vehicle for exploring how to abstractly represent processes and relations in the world. The aim is to develop an understanding of practices of 'world-building', using board games as an accessible point of entry to these practices. To do computer simulation requires learning how to program ('to code' as people insist of calling it today), which is a fine ambition but is distinct from the much more fundamental practices of abstraction, quantification, systems analysis, and so forth that underpin building simulation models. Working with board games instead of computational models will help us get to the heart of those practices a lot more easily without the distraction of learning to program.

Student Learning Outcomes: It is important to note that this is not a game design class; it is not a game theory class; and it is not a cultural studies of games class, although students may learn a little (or even a lot) about all these things, particularly the first. We will look at a lot of games during the semester, as a way to understand games as systems of interacting mechanics, preparatory to student projects which will develop either entirely new games or (probably more likely) develop variants of existing games to align the game's model of the world more closely with aspects they wish to explore.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: OSullivan

Speculative World-Building: Games and Simulation: Read Less [\[-\]](#)

GEOG 228 Spatial Simulation Modeling 4 Units

Terms offered: Spring 2015

Simulation is now a widely adopted approach to science. This class will examine what simulation models are, and why and how they are used. Models that focus on spatial processes (aggregation, segregation, diffusion, movement, growth) will be closely considered. A particular concern will be to explore how simulation models may help elucidate the relationships between processes and the spatial outcomes they produce.

Spatial Simulation Modeling: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Computer literacy, some programming background may help, but is not required, as all necessary skills will be covered in the class

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: O'Sullivan

Spatial Simulation Modeling: Read Less [\[-\]](#)

GEOG C241 Glaciology 4 Units

Terms offered: Spring 2018, Spring 2017, Spring 2015

A review of the mechanics of glacial systems, including formation of ice masses, glacial flow mechanisms, subglacial hydrology, temperature and heat transport, global flow, and response of ice sheets and glaciers. We will use this knowledge to examine glaciers as geomorphologic agents and as participants in climate change.

Glaciology: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: Graduate standing or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Cuffey

Formerly known as: 241

Also listed as: EPS C242

Glaciology: Read Less [\[-\]](#)

GEOG 244 Complex Environmental Systems 3 Units

Terms offered: Spring 2016, Spring 2014, Spring 2013

Applying a complex-systems approach to environmental problems can yield valuable insight into risk, potential drivers of change, likely outcomes of perturbation, and whether it is even possible to forecast or manage system behavior. This course explores complex-systems theory and applications in geography, ecology, and earth science. Case studies include climate change, coupled human-environmental systems, vegetation community change, river networks, forest fires, earthquakes, and peatlands.

Complex Environmental Systems: Read More [a+]

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Larsen

Complex Environmental Systems: Read Less [-]

GEOG 246 Geomorphology of California 4 Units

Terms offered: Fall 2011, Fall 2009, Fall 2006

Numerous tectonic and Earth surface processes act in concert to produce the physical landscapes of our planet. This course examines three major regions of California (the Sierra Nevada, the Basin and Range, and the Southern Coast Ranges) as specific case studies for demonstrating how landscapes can be understood using concepts from tectonics, geomorphology, and geography. Two four-day field trips and preparatory readings for them will illuminate the integrated action of tectonics, geologic structure and lithology, drainage network development, hydraulics, soil production, hillslope transport, fluvial transport, aeolian transport, and glacial/periglacial processes. A term project will be required.

Geomorphology of California: Read More [a+]

Rules & Requirements

Prerequisites: Graduate standing in either geography or earth and planetary science and consent of instructor. Undergraduates need consent of instructor and 140A-140B or 140B and Earth and Planetary Science 117

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Cuffey

Geomorphology of California: Read Less [-]

GEOG 249 Spatiotemporal Data Analysis in the Climate Sciences 3 Units

Terms offered: Fall 2008

This graduate seminar teaches objective techniques for spatiotemporal data analysis focusing primarily on Empirical Orthogonal Function (EOF) analysis and its derivatives. The context will be climate data analysis, but the technique is readily translatable to other fields. The goal is to get the student sufficiently comfortable with the technique so they can use it in their research.

Spatiotemporal Data Analysis in the Climate Sciences: Read More [a+]

Rules & Requirements

Prerequisites: A first course in linear algebra. Access to MATLAB

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Chiang

Spatiotemporal Data Analysis in the Climate Sciences: Read Less [-]

GEOG C250 Seminar in Sociology of Forest and Wildland Resources 3 Units

Terms offered: Fall 2014, Spring 2014, Fall 2013, Fall 2012

Individual projects and group discussions concerning social constraints to, and effects of, natural resource planning and management.

Application of sociological theories to problems of managing wildland ecosystems. Students will examine topics of individual interest related to the management of wildland uses. Enrollment limited.

Seminar in Sociology of Forest and Wildland Resources: Read More [a+]

Rules & Requirements

Prerequisites: Consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Fortmann

Also listed as: ESPM C255

Seminar in Sociology of Forest and Wildland Resources: Read Less [-]

GEOG 251 Topics in Cultural Geography 4 Units

Terms offered: Fall 2017, Spring 2015, Fall 2013

Research seminar on selected topics in cultural geography.

Topics in Cultural Geography: Read More [\[+\]](#)

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Groth

Topics in Cultural Geography: Read Less [\[-\]](#)

GEOG 252 Topics in Economic Geography 4 Units

Terms offered: Spring 2016, Spring 2015, Fall 2013

Research seminar on selected topics in economic geography.

Topics in Economic Geography: Read More [\[+\]](#)

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructors: Hsing, Watts

Topics in Economic Geography: Read Less [\[-\]](#)

GEOG 253 Topics in Urban Geography 4 Units

Terms offered: Spring 2014, Fall 2012, Spring 2012

Research seminar on selected topics in urban geography.

Topics in Urban Geography: Read More [\[+\]](#)

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructors: Groth, Hsing

Topics in Urban Geography: Read Less [\[-\]](#)

GEOG 254 Topics in GIS 4 Units

Terms offered: Fall 2016

Research seminar on selected topics in GIS.

Topics in GIS: Read More [\[+\]](#)

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: O'Sullivan

Topics in GIS: Read Less [\[-\]](#)

GEOG 255 Topics in Political Geography 4 Units

Terms offered: Spring 2018, Spring 2016, Fall 2015

Research seminar on selected topics in political geography.

Topics in Political Geography: Read More [\[+\]](#)

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructors: Hart, Kosek

Topics in Political Geography: Read Less [\[-\]](#)

GEOG 257 Topics in Climatology 4 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

Research seminar on selected topics in climatology.

Topics in Climatology: [Read More](#) [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Chiang

Topics in Climatology: [Read Less](#) [-]

GEOG 260 Topics in Biogeography 4 Units

Terms offered: Spring 2015, Spring 2013, Fall 2012

Research seminar on selected topics in biogeography.

Topics in Biogeography: [Read More](#) [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Byrne

Topics in Biogeography: [Read Less](#) [-]

GEOG 279 Statistics and Multivariate Data Analysis for Research 3 Units

Terms offered: Fall 2017, Spring 2015

An introduction to advanced statistical methods for research. Topics include hypothesis testing, distribution fitting, ANOVA and MANOVA, PCA, cluster analysis, ordination, discriminant analysis, regression, time series analyses, causality, and data mining techniques. Students will complete assignments that use real datasets and will gain feedback in working with their own datasets.

Statistics and Multivariate Data Analysis for Research: [Read More](#) [+]

Rules & Requirements

Prerequisites: Basic probability/statistics; familiarity with MATLAB or other programming is helpful but not required

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Larsen

Statistics and Multivariate Data Analysis for Research: [Read Less](#) [-]

GEOG 280 Advanced Field Study in Geography 3 - 7 Units

Terms offered: Fall 2017, Fall 2016, Fall 2015

All day Saturday. Each additional unit requires four hours of field work per week. Extended field project required.

Advanced Field Study in Geography: [Read More](#) [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 1 hour of lecture and 11 hours of fieldwork per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Advanced Field Study in Geography: [Read Less](#) [-]

GEOG 282 Geographic Information Systems: Applications in Geographical Research 4 Units

Terms offered: Spring 2009

This course introduces graduate students to a range of applications of Geographic Information Systems (GIS) in geographical research, and theoretical considerations of the meaning, strengths, and limitations of the methods. We first review, in general, how geographic variables can be represented in a database. This leads to an extended discussion of the application of GIS methods to a variety of problems in physical and human geography, using topographic data, census data, and other sources, manipulated by widely used GIS software. Students build skills and understanding through work on example problems. Finally, the broad question of how GIS represents geographic variables, and the strengths and limitations of the technique, are re-visited using perspective gained from examples. Students will be expected to elaborate these issues in the context of their own research programs.

Geographic Information Systems: Applications in Geographical Research: [Read More](#) [+]

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Geographic Information Systems: Applications in Geographical Research: [Read Less](#) [-]

GEOG 285 Topics in Earth System Remote Sensing 3 Units

Terms offered: Spring 2018, Spring 2016

Questions asked about a changing planet are strongly influenced by data collected across a variety of spatial and temporal scales. Remote sensing of globally distributed ecosystems and human landscapes enables the exploration of questions not possible without the extension of those dimensions. This course will focus on developing scalable Earth system research questions using a variety of tools including advanced remote sensing methods, image acquisition including UAV systems, data synthesis and analytical approaches, literature review, progress reporting, and student presentations.

Topics in Earth System Remote Sensing: [Read More](#) [+]

Objectives Outcomes

Course Objectives: To develop a better understanding of what questions can be approached across a range of geographical dimensions, and further develop the student's toolbox for exploring those questions and presenting results.

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of laboratory per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Chambers

Topics in Earth System Remote Sensing: [Read Less](#) [-]

GEOG 295 Geography Colloquium 1 Unit

Terms offered: Spring 2018, Fall 2017, Spring 2017

Invited lectures on current research and field work.

Geography Colloquium: [Read More](#) [+]

Rules & Requirements

Prerequisites: Required of all graduate students not yet advanced to candidacy

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of colloquium per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Geography Colloquium: [Read Less](#) [-]

GEOG 296 Directed Dissertation Research 1 - 12 Units

Terms offered: Spring 2018, Fall 2017, Spring 2017

Directed Dissertation Research: [Read More](#) [+]

Rules & Requirements

Prerequisites: Advancement to Ph.D. candidacy

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Directed Dissertation Research: [Read Less](#) [-]

GEOG N296 Directed Dissertation Research 1 - 4 Units

Terms offered: Summer 2017 8 Week Session, Summer 2017 Second 6

Week Session, Summer 2006 10 Week Session

Directed Dissertation Research: [Read More](#) [+]

Rules & Requirements

Prerequisites: Advancement to Ph.D. candidacy

Repeat rules: Course may be repeated for credit.

Hours & Format

Summer:

6 weeks - 1-4 hours of independent study per week

8 weeks - 1-4 hours of independent study per week

10 weeks - 1-4 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Directed Dissertation Research: [Read Less](#) [-]

GEOG 297 Directed Field Studies 1 - 6 Units

Terms offered: Spring 2018, Fall 2017, Spring 2017

Directed Field Studies: [Read More](#) [+]

Rules & Requirements

Prerequisites: Open to students directly engaged in field studies

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 1-6 hours of fieldwork per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Directed Field Studies: [Read Less](#) [-]

GEOG 298 Directed Study for Graduate Students 1 - 6 Units

Terms offered: Spring 2018, Fall 2017, Spring 2017

Special tutorial or seminar on selected topics not covered by available courses or seminars.

Directed Study for Graduate Students: [Read More](#) [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: The grading option will be decided by the instructor when the class is offered.

Directed Study for Graduate Students: [Read Less](#) [-]

GEOG 299 Individual Research 1 - 8 Units

Terms offered: Spring 2018, Fall 2017, Spring 2017

Individual research for graduate students in consultation with staff member.

Individual Research: [Read More](#) [+]

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Individual Research: [Read Less](#) [-]

GEOG N299 Individual Research 1 - 4 Units

Terms offered: Summer 2006 10 Week Session, Summer 2005 10 Week Session, Summer 2004 10 Week Session

Individual research for graduate students in consultation with staff member.

Individual Research: Read More [\[+\]](#)

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Summer:

6 weeks - 1-4 hours of independent study per week

8 weeks - 1-4 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Individual Research: Read Less [\[-\]](#)

GEOG 301 Professional Training: Teaching Practice 1 - 4 Units

Terms offered: Spring 2018, Fall 2017, Spring 2017

Professional Training: Teaching Practice: Read More [\[+\]](#)

Rules & Requirements

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Professional course for teachers or prospective teachers

Grading: Offered for satisfactory/unsatisfactory grade only.

Professional Training: Teaching Practice: Read Less [\[-\]](#)

GEOG C301 Communicating Ocean Science 4 Units

Terms offered: Spring 2018, Spring 2017, Spring 2016, Spring 2015, Fall 2014, Spring 2014, Spring 2013

For graduate students interested in improving their ability to communicate their scientific knowledge by teaching ocean science in elementary schools or science centers/aquariums. The course will combine instruction in inquiry-based teaching methods and learning pedagogy with six weeks of supervised teaching experience in a local school classroom or the Lawrence Hall of Science with a partner. Thus, students will practice communicating scientific knowledge and receive mentoring on how to improve their presentations.

Communicating Ocean Science: Read More [\[+\]](#)

Rules & Requirements

Prerequisites: One course in introductory biology, geology, chemistry, physics, or marine science required and interest in ocean science, junior, senior, or graduate standing; consent of instructor required for sophomores

Hours & Format

Fall and/or spring: 15 weeks - 2.5 hours of lecture, 1 hour of discussion, and 2 hours of fieldwork per week

Additional Details

Subject/Course Level: Geography/Professional course for teachers or prospective teachers

Grading: Letter grade.

Instructor: Ingram

Also listed as: EPS C301/INTEGBI C215

Communicating Ocean Science: Read Less [\[-\]](#)

GEOG C302 Effective Scientific Communication 3 Units

Terms offered: Fall 2009, Fall 2007

This course will introduce methods of organizing and delivering oral presentations, initiating and organizing manuscripts, and utilizing digital communication methods, such as web-based media. Students will develop effective communication techniques through in-class experience. This class will have an emphasis on the sciences but will be useful and open to graduate students of all disciplines.

Effective Scientific Communication: Read More [\[+\]](#)

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Geography/Professional course for teachers or prospective teachers

Grading: Letter grade.

Instructors: Resh, Rhew

Also listed as: ESPM C302

Effective Scientific Communication: Read Less [\[-\]](#)

GEOG 601 Individual Study for Master's Students 1 - 6 Units

Terms offered: Spring 2018, Fall 2017, Spring 2017

Individual study for comprehensive or language requirements in consultation with the field adviser.

Individual Study for Master's Students: [Read More](#) [+]

Rules & Requirements

Prerequisites: For candidates for master's degree

Credit Restrictions: Course does not satisfy unit or residence requirements for master's degree.

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate examination preparation

Grading: Offered for satisfactory/unsatisfactory grade only.

Individual Study for Master's Students: [Read Less](#) [-]

GEOG N601 Individual Study for Master's Students 1 - 3 Units

Terms offered: Summer 2009 10 Week Session

Individual study for comprehensive or language requirements in consultation with the field adviser.

Individual Study for Master's Students: [Read More](#) [+]

Rules & Requirements

Prerequisites: For candidates for master's degree

Credit Restrictions: Course does not satisfy unit or residence requirements for master's degree.

Repeat rules: Course may be repeated for credit.

Hours & Format

Summer:

6 weeks - 2.5-7.5 hours of independent study per week

8 weeks - 1.5-5.5 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate examination preparation

Grading: Offered for satisfactory/unsatisfactory grade only.

Individual Study for Master's Students: [Read Less](#) [-]

GEOG 602 Individual Study for Doctoral Students 1 - 6 Units

Terms offered: Spring 2018, Fall 2017, Spring 2017

Individual study in consultation with the major field adviser, intended to provide an opportunity for qualified students to prepare themselves for the various examinations required of candidates for the Ph.D.

Individual Study for Doctoral Students: [Read More](#) [+]

Rules & Requirements

Prerequisites: For candidates for Ph.D

Credit Restrictions: Course does not satisfy unit or residence requirements for doctoral degree.

Repeat rules: Course may be repeated for credit.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate examination preparation

Grading: Offered for satisfactory/unsatisfactory grade only.

Individual Study for Doctoral Students: [Read Less](#) [-]