

# Geography

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All human activity takes place on a geographic stage of great diversity and constant transformation. For more than a century, the Geography Department at Berkeley has been a leading center of scholarship about earth's landscapes and human relationships to the environment. Our inquiries encompass a wide range of topics, from the economies and cultures of cities and built landscapes, to tropical climates and the flow of polar ice sheets. We combine rigorous empirical work with deeply conceptual theoretical analyses, always recognizing the importance of both spatial processes and accumulated histories. We use geographic analyses to illuminate the abiding problems of the modern world.

UC Berkeley's Geography Department provides a broad-ranging perspective on humans as inhabitants and transformers of the face of the earth. The search for this kind of understanding involves thorough study of (a) the interlocking systems of the natural environment (climate, landforms, oceans, biota) and the evaluation of natural resources; (b) those diverse historical, cultural, social, economic, and political structures and processes which affect the location and spatial organization of population groups and their activities; and (c) significant geographical units, whether described as cities, regions, nations, states or landscapes, where integrated interpretation can be attempted, and a variety of problems thereby better understood.

As geographic theory and research has expanded their horizons over the past quarter-century, five research focuses have emerged to define Geography at Berkeley:

## 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. The complex system of interactions is investigated to address questions about current and future sustainability, how environmental changes affect society, and how society influences the environment.

## Racial Geographies

Racial Geographies represents an insurgent geography that critically engages with questions of race, drawing from, and contributing to, an intellectual history rooted in anti-racist and anti-colonial struggles. We are concerned with how geography is explicitly and implicitly implicated in the construction and deconstruction of race and its symptoms.

## Critical Environments

Critical Environments attends to the complex relations that constitute the material and social dimensions of the modern world. We explore lives and ecologies that emerge together with histories of capitalism, militarism, racism, colonialism, and sexuality.

## Geospatial Representation

How peoples and cultures represent space and time are central to understanding the world, shaping the possibilities - and the limits - of our thinking, knowing, and being. We work towards cross-

cultural geospatial representations in service to understanding and collaboration across communities. We also encourage antiracist and anticolonial geospatial representation in the service of planetary decolonization, to literally remake the maps and other representational forms that reinforce our divided planet.

## Political Economies

Political Economies cuts across metropolitan and Global South/postcolonial perspectives on contemporary questions concerning capitalist and imperialist dynamics. Berkeley Geography explores political-economic processes through urban, agrarian, and oceanic studies, emphasizing the dynamics of past, present, and future. Berkeley Geography interrogates capitalism, as well as its articulations with other forms of value and devaluation of places and people, through racial, gendered, sexual, and colonial relations. Berkeley Geography also explores human-environment relations and questions concerning social natures and political-ecological processes through the lens of critical political economy.

## Bachelor of Arts in Geography

UC Berkeley's Geography B.A. is unusually broad and diverse, including the study of cultural, economic, political, historical, biophysical, urban and regional geography as well as cartography, quantitative methods, Geographical Information Systems (GIS), remote sensing and fieldwork. Backgrounds in the natural and social sciences, history, and statistical methods may be useful to the Geography major, with the mix and emphasis depending on the student's particular interests. Completing a major in Geography requires the satisfactory completion of three lower-division courses and eight upper-division courses. Lower-division requirements ensure that all students gain a broad understanding of the discipline, while upper-division requirements are structured to allow students to specialize in the areas of their greatest interest.

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 and staff advisers.

## Declaring the Major

Students may declare the Geography major after completing at least 30 units with a 2.0 or better cumulative UC Berkeley GPA and after completing at least two of the three lower-division requirements. Junior transfer students should declare their major during the beginning of their second semester at UC Berkeley. Students are able to use community college coursework as substitutions for lower-division requirements with approval from the Undergraduate Major Advisor.

To declare a major in Geography, please contact the Undergraduate Major Advisor (<https://geography.berkeley.edu/academics/undergraduate-studies/advising/>).

The major requires students to take **three lower-division courses**, one in each of these areas:

- Basic Physical Geography
- World Geography
- Regional Geography

## Geography Lower-Division Courses

**Basic Physical Geography**

GEOG N1	Global Environmental Change [3]
GEOG 40	Introduction to Earth System Science [4]
ESPM 15	Introduction to Environmental Sciences [3]

**World Geography**

GEOG N4	Course Not Available
GEOG 20	Globalization [4]
GEOG N20	Globalization [3]
GEOG 31	Justice, Nature, and the Geographies of Identity [3]
GEOG C32	Introduction to Global Studies [4]

**Regional Geography**

GEOG 50AC	California [4]
GEOG N50AC	California [3]
GEOG C55	Introduction to Central Asia [3]
GEOG 70AC	The Urban Experience: Race, Class, Gender & The American City [4]
GEOG 72AC	The Bay Area [3]

In addition to completing the three lower-division course requirements, students must also complete **eight upper-division courses**, with a total of at least 24 units in upper-division courses, in order to satisfy the requirements of the major.

Students must take one course from four of the five following research areas:

- Earth System Science (<https://geography.berkeley.edu/news/research/earth-system-science/>)
- Political Economies (<https://geography.berkeley.edu/news/research/political-economies/>)
- Racial Geographies (<https://geography.berkeley.edu/news/research/racial-geographies/>)
- Critical Environments (<https://geography.berkeley.edu/news/research/critical-environments/>)
- Geospatial Representation (<https://geography.berkeley.edu/news/research/geospatial-representation/>)

Students must complete an additional four upper-division courses in the Geography department. Students can earn an emphasis in a research area by completing a total of four courses in that research area. A maximum of two upper-division courses from related fields may be applied as substitutions if they are approved by the Undergraduate Major Advisor.

**Geography Upper-Division Courses****Earth System Science**

GEOG C136	Terrestrial Hydrology	4
GEOG C139	Atmosphere, Ocean, and Climate Dynamics	3
GEOG 140A	Physical Landscapes: Process and Form	4
GEOG 140B	Physiography and Geomorphologic Extremes	4
GEOG 142	Global Climate Variability and Change	4
GEOG 143	Global Change Biogeochemistry	3
GEOG 144	Principles of Meteorology	3
GEOG C146	Communicating Ocean Science	4
GEOG 147	Communicating Climate Science	3
GEOG C148	Biogeography	4

GEOG 149A	Course Not Available	
GEOG 149B	Course Not Available	
GEOG C179A	GC-Maker Lab I: Skills and Theory	2
GEOG C179B	GC-Maker Lab II: Instrument development	4

**Political Economies**

GEOG 110	Critical Economic Geographies	4
GEOG C112	Global Development: Theory, History, Geography	4
GEOG 124	Urban Sites and City Life	3
GEOG 129	Ocean Worlds	3
GEOG 130	Food and the Environment	4
GEOG N130	Food and the Environment	3
GEOG 138	Global Environmental Politics	4
GEOG 145	Platform Geographies	4
GEOG 155	Race, Space, and Inequality	4
GEOG C155	Race, Space, and Inequality	4
GEOG 159AC	The Southern Border	4
GEOG C160	The American Landscape: Place, Power and Culture	4
GEOG 164	Global China	3
GEOG 167AC	Decolonial Border Geographies	4
GEOG 181	Urban Field Study	4
GEOG 182	Field Study of Buildings and Cities	3

**Racial Geographies**

GEOG 124	Urban Sites and City Life	3
GEOG 126	Sonic Geographies	4
GEOG 129	Ocean Worlds	3
GEOG C154	Post-Apocalyptic Botany	4
GEOG 155	Race, Space, and Inequality	4
GEOG C155	Race, Space, and Inequality	4
GEOG 159AC	The Southern Border	4
GEOG 167AC	Decolonial Border Geographies	4
GEOG 172	Course Not Available	4
GEOG 181	Urban Field Study	4
GEOG 182	Field Study of Buildings and Cities	3
GEOG 189	Visual Geography	4

**Critical Environments**

GEOG C100	Art and Ecology	4
GEOG 126	Sonic Geographies	4
GEOG 127	Geographic Film Production	4
GEOG 129	Ocean Worlds	3
GEOG 130	Food and the Environment	4
GEOG N130	Food and the Environment	3
GEOG 137	Top Ten Global Environmental Problems	4
GEOG 138	Global Environmental Politics	4
GEOG 147	Communicating Climate Science	3
GEOG C148	Biogeography	4
GEOG C154	Post-Apocalyptic Botany	4
GEOG C160	The American Landscape: Place, Power and Culture	4
GEOG 172	Course Not Available	4
GEOG 175	Course Not Available	4
GEOG 181	Urban Field Study	4

GEOG 182	Field Study of Buildings and Cities	3
GEOG 189	Visual Geography	4
<b>Geospatial Representation</b>		
GEOG 80	An Introduction to Geospatial Technologies: Mapping, Space and Power	4
GEOG 85	Mapping: Space, Cartography and Power	4
GEOG 126	Sonic Geographies	4
GEOG 127	Geographic Film Production	4
GEOG 172	Course Not Available	4
GEOG 175	Course Not Available	4
GEOG 180	Field Methods for Physical Geography	5
GEOG 183	Cartographic Representation	4
GEOG 185	Earth System Remote Sensing	3
GEOG C188	Geographic Information Science	4
GEOG 189	Visual Geography	4

### Academic Performance Requirements

- All courses taken to fulfill the major requirements must be taken for graded credit unless the course is only offered on a Pass/No Pass basis.
- All students must complete at least one semester of residence in the major before graduation.
- A minimum 2.0 grade point average (GPA) must be maintained in both upper- and lower-division courses used to fulfill the major requirements.
- Students must learn at least a C- in all courses required for the major, including lower- and upper-division courses.

### General Guidelines

1. All minors must be declared before the first day of classes in your Expected Graduation Term (EGT). For summer graduates, minors must be declared prior to the first day of Summer Session A.
2. All upper-division courses must be taken for a letter grade.
3. A minimum of three of the upper-division courses taken to fulfill the minor requirements must be completed at UC Berkeley.
4. A minimum grade point average (GPA) of 2.0 is required in the upper-division courses to fulfill the minor requirements.
5. Courses used to fulfill the minor requirements may be applied toward the Seven-Course Breadth requirement, for Letters & Science students.
6. No more than one upper division course may be used to simultaneously fulfill requirements for a student's major and minor programs.
7. All minor requirements must be completed prior to the last day of finals during the semester in which the student plans to graduate. If students cannot finish all courses required for the minor by that time, they should see a College of Letters & Science adviser.
8. All minor requirements must be completed within the unit ceiling. (For further information regarding the unit ceiling, please see the College Requirements tab.)

## Requirements

Our minor curriculum requirements follow a similar structure as our major requirements. Minor students complete five upper-division courses that engage with at least three of the research areas of Berkeley Geography: Geospatial Representations (<https://geography.berkeley.edu/research/geospatial-representation/>), Earth System Science (<https://geography.berkeley.edu/geography-studies/earth-system-science/>), Critical Environments (<https://geography.berkeley.edu/research/critical-environments/>), Racial Geographies (<https://geography.berkeley.edu/research/racial-geographies/>), and Political Economies (<https://geography.berkeley.edu/research/political-economies/>). Students are allowed to use up to two non-Geography upper-division course substitutes toward their minor requirements.

## Upper Division Courses

Students are required to take 3 courses from 3 of the 5 following areas (A - E) <sup>1</sup>

### A. Earth System Science

GEOG C136	Terrestrial Hydrology	4
GEOG C139	Atmosphere, Ocean, and Climate Dynamics	3
GEOG 140A	Physical Landscapes: Process and Form	4
GEOG 140B	Physiography and Geomorphologic Extremes	4
GEOG 142	Global Climate Variability and Change	4
GEOG 143	Global Change Biogeochemistry	3
GEOG 147	Communicating Climate Science	3
GEOG C148	Biogeography	4
GEOG 149A	Course Not Available	3
GEOG 149B	Course Not Available	3
GEOG 180	Field Methods for Physical Geography	5

### B. Political Economies

GEOG 110	Critical Economic Geographies	4
GEOG C112	Global Development: Theory, History, Geography	4
GEOG 124	Urban Sites and City Life	3
GEOG 129	Ocean Worlds	3
GEOG 130	Food and the Environment	4
GEOG N130	Food and the Environment	3
GEOG 138	Global Environmental Politics	4
GEOG 145	Platform Geographies	4
GEOG 155	Race, Space, and Inequality	4
GEOG C160	The American Landscape: Place, Power and Culture	4
GEOG 164	Global China	3
GEOG 167AC	Decolonial Border Geographies	4
GEOG 170	Special Topics in Geography	3
GEOG 181	Urban Field Study	4
GEOG 182	Field Study of Buildings and Cities	3

### C. Racial Geographies

GEOG 124	Urban Sites and City Life	3
GEOG 126	Sonic Geographies	4
GEOG 129	Ocean Worlds	3
GEOG C154	Post-Apocalyptic Botany	4
GEOG 155	Race, Space, and Inequality	4
GEOG 167AC	Decolonial Border Geographies	4
GEOG 170	Special Topics in Geography	3

GEOG 172	Course Not Available	4
GEOG 181	Urban Field Study	4
GEOG 182	Field Study of Buildings and Cities	3
GEOG 189	Visual Geography	4
<b>D. Critical Environments</b>		
GEOG C100	Art and Ecology	4
GEOG 126	Sonic Geographies	4
GEOG 127	Geographic Film Production	4
GEOG 129	Ocean Worlds	3
GEOG 130	Food and the Environment	4
GEOG N130	Food and the Environment	3
GEOG 138	Global Environmental Politics	4
GEOG 147	Communicating Climate Science	3
GEOG C148	Biogeography	4
GEOG C154	Post-Apocalyptic Botany	4
GEOG C160	The American Landscape: Place, Power and Culture	4
GEOG 170	Special Topics in Geography	3
GEOG 172	Course Not Available	4
GEOG 181	Urban Field Study	4
GEOG 182	Field Study of Buildings and Cities	3
GEOG 189	Visual Geography	4
<b>E. Geospatial Representation</b>		
GEOG 126	Sonic Geographies	4
GEOG 127	Geographic Film Production	4
GEOG 170	Special Topics in Geography	3
GEOG 172	Course Not Available	4
GEOG 180	Field Methods for Physical Geography	5
GEOG 185	Earth System Remote Sensing	3
GEOG C188	Geographic Information Science	4
GEOG 189	Visual Geography	4

<sup>1</sup> Note: GEOG 198, GEOG 199 can be applied to any UD area by petition, depending on the subject matter. A maximum of two UD courses from related fields may be applied to the minor if they are approved by the Undergraduate Major Advisor.

## Major Regulations

- Pre-requisites: Check the Course Catalog (<https://guide.berkeley.edu/courses/geog/>) for the prerequisites to all listed courses.
- Grading Option: All minor courses, including those applied to the minor from other departments, must be completed for a letter grade.
- GPA Requirements: At least 2.0 overall UC average in all upper-division courses and all courses for the minor.
- Minor: With the approval of each department advisor, 1 course may be applied simultaneously to both the Geography minor and chosen major.

Undergraduate students must fulfill the following requirements in addition to those required by their major program.

For a detailed lists of L&S requirements, please see Overview tab to the right in this guide or visit the L&S Degree Requirements (<https://lsadvising.berkeley.edu/degree-requirements/>) webpage. For

College advising appointments, please visit the L&S Advising (<https://lsadvising.berkeley.edu/home/>) Pages.

## University of California Requirements

### Entry Level Writing

All students who will enter the University of California as freshmen must demonstrate their command of the English language by fulfilling the Entry Level Writing requirement. Fulfillment of this requirement is also a prerequisite to enrollment in all reading and composition courses at UC Berkeley and must be taken for a letter grade.

### American History and American Institutions

The American History and American Institutions requirements are based on the principle that all U.S. residents who have graduated from an American university should have an understanding of the history and governmental institutions of the United States.

## Berkeley Campus Requirement

### American Cultures

All undergraduate students at Cal need to take and pass this campus requirement course in order to graduate. The requirement offers an exciting intellectual environment centered on the study of race, ethnicity and culture of the United States. AC courses are plentiful and offer students opportunities to be part of research-led, highly accomplished teaching environments, grappling with the complexity of American Culture.

## College of Letters & Science Essential Skills Requirements

### Quantitative Reasoning

The Quantitative Reasoning requirement is designed to ensure that students graduate with basic understanding and competency in math, statistics, or computer/data science. The requirement may be satisfied by exam or by taking an approved course taken for a letter grade.

### Foreign Language

The Foreign Language requirement may be satisfied by demonstrating proficiency in reading comprehension, writing, and conversation in a foreign language equivalent to the second semester college level, either by passing an exam or by completing approved course work taken for a letter grade.

### Reading and Composition

In order to provide a solid foundation in reading, writing, and critical thinking the College of Letters and Science requires two semesters of lower division work in composition in sequence. Students must complete parts A & B reading and composition courses in sequential order by the end of their fourth semester for a letter grade.

## College of Letters & Science 7 Course Breadth Requirements

### Breadth Requirements

The undergraduate breadth requirements provide Berkeley students with a rich and varied educational experience outside of their major program. As the foundation of a liberal arts education, breadth courses give students a view into the intellectual life of the University while introducing them to a multitude of perspectives and approaches to research and scholarship. Engaging students in new disciplines and with peers from other majors, the breadth experience strengthens interdisciplinary

connections and context that prepares Berkeley graduates to understand and solve the complex issues of their day.

## Unit Requirements

- 120 total units
- Of the 120 units, 36 must be upper division units
- Of the 36 upper division units, 6 must be taken in courses offered outside your major department

## Residence Requirements

For units to be considered in "residence," you must be registered in courses on the Berkeley campus as a student in the College of Letters & Science. Most students automatically fulfill the residence requirement by attending classes at Cal for four years, or two years for transfer students. In general, there is no need to be concerned about this requirement, unless you graduate early, go abroad for a semester or year, or want to take courses at another institution or through UC Extension during your senior year. In these cases, you should make an appointment to meet an L&S College adviser to determine how you can meet the Senior Residence Requirement.

Note: Courses taken through UC Extension do not count toward residence.

## Senior Residence Requirement

After you become a senior (with 90 semester units earned toward your B.A. degree), you must complete at least 24 of the remaining 30 units in residence in at least two semesters. To count as residence, a semester must consist of at least 6 passed units. Intercampus Visitor, EAP, and UC Berkeley-Washington Program (UCDC) units are excluded.

You may use a Berkeley Summer Session to satisfy one semester of the Senior Residence requirement, provided that you successfully complete 6 units of course work in the Summer Session and that you have been enrolled previously in the college.

## Modified Senior Residence Requirement

Participants in the UC Education Abroad Program (EAP), Berkeley Summer Abroad, or the UC Berkeley Washington Program (UCDC) may meet a Modified Senior Residence requirement by completing 24 (excluding EAP) of their final 60 semester units in residence. At least 12 of these 24 units must be completed after you have completed 90 units.

## Upper Division Residence Requirement

You must complete in residence a minimum of 18 units of upper division courses (excluding UCEAP units), 12 of which must satisfy the requirements for your major.

## Learning Goals for the Major

1. Spatial, holistic thinking at the intersections of society, space, and nature
  - a. Phenomena in place: Explain the spatial dimensions (location, place, landscape, region, and territory) of human life and the global environment—how human and earth science phenomena “take their place” on the surface of the earth.
  - b. Earth systems: Comprehend how the Earth functions as a complex system of interacting components and how this system applies to and is affected by humanity.

- c. Scales of space and time: Understand processes operating at different spatial and temporal scales in the earth system and in human histories.
  - d. Nature and society: Recognize natural resource flows through human systems and identify social constructions of nature and vulnerabilities to natural disasters.
  - e. Interdisciplinarity: Combine insights from the natural sciences, social sciences, and humanities to better understand the problems of the increasingly interconnected and ecologically fragile world.
2. Addressing diversity in both human and physical geography
    - a. Peoples and places: Discuss, interpret, and explain differences of wealth, power, health, and well-being between and within societies, and the processes that create these patterns.
    - b. Physical processes: Discuss, interpret, and explain the diversity of—and the processes responsible for—the landforms, climates, and ecosystems that constitute our planet’s physical landscapes.
    - c. Reading landscapes: Deduce questions and hypotheses through clues in material landscapes.
  3. Analysis and application for students interested in human geography
    - a. Role of Space: Understand the function of boundaries, territories, places, networks, and other spatial forms in the workings of human societies.
    - b. Power and landscapes: Understand the projection, protection, and contestation of power through the production of ideas, cultures, empires, and spatial forms.
    - c. Roles of cities: Grasp the roles and forms of cities as records and motors of modern life, and the interactions of urban areas with hinterlands and global networks.
    - d. Food systems: Compare and contrast agrarian and industrial food supply systems around the world.
    - e. Society-environment interactions: Understand the mutual influences and ramifications of biophysical and social processes in the dynamics of societies at scales from the local to the global.
  4. Analysis and application for students interested in physical geography
    - a. Earth system science: Analyze interconnected environmental systems with process-based geophysical, geochemical, and biological sciences in the context of current social environmental problems.
    - b. Modeling: Construct models of the earth as a system of interconnected components, highlighting forcings and feedbacks.
    - c. Experiments: Formulate and apply scientific hypotheses and devise tests for them.
    - d. Science and society: Analyze and evaluate the role of science in shaping social forces, and being shaped by them.
  5. Application of basic skills in research, knowledge of literature, analysis, and communication
    - a. Write clearly: Demonstrate ability to focus and elaborate on chosen topics.
    - b. Read critically: Critically analyze and assess arguments in professional journals, public media, and advocacy literature.
    - c. Empirical plus theoretical: Produce work with robust empirical research (that locates, interprets, and puts together relevant and reliable sources of information) as well as intellectual and theoretical rigor.
    - d. Use of mapping: Understand the production, interpretation, and use of mapping in all its forms and scales.

- e. Applying quantitative skills: Apply basic quantitative skills such as statistics, algebra, and interpreting graphs.
  - f. Analytical ability: Demonstrate analytical ability: including the ability to identify questions, differentiate descriptions from explanations, make connections between empirical observations and arguments, and differentiate between competing explanations of a given phenomenon.
6. Lifetime skills
- a. Continuing concern: Show continuing concern, curiosity, and zeal for geography and for applying geographical understanding.
  - b. Representing geography: Represent the usefulness of geography and geographical points of view to—depending on the circumstances—prospective employers, educators, policy makers, resource managers, developers, engineers, the public, and acquaintances.

Major maps are experience maps that help undergraduates plan their Berkeley journey based on intended major or field of interest. Featuring student opportunities and resources from your college and department as well as across campus, each map includes curated suggestions for planning your studies, engaging outside the classroom, and pursuing your career goals in a timeline format.

Use the major map below to explore potential paths and design your own unique undergraduate experience:

**View the Geography Major Map.**

## Major Advising

### Undergraduate Major Advisor

The Geography department is committed to providing a safe, inclusive environment for all students. The Undergraduate Major Advisor (<https://geography.berkeley.edu/academics/undergraduate-studies/advising/>) is available to support students and assist them in successfully completing the Geography major. The UMA is a great resource for the following:

- Declaring the Geography major or minor and understanding the requirements
- Advice about schedule planning, including study abroad
- Information about research opportunities, scholarships, graduate and professional schools, and/or internships and career opportunities
- Scheduling conflicts, registration holds, or other major-specific academic policies
- Information and applications for the Honors Program, supervised independent study, or field study experiences
- Advice on navigating personal issues that may impact a student's performance in the major or minor

Students are encouraged to utilize the Undergraduate Major Advisor as a resource in whatever ways they need support and assistance within the department.

### Undergraduate Faculty Advisor

In addition to the Undergraduate Major Advisor, the department has a designated Undergraduate Faculty Advisor (<https://geography.berkeley.edu/academics/undergraduate-studies/advising/>) who can also serve as a valuable resource to students pursuing the Geography major. Students are welcome to ask the Undergraduate Faculty Advisor questions about the content of Geography courses,

research opportunities, graduate school, and career options in the field of Geography.

The faculty advisor welcomes students to meet with them during their office hours or by special appointment.

## Geography

### GEOG N1 Global Environmental Change 3 Units

Terms offered: Summer 2025 Second 6 Week Session, Summer 2019 Second 6 Week Session

This course presents an integrative basis for understanding alterations in the Earth system caused by physical and human factors. Covered topics include: basic Earth system processes and the mechanisms that lead to environmental change; global climate variability and change; biodiversity loss; deforestation; soil degradation; population growth, urban growth – trends and distribution; air and water pollution; green energy transition; post – carbon future.

#### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for GEOG N1 after completing GEOG N1, GEOG 1, or GEOG N1. A deficient grade in GEOG N1 may be removed by taking GEOG N1, GEOG 1, or GEOG 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.

## GEOG 10AC Worldings: Regions, Peoples and States 4 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

Geography is a way of thinking deeply and expansively about our place in the world and this course is designed to transform how you think about America though understanding its place within a global context. Through concepts central to the field of geography such as space, nature, empire and globalization we will explore the issues of race, culture, ethnicity that pepper the pages of newspapers almost every day in stories of immigration, police violence, global warming, ethnic cleansing, and terrorism. We explore these issues in a way that will change how you understand both America and the world.

### Objectives & Outcomes

**Student Learning Outcomes:** Understand the complexities of different racial/ethnic groups and their role in the making of America through comparative study in their global context

Articulate a critical understanding of the core themes in human geography (Space, Nature, Empire, and Globalization) and explain their role in constituting forms of difference (race, ethnicity etc.) in the contemporary world.

Discuss the violent and contested histories of regions, cities, and neighborhoods whose enduring material structures produce and reproduce racial inequalities in spatial form.

Explain the processes through which environmental changes are creating new vastly uneven vulnerabilities among different racial, ethnic and class groups.

Explain how concepts of nature have been a means for making and fixing of ethnic and racial difference in America.

Explain how global uneven development and racial and economic inequities are connected to debates around immigration, citizenship and wealth/poverty in America.

### Rules & Requirements

**Credit Restrictions:** Students who have taken Geog 10 or Geog W10AC may not take Geog 10AC additionally. Also, students that have taken Geog 10AC may not take Geog 10 or Geog W10AC.

**Requirements this course satisfies:** Satisfies the American Cultures requirement

### Hours & Format

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

### Additional Details

**Subject/Course Level:** Geography/Undergraduate

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

**Instructor:** Kosek

## GEOG 20 Globalization 4 Units

Terms offered: Spring 2024, Spring 2021, Spring 2020

How do processes of production, exchange and consumption work in our contemporary era of volatility and fragility? This course takes a historical and geographical approach to understand how areas of the world have been incorporated into contemporary global processes differently.

### 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.

## GEOG N20 Globalization 3 Units

Terms offered: Summer 2025 First 6 Week Session, Summer 2021 First 6 Week Session, Summer 2019 First 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.

### 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.

## GEOG 24 Freshman Seminar 1 Unit

Terms offered: Spring 2025, Fall 2021, Fall 2020

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.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### 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.

## GEOG 31 Justice, Nature, and the Geographies of Identity 3 Units

Terms offered: Summer 2020 Second 6 Week Session, Fall 2017, Spring 2014

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.

### 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. Alternative to final exam.

**Instructor:** Kosek

## GEOG 32 Global Geographies of Imperialism 3 Units

Terms offered: Prior to 2007

European, Japanese, and American empires have covered large portions of the surface of the earth and collectively transformed the lives of billions of people. Today, China is also increasingly influential at the global scale. Focusing on the twentieth century into the present moment, this survey course explores global geographies of imperialism and hegemonic transitions. What drives imperialism? Are militarism and war inherent to global capitalism? How do historical relations of colonialism relate to uneven capitalist development today at the global scale? The course introduces key theories and debates on the topic of imperialism and explores the themes of race, gender, territory, development, resource extraction, finance, and militarism.

### 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.

**Instructor:** Martin

## GEOG C32 Introduction to Global Studies 4 Units

Terms offered: Spring 2025, Fall 2024, Spring 2024

This course is designed as an introduction to Global Studies. Using a social science approach, the course prepares students to think critically about issues of international development, conflict, and peace in a variety of societies around the world. As such, it provides students with a basic theoretical introduction to the impact of global interaction as well as an opportunity to explore such interaction in a variety of case studies.

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for GLOBAL C10A/ GEOG C32 after taking DEV STD C10, GEOG C32, GLOBAL 10A, or PACS 10.

### 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. Alternative to final exam.

**Formerly known as:** Development Studies C10/Geography C32

**Also listed as:** GLOBAL C10A

## GEOG 40 Introduction to Earth System Science 4 Units

Terms offered: Spring 2025, Fall 2024, Fall 2023

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.

### 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

8 weeks - 5.5 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.

**Instructors:** Chiang, Cuffey, Rhew, Larsen



## GEOG 41 Biodiversity on a Changing Planet 3 Units

Terms offered: Not yet offered

In this course we will explore the dynamic forces that shape biodiversity patterns across space and through time. Students will be introduced to the fundamental concept of biodiversity, from genes to ecosystems, as well as the causes and consequences of biodiversity loss in the context of ongoing planetary changes. Through lectures, readings, and discussions we will cover topics including the origin and distribution of biodiversity, ecological processes that influence biodiversity (e.g., disturbances) and the different scales at which they operate, how biodiversity is commonly measured, and the role of human activities in biodiversity loss.

### Objectives & Outcomes

**Course Objectives:** Apply knowledge gained from lectures, readings, and discussions to proposed evidence-based solutions to real-world biodiversity challenges.

Critically evaluate current research and debates in the field of biodiversity conservation.

Describe and understand major drivers of biodiversity loss, including habitat destruction, climate change, invasive species, and overexploitation.

Evaluate hypotheses that explain changing patterns of biodiversity.

Understand global and local-scale patterns of species diversity, including extinction and evolution, and ecological processes that influence biodiversity.

Understand how to measure common biodiversity indices, apply this understanding to real-world field conditions, and evaluate their effectiveness for different organisms, environments, and scales.

Understand the different levels of biodiversity (genetic, species, ecosystems) and how they are related.

### 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.

## GEOG 50AC California 4 Units

Terms offered: Fall 2024, Fall 2023, Spring 2023

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.

### 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.

## GEOG N50AC California 3 Units

Terms offered: Summer 2025 Second 6 Week Session, Summer 2024

Second 6 Week Session, Summer 2023 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.

### 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.

## GEOG C55 Introduction to Central Asia 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

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.

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for NE STUD C26 after completing GEOG 55, or NE STUD 26. A deficient grade in NE STUD C26 may be removed by taking NE STUD 26.

### 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.

**Formerly known as:** Near Eastern Studies C26/Geography C55

**Also listed as:** MELC C26

## GEOG 70AC The Urban Experience: Race, Class, Gender & The American City 4 Units

Terms offered: Spring 2024, Spring 2022, Summer 2021 Second 6 Week Session

In this course, students will observe and analyze how the American city has been built, experienced, imagined, and transformed. Using recent scholarship and primary sources, we will track the historical evolution of the city and assess change and continuity in major themes of urban life: race, gender, and difference, industry and labor, community and culture, and power and politics. These themes become increasingly intertwined throughout the course. We will focus on the particularities of place and the experiences of ordinary people but also seek to understand how broader political and economic processes shape the inequalities and opportunities that structure everyday life.

### Objectives & Outcomes

#### Course Objectives: •

Be familiar with important trends and forces behind the reshaping of historical geographies of race, class, and gender in the city;

- Develop an eye for "looking at cities" and being able to ask questions about the processes that produce urban form;

- Understand historical and contemporary patterns of social inclusion and exclusion in cities and be able to identify their underlying causes and effects;

- Develop a theoretical understanding of race and ethnicity based on geographically- and historically-specific accounts of African Americans, Asian Americans, Latinx, and European Americans;

- In addition to geographical inquiry, identify and explore approaches and insights from a range of fields, including political economy and cultural studies.

### 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:** Summers

## GEOG C71 Global Warming 4 Units

Terms offered: Not yet offered

This course examines global warming as both a geophysical and social issue. We will introduce the physical science that explains the problem, from the basic concepts of climate (carbon cycle, greenhouse effect, climate feedbacks) through to the models that project future climate changes and their impacts. Social scientific perspectives will cover the history of climate science, the geographical and political-economic implications of fossil fuels for industrial production, and the regulatory and ethical challenges posed by the current and prospective impacts of global warming. We will provide students with a solid understanding & information base with which to analyze and evaluate ongoing developments and debates surrounding climate change.

### 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.

**Instructors:** Chiang, Sayre

**Formerly known as:** Letters and Science 70B

**Also listed as:** L & S C70B

## GEOG 72AC The Bay Area 3 Units

Terms offered: Summer 2025 Second 6 Week Session, Spring 2025, Summer 2024 First 6 Week Session

This course examines the distinct but ill-defined San Francisco Bay Area. Our approach will be neither to simply learn about the individual places that compose the Bay Area nor to study a succession of detached periods of development. Instead, we will think critically about the creations, contestations, and transformations of Bay Area spaces—landscapes, communities, neighborhoods, cities, suburbs, and the metropolitan region. Topics include indigenous geographies, colonialism, industrialization and economic geography, cities and suburbs, gentrification and displacement, regional racial formation and place-based identities, and resistance and rebellion.

### 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.

**Instructor:** Lunine

## GEOG 80 An Introduction to Geospatial Technologies: Mapping, Space and Power 4 Units

Terms offered: Spring 2025, Spring 2024, Fall 2023

This course offers an introduction to the increasingly diverse range of geospatial technologies and tools including but not limited to geographical information systems (GIS). Merging theoretical concepts with technical instruction, students will develop critical knowledge and skills in web-mapping, geographic information science and cartography, including how these tools take on and reinforce fundamental geographical concepts and shape our lives, our environments and, increasingly, our futures.

### Objectives & Outcomes

**Course Objectives:** Design a map using cartographic insights into socioecological structures to reflect on our social position in the world and our spatial understanding of it.

Develop a critical appraisal of mapping techniques and representation by investigating key theories, concepts, and histories of cartography technologies and exploring how maps constantly change yet produce worlds at the virtual and real intersections.

Develop the skills to contrast diverse geospatial representation tools and to produce and design a map for our portfolio using core concepts in cartography, such as projections, coordinate systems, symbology, basic spatial analysis, and mapping design.

Examine the fundamental criticisms of the intersection of power and cartographic technologies to question their implications for the development of geographic perspectives, ways of understanding, and ways of influencing the world.

Reflect upon the ethical issues of representation, data collection, and caring in our cartographic projects.

### 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. Alternative to final exam.

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

Terms offered: Summer 2019 8 Week Session, Summer 2018 8 Week Session, 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.

### 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.

## GEOG 81 Data, Evidence, and Methods in Geographic Inquiry 5 Units

Terms offered: Prior to 2007

This course introduces students to the many kinds of qualitative and quantitative information, data, and evidence that geographers use across the range of fields of study within geography, and to methods for collecting and analyzing these kinds of information.

### Objectives & Outcomes

**Course Objectives:** 1. Identifying, compiling, and working with qualitative and quantitative data types that are relevant to the main fields within geography through field and library / archive research methods.  
 2. Generating research questions – What is where? Who is where? Asking when (history); asking why (explanation); asking how: processes, relations, and interactions.  
 3. Using one's research questions to explore, propose, hypothesize, characterize, analyze, explain, demonstrate, refute, adapt, and finalize one's findings.  
 4. Gaining proficiency in using archival sources of information; primary documents.  
 5. Gaining conceptual and empirical familiarity with core meta-concepts in geography, and reading and interpreting humanized and biophysical landscapes.  
 6. Engaging change over space in geographic inquiry; working with temporal change.  
 7. Reading critically and characterizing a reading for the WHAT, the SO WHAT and the NOW WHAT of a reading.

### 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. Alternative to final exam.

**Instructor:** Isom

## GEOG 84 Sophomore Seminar 1 or 2 Units

Terms offered: Fall 2020

Sophomore seminars are small interactive courses offered by faculty members in departments all across the campus. Sophomore seminars offer opportunity for close, regular intellectual contact between faculty members and students in the crucial second year. The topics vary from department to department and semester to semester. Enrollment limited to 15 sophomores.

### Rules & Requirements

**Prerequisites:** At discretion of instructor

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

### Hours & Format

#### Fall and/or spring:

5 weeks - 3-6 hours of seminar per week  
 10 weeks - 1.5-3 hours of seminar per week  
 15 weeks - 1-2 hours of seminar per week

#### Summer:

6 weeks - 2.5-5 hours of seminar per week  
 8 weeks - 1.5-3.5 hours 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.

## GEOG 85 Mapping: Space, Cartography and Power 4 Units

Terms offered: Spring 2022

From mapping protests to the polar ice caps, colonialism to crises, board games to the baroque, this course offers an introduction to critical cartography and the politics of maps. Broadly centered on the contemporary carto-politics of the Pacific, each lecture focuses on a different field of mapping - such as protest mapping, ocean mapping or star mapping - comparing the techniques and conceptual underpinnings of cartography as a representational tool. It explores the way in which maps continue to reflect and shape our worlds, how they are used as tools for both description and argumentation across arts, science, engineering and the humanities.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 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.

**Instructor:** Wilmott

## GEOG 98 Directed Group Study 1 - 4 Units

Terms offered: Spring 2025, Fall 2024, Spring 2023

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

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### 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.

## GEOG C100 Art and Ecology 4 Units

Terms offered: Spring 2022

Taught by faculty from the Departments of Art Practice, Geography, and History of Art, this Big Ideas course is a space where we collectively study, think, and make art about the cataclysmic ecological crises that threaten our planet today. Examining possible notions of the animal, the botanic, the oceanic, the geologic, and the atmospheric, among other themes, the course prompts embodied responses to this urgent moment through complex, experimental, scholarly, and practice-based interventions. The aim is to read human interactions with the planet in relation to the past, present, and future of earthly environments, as shaped by historical processes, resonances, interruptions, and movements.

### Objectives & Outcomes

- Course Objectives:** - Developing knowledge of the relationship between art, architecture, urban planning, cinema, and the natural environment
- Developing knowledge of climate change and global warming as it relates to environmental studies
- Developing the vocabulary and skills to make ecologically-informed decisions in life
- Developing skills for critical reading, research, writing, and art making

### 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:** Chari, Kazmi, Ray

**Also listed as:** ART C100/HISTART C106

## GEOG 104 The Black City: Oakland California 3 Units

Terms offered: Fall 2011, Spring 2002, Fall 2000

Since the late 1990s, Oakland has experienced considerable racial and economic restructuring. Oakland's formerly prominent Black population has dwindled precipitously, as the city lost nearly 25% of its Black population since 2010. Cultural institutions, like churches, barbershops, blues clubs, and restaurants that once served its vast working-class population were replaced by trendy shops and hipster outlets. Students will engage the sense of loss and possibility arising in the city as they participate in a series of in-class workshops to learn various field methods. They will also work in neighborhoods with community leaders and groups to document residents' valued places and how these places have changed over time.

### Rules & Requirements

**Prerequisites:** Students that register for Geog 104 during Summer Session are required to register and take Geog 105 during the same Summer Session simultaneously. The courses are co-requisite

### Hours & Format

**Summer:** 3 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:** Summers

## GEOG 105 Black Geographic Thought 3 Units

Terms offered: Prior to 2007

Black Geographies considers the concept of geography to examine multiple orientations through engaging critical race, black feminist, diaspora and queer studies. The course covers approaches to the geographical categorization of blackness through two organizing frameworks. The first, the 'black geographic,' 'geography' serves as a productive analytic for examining the lived experiences, conceptual limits, and theoretical purchase of blackness through the reading of some seminal and contemporary texts by black geographers. The second, 'geographic blackness,' considers how blackness as a modality of analysis gives insight and shape to the discipline of geography through texts by non-geographers that engage or invoke geographic themes.

### Rules & Requirements

**Prerequisites:** Students that register for Geog 105 during Summer Session are required to register and take Geog 104 during the same Summer Session simultaneously. The courses are co-requisite

### Hours & Format

**Summer:** 3 weeks - 15 hours of seminar per week

### Additional Details

**Subject/Course Level:** Geography/Undergraduate

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

**Instructor:** Lewis

## GEOG 110 Critical Economic Geographies 4 Units

Terms offered: Fall 2024, Spring 2022, Spring 2021

This course examines the fundamentally geographic nature of our current, historically unique system of material reproduction—capitalism—and how capitalist logics have shaped places and forms of life over the course of the system's growth and change. We will explore how capitalist processes shape the rise (and inevitable fall) of places, techniques, social worlds, and divisions of labor, and pay close attention to the power relations and spatial organization that accompany them. The course provides a grounding in critical perspectives such as the Marxian, Black radical, and feminist traditions to equip students with theoretical tools to understand and interpret the spatiality of contemporary capitalism.

### Objectives & Outcomes

**Course Objectives:** Students who engage meaningfully with this course will be able to successfully: use texts to explain and discuss key concepts and theories in economic geography, including their history and relevance to specific places; draw on theories and concepts from economic geography to analyze contemporary capitalism; critically reflect on economic geography as a discipline; use a range of media to produce economic geographic knowledge for a lay audience; and provide critical peer feedback on work in development and submitted work.

### 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. Alternative to final exam.

**Instructor:** Fields

## GEOG C112 Global Development: Theory, History, Geography 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

This course examines whether the convergence between the 'new Right' and the 'new Left' has successfully addressed the central challenge of contemporary global development studies. It asks students to assess the multiple, nonlinear, and interconnected paths of change in Africa, Asia, Latin America, and the Middle East that are now taking place. It explores the context of intensified global integration and capitalist development. Students will consider what changes in this context mean for larger social change, especially given ongoing global economic crises and rapidly evolving relations.

### Rules & Requirements

**Credit Restrictions:** Students can replace deficient grades in DEV STD C100, GLOBAL C100D, GEOG C112, or GLOBAL 100D by passing GLOBAL C100D, GEOG C112, or GLOBAL 100D.

### 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.

**Formerly known as:** Development Studies C100/Geography C112

**Also listed as:** GLOBAL C100D

## **GEOG 114 Thinking Globally, Acting Regionally: Geographies of Climate Change 3 Units**

Terms offered: Prior to 2007

This writing-intensive course engages all fields of inquiry and forms of evidence in the geographies of climate change. Course topics include impacts on human and biophysical systems; mitigation and adaptation; global, regional and local policy efforts; gender and climate; and environmental justice and human rights. Regional and historical approaches underlie all topics.

Students will use common rhetorical strategies in writing; trans-disciplinary forms of evidence for characterizing, analyzing, narrating and explaining; additional focus on the arguments, evidence, and rhetorical strategies that climate skeptics use. Includes a research project. Open to non-majors.

### **Objectives & Outcomes**

#### **Student Learning Outcomes:** 1.

Using writing for understanding, characterizing, synthesizing, questioning, and communicating with academic, civic, and practitioner audiences;

2.

Critical and tactical reading; summarizing and evaluating peer-reviewed articles, policy reports, and narratives, among others;

3.

Drafting, revising, and finalizing thesis-driven writing that uses appropriate forms of evidence, with attention to grammar conventions;

4.

Peer assessment, editing, and critique of drafts, including for grammar conventions;

5.

Collaborating on shared research activities;

6.

Creating a research topic from scratch, including research questions and a research proposal; compiling, analyzing, integrating, and communicating research findings;

7.

Using library and online research tools, including archival materials; assessing the veracity of information obtained from source materials; documenting sources using standard bibliographic and citation formats.

### **Hours & Format**

**Summer:** 6 weeks - 7.5 hours of seminar per week

### **Additional Details**

**Subject/Course Level:** Geography/Undergraduate

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

**Instructor:** Isom

## **GEOG 115 How Modernization and Colonialism Shaped Israel/Palestine 3 Units**

Terms offered: Fall 1991

This course uses the paradigms of modernization and colonialism to examine the dramatic spatial transformation of Israel/Palestine since the end of the Ottoman Empire. It explores British and Ottoman perceptions, the rise of Zionist colonization, and the establishment of the State of Israel to understand their impact on modern urban and rural spaces.

Topics include the contested lasting effect of the Biblical gaze, town planning and architecture as colonial tools, urban heritage and its decolonization, and the ongoing displacement of Palestinian and other communities. It is ideal for students in geography, sociology, political science, and design and those interested in Jewish, Israeli and Middle Eastern studies.

### **Rules & Requirements**

**Credit Restrictions:** Students will receive no credit for GEOG 115 after completing GEOG 115. A deficient grade in GEOG 115 may be removed by taking GEOG 115.

### **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.

## **GEOG 116 Reclaiming Jerusalem: Critical Readings in the Historical Geography of a Contested City 3 Units**

Terms offered: Not yet offered

This course explores the contested history of Jerusalem, examining how its geography evolved through competing religious and political claims. From its origins as a Canaanite city to its status as Israel's capital, Jerusalem's landscape was formed through diverse influences, including the Israelites, Byzantines, Crusaders, Ottomans, and British. We will analyze sacred sites, urban plans, films and maps and understand how each power visualized the city to reflect their own political and cultural agendas. The course offers students a deeper understanding of Jerusalem's complex, multifaceted history and design. Ideal for students in history, geography, and urban studies and those interested in Jewish, Israeli and Middle Eastern studies.

### **Rules & Requirements**

**Credit Restrictions:** Students will receive no credit for GEOG 116 after completing GEOG 116. A deficient grade in GEOG 116 may be removed by taking GEOG 116.

### **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.

## **GEOG 123 Postcolonial Geographies 4 Units**

Terms offered: Fall 2024, Fall 2015, Fall 2013

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.

### **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

## **GEOG 124 Urban Sites and City Life 3 Units**

Terms offered: Spring 2021, Spring 2020

This course explores historical, cultural, and socio-economic geographies of cities, city life, and the organization of metropolitan political power. It is primarily focused on the U.S., but will draw on select examples from abroad. We will investigate urbanization as a general process and the resulting physical, social, cultural, and political economic forms of cities and examine the ways that cities have addressed tensions emerging from segregation and urban renewal. We will also look at both the ways in which social inequality is reinforced through the politics, policies, and design of the built environment as well as strategies for fostering and nurturing inclusive and equitable urban spaces through city design and policy.

### **Objectives & Outcomes**

#### **Course Objectives:**

- Be familiar with important trends and forces behind the reshaping of geographies of race, class, and gender in the city today;
- Engage thoughtfully, respectfully, and honestly with community residents and other students around issues of race, urban inequality, and cultural difference;
- Demonstrate self-reflexivity with regard to the ways in which issues of race and inequality affect their own ideas about and experiences of urban space;
- Develop an eye for “looking at cities” and being able to ask questions about the processes that produce urban form;
- Understand historical and contemporary patterns of social inclusion and exclusion in cities and be able to identify their underlying causes and effects;
- Understand how local experiences and conditions of urban life are affected by broader social, economic, and political processes including industrialization, globalization, and economic restructuring of cities.

### **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:** Summers



## GEOG 126 Sonic Geographies 4 Units

Terms offered: Spring 2025, Fall 2023

This is a practice-based course in which students will record, edit, and produce audio works that document and interpret the built environment and people in public places throughout Oakland and Berkeley. Through the process of making location recordings, analyzing those recordings, composing them into autonomous works, and critiquing them along the way, this course will engage with questions of how sound can help us understand the people we encounter and the spaces we move through everyday.

### Hours & Format

**Fall and/or spring:** 15 weeks - 8 hours of fieldwork per week

### Additional Details

**Subject/Course Level:** Geography/Undergraduate

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

**Instructor:** Wanek

## GEOG 127 Geographic Film Production 4 Units

Terms offered: Spring 2025, Fall 2024, Spring 2024

What makes a film geographical? How can we explore humans' relationships to their environment through sound and image? How might we make nonfiction films which foreground place and give it actual agency and voice? How can we use documentary film practices to depict place, culture, society, gesture, movement, rhythm and #ow in new and exciting ways? This is a production workshop where each student will conceptualize, shoot, and edit one short documentary film project that centralizes some aspect/s of geographic thought. This course is geared towards first time filmmakers. All film projects must fit the theme designated by the instructor, per term.

### Objectives & Outcomes

**Course Objectives:** Students will work in small crews and gain direct experience with pre-production, camera operation, sound recording, lighting, producing, directing, and all phases of post-production. In the end, you will have the confidence and knowledge to conceptualize and actualize a short, nonfiction film to professional standards.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1.5 hours of lecture and 2.5 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Geography/Undergraduate

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

**Instructor:** Wanek

## GEOG 129 Ocean Worlds 3 Units

Terms offered: Fall 2020

This course explores oceanic connections, movements, livelihoods, developments and imaginations in the modern world. We read the oceanic novel Moby Dick and think across themes including the geography of the Mediterranean, the riotous Atlantic, the imperial Pacific, the anticolonial Caribbean and the Muslim Indian Ocean; and we look at ports, containers, oceanic infrastructure and precarious marine livelihoods today. We read thinkers from our oceanic planet to imagine an oceanic way of thinking.

### Objectives & Outcomes

**Course Objectives:** To understand oceanic connections in the modern world, and to develop skills in human geographic thinking, writing and communication.

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for GEOG 129 after completing GEOG 129. A deficient grade in GEOG 129 may be removed by taking GEOG 129.

### 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:** Chari

## GEOG 130 Food and the Environment 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2022

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.

### 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

## GEOG N130 Food and the Environment 3 Units

Terms offered: Summer 2025 First 6 Week Session, Summer 2024 First 6 Week Session, Summer 2023 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.

### 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.

## GEOG 135 Water Resources and the Environment 3 Units

Terms offered: Spring 1976, 1976

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.

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for GEOG C135 after completing GEOG 135. A deficient grade in GEOG C135 may be removed by taking GEOG 135.

### 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

**Formerly known as:** Geography C135/Environ Sci, Policy, and Management C133

## GEOG C136 Terrestrial Hydrology 4 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

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.

### Rules & Requirements

**Prerequisites:** CHEM 1A, MATH 1A, MATH 1B, and 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:** CIV ENG C103N/ESPM C130

## 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.

### Rules & Requirements

**Prerequisites:** Geography 40, ESPM 15, or equivalent

### 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. Alternative to final exam.

**Instructor:** Rhew

## GEOG 138 Global Environmental Politics 4 Units

Terms offered: Summer 2025 First 6 Week Session, Fall 2024, Fall 2023  
The course focuses on the political, economic, social, and cultural factors shaping the relationships between societies and the environment in different global contexts. Topics include land tenancy and land use change, resource extraction, agro-industrial development, environmental justice, water politics, militarism, and the politics of alternatives and solutions to environmental crises.

### 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. Alternative to final exam.

## GEOG C139 Atmosphere, Ocean, and Climate Dynamics 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022, Fall 2020  
This course examines the processes that determine the structure and circulation of the Earth's atmosphere and ocean, and how they control regional and global climate. The approach is deductive rather than descriptive: to determine the properties and behavior of the atmosphere and ocean 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 and oceanic motion, mass conservation, and thermodynamic energy balance; geostrophic flow, quasigeostrophic motion, baroclinic instability, and dynamics of extratropical cyclones and wind-driven ocean gyres.

### Rules & Requirements

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

### 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.

**Instructors:** Chiang, Fung, Boos

**Also listed as:** EPS C181

## GEOG 140A Physical Landscapes: Process and Form 4 Units

Terms offered: Spring 2025, Spring 2023, Spring 2022  
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.

### 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

## GEOG 140B Physiography and Geomorphologic Extremes 4 Units

Terms offered: Spring 2024, Fall 2022, Fall 2021  
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.

### 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

## **GEOG 142 Global Climate Variability and Change 4 Units**

Terms offered: Spring 2025, Fall 2023, Fall 2022

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.

### **Rules & Requirements**

**Prerequisites:** Concepts in physics are used in the text, so knowledge at the level of first course in undergraduate physics is recommended; you should have at least taken physics at high school level

### **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

## **GEOG 143 Global Change Biogeochemistry 3 Units**

Terms offered: Spring 2025, Fall 2023, Spring 2022

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.

### **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

## **GEOG 144 Principles of Meteorology 3 Units**

Terms offered: Spring 2019, Spring 2011, Fall 2008

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

### **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.

## **GEOG 145 Platform Geographies 4 Units**

Terms offered: Summer 2025 First 6 Week Session, Fall 2022, Fall 2021

This course explores how digital platforms are reshaping urban and rural geographies. Theories of city and country, the history and current state of platforms, and connections between technology and social hierarchies are the foundation for this course. We examine smart cities and rural data centers, logistics landscapes, gig work and 'the hustle economy', property technologies and gentrification, and digitized policing and carceral geographies. Students will critically reflect on notions of city and country and the role of technology in producing urban-rural landscapes, examine the uneven socio-spatial consequences of technology, and reflect on how to build digital geographies that refuse domination, extraction, and predatory inclusion.

### **Rules & Requirements**

**Credit Restrictions:** Students will receive no credit for GEOG 145 after completing GEOG 145, or GEOG 145. A deficient grade in GEOG 145 may be removed by taking GEOG 145, or GEOG 145.

### **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. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

**Instructor:** Fields

## GEOG C146 Communicating Ocean Science 4 Units

Terms offered: Spring 2020, 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.

### 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 - 3 hours of lecture and 2 hours of fieldwork per week

### Additional Details

**Subject/Course Level:** Geography/Undergraduate

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

**Instructor:** Rhew

**Formerly known as:** Earth and Planetary Science C100/Geography C146/Integrative Biology C100

**Also listed as:** EPS C100/INTEG BI C100

## GEOG 147 Communicating Climate Science 3 Units

Terms offered: Fall 2022, Fall 2020, Fall 2018  
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.

### 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

## GEOG C148 Biogeography 4 Units

Terms offered: Fall 2024, Fall 2022, Fall 2021  
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.

### Rules & Requirements

**Prerequisites:** BIO 1B

### 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:** Gillespie

**Also listed as:** ESPM C125/INTEG BI C166

## **GEOG C154 Post-Apocalyptic Botany 4 Units**

Terms offered: Spring 2025, Fall 2023, Spring 2023

An in-depth study of taxonomy, with a special focus on plants. We will first learn how plants are classified and how they fit into the tree of life, and what practical challenges exist for current practitioners of botany.

Next, we will study the history of the ideas underlying classification and their connections to colonial, extractivist empire-building activities since Linnaeus. Finally, we will work to create a new taxonomy that acknowledges and imagines other relationships with plants.

### **Rules & Requirements**

**Credit Restrictions:** Students will receive no credit for GEOG C154 after completing GEOG 154. A deficient grade in GEOG C154 may be removed by taking GEOG 154.

### **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, Fine

**Also listed as:** INTEGBI C165

## **GEOG 155 Race, Space, and Inequality 4 Units**

Terms offered: Spring 2022, Fall 2011, Summer 1997 10 Week Session

This course examines the 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.

### **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

## **GEOG C155 Race, Space, and Inequality 4 Units**

Terms offered: Spring 2020, Spring 2019, Spring 2018

This course examines the 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.

### **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

## **GEOG 157 Decolonizing Nature: Race, Empire and the Environment 4 Units**

Terms offered: Prior to 2007

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?

### **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

## 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.

### 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

## GEOG 159AC The Southern Border 4 Units

Terms offered: Fall 2019, Fall 2018, Fall 2017

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.

### 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

## GEOG C160 The American Landscape: Place, Power and Culture 4 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

What is America as a landscape and a place, and how do we know it when we see it? This course seeks to address such questions, to introduce 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. It does so through the lens of cultural geography, an interdisciplinary practice that developed, in part, here at Berkeley. Our goal in this course is thus twofold: First, to develop literacy in the role of space and place in American culture, and second to develop a working knowledge of cultural geography as a practice.

### Objectives & Outcomes

**Course Objectives:** . To introduce students to the central themes and practices of cultural geography;

To explore the interaction of landscape (space, place, and the built environment) with American economics, politics, and culture;

To reinforce and further develop advanced skills in seeing, thinking, researching, and writing.

To teach students how to "read" landscapes as records of past and present social relations, and to form their own speculations from evidence about the cultural meanings of those landscapes;

Upon completion of this course, it is hoped that students will appreciate the way that the American landscape both shapes and is given shape by economics, politics and culture. In studying practices of cultural geography, as well as undertaking their own experiments through course assignments, students will emerge with a better grasp of how to examine landscapes in an intellectually rigorous manner, and how to use the landscape as evidence for scholarship.

### Hours & Format

**Fall and/or spring:** 15 weeks - 4 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:** Craghead

**Also listed as:** AMERSTD C112

## **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.

### **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

## **GEOG C160B American Cultural Landscapes, 1900 to Present 4 Units**

Terms offered: 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.

### **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

## **GEOG 161 Rethinking Latin American Geographies Through Social Mapping 4 Units**

Terms offered: Spring 2025, Spring 1996

Maps are important tools for our daily activities and spatial imaginaries; however, the ways in which official and dominant Western maps organized the information about the world occludes other ways of knowing territories. How are these "other" geographies represented? How are maps re-designed and appropriated to visualize different spatialities? In this course, students will be introduced to key themes and design practices in social cartography in Latin America. These reflect on collective or individual mapping practices to represent and increase the visibility of social issues and ways of knowing and being in this region. Previous knowledge of maps not required.

### **Objectives & Outcomes**

**Course Objectives:** Become familiar with a range of theoretical and practical perspectives on social mapping in the Latin American context. Contrast written materials about maps and visual representations from a variety of Latin American countries.

Develop a critical approach to Western/hegemonic mapping and cartography.

Develop a toolkit of key terms and methodologies in social mapping that will allow them to work collaboratively utilizing an interdisciplinary perspective.

Examine the diversity of geographies and ways of understanding territories, landscapes, and space through communities and social movements in the region.

### **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. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).



## GEOG 162 Climate and Communities 3 Units

Terms offered: Spring 1997, Fall 1995, Fall 1993

This course explores various scales of climate impacts, mitigation, and adaptation from the global to the local through a lens of climate justice, geographies of race, and political ecology. We will explore climate plans such as the UN Intergovernmental Panel on Climate Change and the U.S. National Climate Assessment while also taking a close look at examples of tribal and community-based climate mitigation projects. Students will examine the similarities and differences in climate decision-making and actions at various scales. Students will learn the interconnections between climate processes and the complexities that shape our social and political systems. We will then apply this lens to an analysis of sites across California and beyond.

### Objectives & Outcomes

**Course Objectives:** Equip students with the ability think critically about social, political, economic, and environmental processes

Introduce concepts and themes fundamental to understanding of social, political, and environmental aspects of climate change assessments, mitigation, and adaptation

Introduce concepts, themes, and methodologies related to climate justice and geographies of race

Promote critical thinking about experiences of climate change and responses to climate change

### 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.

## GEOG 164 Global China 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

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.

### 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:** Chang

## GEOG 165 Racial and Ethnic Geographies of Latin America 3 Units

Terms offered: Spring 2025, Spring 2008, Spring 2006

This course offers a geographic survey of race and ethnicity across Latin America, including Californiam, Mesoamerica, Brazil, the Andes, and the Caribbean. The course draws from academic scholarship, creative non-fiction, podcasts, and film in order to weave together critical voices from across the region that speak to racial and ethnic identities. Students will come away with a stronger knowledge of the region's history and geography, as well as key debates on political, economic and cultural topics concerning Latin American peoples and intellectual movements.

### Objectives & Outcomes

**Student Learning Outcomes:** Through course materials, lectures and activities, students will acquire theoretical foundations for understanding historical and contemporary cultural geography as well as debates over race, ethnicity and social justice in the Western Hemisphere

Through course materials, lectures and class activities, students will develop a historical and geographical understanding of racial and ethnic formation in Latin America

Through the course assignments, students will develop and demonstrate analytical engagement with course topics and practice written argumentation and comparative analysis

Through the final course assignment, students will further develop their theoretical and conceptual engagement with the course topics while applying independent research methods and a choice of multiple genres to execute a written and/or visual project

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for GEOG 165 after completing GEOG 165. A deficient grade in GEOG 165 may be removed by taking GEOG 165.

### 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.

## GEOG 167AC Decolonial Border Geographies 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

This course examines how today's bounded geographies were shaped by racialized and regionalized discourse and practice, setting the foundation for contemporary struggles over political, economic and social identities along and across Latin America. Specifically, the course incorporates the study of the United States' historical relationship with Mexico, Central America, and the Caribbean in order to understand how these histories map onto the productions of borders, regimes of migration and citizenship, and movements that increasingly articulate a decolonial turn in intellectual thought and within political and social action.

### 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. Alternative to final exam.

**Instructor:** Negrin da Silva

## GEOG 170 Special Topics in Geography 3 Units

Terms offered: Spring 2025, Fall 2024, Spring 2024

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.

### Rules & Requirements

**Repeat rules:** 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.

## GEOG 171 Special Topics in Physical Geography 3 Units

Terms offered: Fall 2018, Fall 2016, Summer 2016 First 6 Week Session

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.

### Rules & Requirements

**Repeat rules:** 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.

## GEOG 178 Racial Ecologies 3 Units

Terms offered: Fall 2024

This course will introduce the ways race and racism are relevant to ecological processes and management through topics that broadly span both environmental and climate justice, while also exploring how we can understand non-dominant ways of knowing and relating to the environment, particularly focusing on Black and Indigenous ecologies and ecological relationships. In this course, students will learn the interconnections between ecological processes and the complexities that shape our social world. Students will learn how to apply a racial ecologies lens to the world around them. We will examine traditional and emerging directions in the fields of Political Ecology, Environmental and Climate Justice, Geographies of race, and more.

### Objectives & Outcomes

**Course Objectives:** Equip students with the ability think critically about social, political, economic, and environmental processes  
Introduce concepts and themes fundamental to understanding of socio-ecological processes and relationships  
Introduce concepts, themes, and methodologies related to political ecologies and geographies of race  
Promote critical thinking about ecological landscapes which students interact with everyday

### 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. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

**Instructor:** Bruno

## 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.

### 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

## 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.

### 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

## GEOG 180 Field Methods for Physical Geography 5 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

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.

### 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.

## GEOG 181 Urban Field Study 4 Units

Terms offered: Spring 2025, Fall 2024, Spring 2024

In this course, we will critically "read" urban landscapes in the Bay Area. Walking tours, on-site lectures, individual wanderings, and archival research will explore built environments, spatial histories, and broader patterns of urbanism in Berkeley, San Francisco, Emeryville, Oakland, Pleasanton, and beyond. At every juncture, we will consider the dynamic interrelationships between built form and everyday life, becoming attuned to the power of landscape to both express and suppress identities and opportunities. We will travel by BART and on foot (~3 miles of walking per class!) to pursue ways to think critically about the spaces we inhabit, what remains to be explored, and the contours of our future.

### Rules & Requirements

**Prerequisites:** Consent of instructor

### Hours & Format

**Fall and/or spring:** 15 weeks - 8 hours of fieldwork per week

### Additional Details

**Subject/Course Level:** Geography/Undergraduate

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

## GEOG 182 Field Study of Buildings and Cities 3 Units

Terms offered: Summer 2025 Second 6 Week Session, Summer 2024 First 6 Week Session, Summer 2022 First 6 Week Session

In this course you will learn how to 'read' urban landscapes in Berkeley, San Francisco, Emeryville, Oakland, and Pleasanton. Walking tours, on-site lectures, and ongoing discussions will explore cultural landscapes, architecture, urban design, and Bay Area spatial histories. With close observations of local landscapes and historical geographies, you see in the particulars of the Bay Area general principles of American urbanization. And by combining these three elements—landscape, region, and urbanization—you will learn to appreciate the magnificent cacophony of places, the peculiar pleasures and struggles of the Bay Region, and the banal

beauty of ordinary landscapes. We will travel on foot and by BART. Undergrad and grad are welcome.

### 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

## GEOG 183 Cartographic Representation 4 Units

Terms offered: Spring 2024, Fall 2023, Fall 2022

This course introduces the art, science and politics of making maps in a mediated world. Much of the course focuses on key theories, concepts, principles in map design, visualization and communication, while building deeper theoretical, critical and experimental skills needed for the challenges of the future. This includes theories of new media, the history of cartography, the impact of the internet on critical, Indigenous and counter- approaches to mapping, contemporary media and cartographic arts including the experimental, expressive and artistic, and the technicalities of visualizing quantitative data through (carto)graphic design.

### Objectives & Outcomes

**Student Learning Outcomes:** Become familiar with studio-based peer feedback environments, teamwork in cartographic production and the importance of community in cartographic production.

Demonstrate the ability to critically interpret and evaluate the ideological, political and technical aspects of historical and contemporary cartography.

Develop key basic skills in producing print-based and web-based cartography, and be able to articulate the key technical and communicative differences.

Have core competencies in a range of software including Adobe Creative Cloud, ArcGIS Online, Mapbox and basic HTML/CSS/JS coding.

Produce a final cartographic project using skills learned in the course by undertaking independent research, technical learning and collaborative feedback.

Understand cartographic rhetoric, and the power of maps as argumentative and decision-making devices.

### 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. Alternative to final exam.

## GEOG C183 Cartographic Representation 4 Units

Terms offered: Not yet offered

This course introduces the art, science and politics of making maps in a mediated world. Much of the course focuses on key theories, concepts, principles in map design, visualization and communication, while building deeper theoretical, critical and experimental skills needed for the challenges of the future. This includes theories of new media, the history of cartography, the impact of the internet on critical, Indigenous and counter- approaches to mapping, contemporary media and cartographic arts including the experimental, expressive and artistic, and the technicalities of visualizing quantitative data through (carto)graphic design.

### Objectives & Outcomes

**Student Learning Outcomes:** Become familiar with studio-based peer feedback environments, teamwork in cartographic production and the importance of community in cartographic production.

Demonstrate the ability to critically interpret and evaluate the ideological, political and technical aspects of historical and contemporary cartography.

Develop key basic skills in producing print-based and web-based cartography, and be able to articulate the key technical and communicative differences.

Have core competencies in a range of software including Adobe Creative Cloud, ArcGIS Online, Mapbox and basic HTML/CSS/JS coding.

Produce a final cartographic project using skills learned in the course by undertaking independent research, technical learning and collaborative feedback.

Understand cartographic rhetoric, and the power of maps as argumentative and decision-making devices.

### 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. Alternative to final exam.

**Also listed as:** NWMEDIA C183

## GEOG 185 Earth System Remote Sensing 3 Units

Terms offered: Spring 2025, Spring 2023, Spring 2022

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.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1.5 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Geography/Undergraduate

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

**Instructor:** Chambers

## GEOG 186 Web Cartography 5 Units

Terms offered: Spring 2019, Summer 1999 10 Week Session, Summer 1998 10 Week Session

This course will focus on the application of cartographic principles to the design of interactive web maps. We will explore the capabilities and limits of web tools for representing geographic data and examine how recent developments in geospatial technologies have influenced how we both use and produce maps. Students will create their own thematic web maps.

### 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. Alternative to final exam.

**Instructor:** Cowart

## GEOG 187 Geographic Information Analysis 4 Units

Terms offered: Fall 2018, Spring 2018, Spring 2017

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.

### 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

## GEOG C188 Geographic Information Science 4 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

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.

### Rules & Requirements

**Prerequisites:** Some computer experience

### Hours & Format

**Fall and/or spring:** 15 weeks - 3-3 hours of lecture and 1-2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Geography/Undergraduate

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

**Instructor:** Kim

**Also listed as:** LD ARCH C188

## GEOG 189 Visual Geography 4 Units

Terms offered: Summer 2025 Second 6 Week Session, Fall 2024, Summer 2024 Second 6 Week Session

This is a practice-based course in which students will shoot and edit photographic works that document and interpret the landscape and people along San Pablo Avenue from Oakland to Hercules, CA. Through the process of making photographs, analyzing them, editing them into a body of work, and critiquing them along the way, this course will engage with questions of how photography can help us understand the people we encounter and the spaces we move through everyday.

### Objectives & Outcomes

**Course Objectives:** Have a deeper sense of the East Bay's unique ethnic and racial diversity and it's complicated history in regards to racial and spatial dynamics.

Have a solid foundation in techniques and concepts used in visual geography and documentary photography.

Learn a professional process for photographic editing, printing, and delivery.

Shoot and edit photographs that express ideas about physical and human geography.

### Hours & Format

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

**Summer:** 6 weeks - 8 hours of fieldwork per week

### Additional Details

**Subject/Course Level:** Geography/Undergraduate

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

**Instructor:** Wanek

## GEOG H195A Honors Course 1 - 4 Units

Terms offered: Spring 2024, Fall 2023, Spring 2023

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.

### Rules & Requirements

**Prerequisites:** Admission to Honors Program

**Repeat rules:** Course may be repeated for credit without restriction.

### 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.

## GEOG H195B Honors Course 1 - 4 Units

Terms offered: Spring 2024, Fall 2023, Spring 2023

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.

### Rules & Requirements

**Prerequisites:** Admission to Honors Program

**Repeat rules:** Course may be repeated for credit without restriction.

### 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.

## GEOG 197 Field Study in Geography 1 - 4 Units

Terms offered: Fall 2023, Fall 2022, Spring 2022

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

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### 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.

## GEOG 198 Directed Group Study 1 - 4 Units

Terms offered: Spring 2025, Fall 2024, Fall 2023

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### 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.

## GEOG 199 Supervised Independent Study 1 - 4 Units

Terms offered: Summer 2024 First 6 Week Session, Summer 2024 Second 6 Week Session, Spring 2024

### Rules & Requirements

**Prerequisites:** Senior standing. Overall GPA in major of 3.00

**Repeat rules:** Course may be repeated for credit without restriction.

### 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.