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 World Peoples and Cultural Environments [3]
GEOG 20 Globalization [4]
GEOG N20 Globalization [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 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 Geomorphical 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 Climates of the World 3
GEOG 149B Climate Impacts and Risk Analysis 3
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 Topics in Social Geography 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 Topics in Social Geography 4
GEOG 175 Undergraduate Seminars 4
GEOG 181 Urban Field Study 4
GEOG 182 Field Study of Buildings and Cities 3
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/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) 1

A. Earth System Science
- GEOG C145  Climate Impacts and Risk Analysis 3
- GEOG C148  Platform Geographies 4
- GEOG C160  The American Landscape: Place, Power and Culture 4

B. Political Economies
- 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

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  Topics in Social Geography  4
GEOG 181  Urban Field Study  4
GEOG 182  Field Study of Buildings and Cities  3
GEOG 189  Visual Geography  4

D. 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 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  Topics in Social Geography  4
GEOG 181  Urban Field Study  4
GEOG 182  Field Study of Buildings and Cities  3
GEOG 189  Visual Geography  4

E. Geospatial Representation
GEOG 126  Sonic Geographies  4
GEOG 127  Geographic Film Production  4
GEOG 170  Special Topics in Geography  3
GEOG 172  Topics in Social Geography  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

1 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.

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

University of California Requirements

Entry Level Writing (http://guide.berkeley.edu/undergraduate/colleges-schools/letters-science/entry-level-writing-requirement/)

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.

American History and American Institutions (http://guide.berkeley.edu/undergraduate/colleges-schools/letters-science/american-history-institutions-requirement/)

The American History and Institutions requirements are based on the principle that a US resident graduated from an American university, should have an understanding of the history and governmental institutions of the United States.

Berkeley Campus Requirement

American Cultures (http://americancultures.berkeley.edu/students/courses/)

All undergraduate students at Cal need to take and pass this 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 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 (http://guide.berkeley.edu/undergraduate/colleges-schools/letters-science/quantitative-reasoning-requirement/)

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

Foreign Language (http://guide.berkeley.edu/undergraduate/colleges-schools/letters-science/foreign-language-requirement/)

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.

Reading and Composition (http://guide.berkeley.edu/undergraduate/colleges-schools/letters-science/reading-composition-requirement/)

In order to provide a solid foundation in reading, writing, and critical thinking the College 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.
Machine learning is a subfield of artificial intelligence that focuses on building systems that can learn from data, make predictions, and improve their performance over time. It is a branch of computer science that deals with the design and development of algorithms and statistical models that enable computer systems to perform tasks without explicit programming.

### Machine Learning and Natural Language Processing

Natural language processing (NLP) is a field of computer science and artificial intelligence concerned with the interaction between computers and human (natural) languages. NLP aims to enable machines to understand, interpret, and generate human language.

### Applications of Machine Learning

1. **Image classification**: Classifying images into predefined categories (e.g., object recognition).
2. **Recommendation systems**: Personalizing content recommendations based on user behavior.
3. **Speech recognition**: Converting spoken words into text.
4. **Sentiment analysis**: Determining the emotional tone behind a given piece of text.
5. **Computer vision**: Analyzing and interpreting visual data from digital images and videos.
6. **Robotics**: Enhancing robot autonomy through machine learning algorithms.
7. **Healthcare**: Predicting diseases, analyzing medical images, and improving patient care.
8. **Finance**: Fraud detection, credit scoring, and market prediction.

### Challenges of Machine Learning

- **Data quality**: Ensuring the data used for training is clean, relevant, and diverse.
- **Model complexity**: Balancing the model's ability to generalize well on new data.
- **Computational resources**: Handling the large datasets and computational demands of training modern models.
- **Ethical considerations**: Ensuring fairness and avoiding bias in algorithmic decision-making.

### Machine Learning Techniques

1. **Supervised learning**: Learning from labeled data to predict outcomes.
2. **Unsupervised learning**: Discovering patterns and structures in data without labels.
3. **Reinforcement learning**: Learning through interacting with an environment to maximize a cumulative reward.
4. **Deep learning**: A type of neural network that can learn high-level abstractions from data.

### Machine Learning Tools and Libraries

- **Python**: A popular language for machine learning, with libraries like Scikit-learn, TensorFlow, and PyTorch.
- **R**: Another language for statistical computing and graphics, with packages like Caret and mlr.
- **TensorFlow and Keras**: Popular libraries for deep learning.
- **Apache Spark**: A framework for distributed computing, useful for handling big data.

### Conclusion

Machine learning is a powerful tool that has transformed many industries, from healthcare to finance to transportation. As the field continues to evolve, new applications will emerge, and existing ones will become more sophisticated and integrated into our daily lives.
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 Advising (https://geography.berkeley.edu/academics/undergraduate-studies/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

Expand all course descriptions [+ ]Collapse all course descriptions [- ]

GEOG N1 Global Environmental Change 3 Units

Terms offered: Summer 2019 Second 6 Week Session
The global pattern of climate, landforms, vegetation, and soils. The relative importance of natural and human-induced change, global warming, forest clearance, accelerated soil erosion, glacial/postglacial climate change and its consequences.

Global Environmental Change: Read More [+]

Rules & Requirements

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

Hours & Format

Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

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

Global Environmental Change: Read Less [-]

GEOG 4 World Peoples and Cultural Environments 4 Units

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

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

World Peoples and Cultural Environments: Read More [+]

Hours & Format

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

Summer:
6 weeks - 7.5 hours of lecture and 2.5 hours of discussion per week
8 weeks - 6 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Geography/Undergraduate

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

World Peoples and Cultural Environments: Read Less [-]
GEOG N4 World Peoples and Cultural Environments 3 Units

Terms offered: Summer 2023 Second 6 Week Session, Summer 2022 Second 6 Week Session, Summer 2021 Second 6 Week Session

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

Rules & Requirements

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

Hours & Format

Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

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

World Peoples and Cultural Environments: Read More [+]

GEOG 10 Worldings - Regions, Peoples and States 4 Units

Terms offered: Fall 2018, Fall 2017, Fall 2016

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

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

Objectives & Outcomes

Student Learning Outcomes:

# Discuss how some of the most consequential forces of modernity organized people into populations; lands into territory; and nations into states.

# Discuss the violent and contested history surrounding the organization of regions, parks, cities, and neighborhoods whose enduring forms produce and reproduce racism, poverty, and gender inequalities.

# Explain the practices and processes through which we have transformed climates, oceans, landforms and hydrological cycles and how these changes are creating new vastly uneven vulnerabilities.

# Apply a solid working knowledge of how to approach politics with a geographic mindset.

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

# Imagine new possibilities and alternative ways of engaging in and critically thinking about key geopolitical, social, and environmental issues that shape our modern world.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Undergraduate

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

Instructor: Kosek

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

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 2024 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: Fall 2021, Fall 2020, Spring 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.
Freshman Seminar: Read More [+]

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.

Freshman Seminar: Read Less [-]

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

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week
Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details
Subject/Course Level: Geography/Undergraduate

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

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

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.
Global Geographies of Imperialism: Read More [+]

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

Global Geographies of Imperialism: Read Less [-]

GEOG C32 Introduction to Global Studies 4 Units
Terms offered: Fall 2024, Spring 2024, Fall 2023
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.
Introduction to Global Studies: Read More [+]

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

Introduction to Global Studies: Read Less [-]
GEOG 35 Global Ecology and Development 4 Units
Terms offered: Spring 2014, Summer 2013 First 6 Week Session, Summer 2012 First 6 Week Session
Problems of Third World poverty and development have come to be seen as inseparable from environmental health and sustainability. The course explores the global and interconnected character of environment and development in the less developed world. Drawing on case studies of the environmental problems of the newly industrializing states, food problems, and environmental security in Africa, and the global consequences of tropical deforestation in Amazonia and carbon dioxide emissions in China, this course explores how growth and stagnation are linked to problems of environmental sustainability.

GEOG 37 The Politics of Science and Technology 4 Units
Terms offered: Spring 2014, Spring 2012
This course examines how shifting understandings of science and technology have radically remade some of our most basic social and biological categories and concepts. The course explores the field of science and technology studies. In particular, students will explore formations and understandings of truth, objectivity, universality of science and technology, and the consequences of these cultural formations in contemporary debates around the world.

GEOG 40 Introduction to Earth System Science 4 Units
Terms offered: Fall 2024, Fall 2023, Spring 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.

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.
GEOG N50AC California 3 Units
Terms offered: Summer 2024 Second 6 Week Session, Summer 2023 Second 6 Week Session, Summer 2021 First 6 Week Session
California had been called "the great exception" and "America, only more so." Yet few of us pay attention to its distinctive traits and to its effects beyond our borders. California may be "a state of mind," but it is also the most dynamic place in the most powerful country in the world, and would be the 8th largest economy if it were a country. Its wealth has been built on mining, agriculture, industry, trade, and finance. Natural abundance and geographic advantage have played their parts, but the state's greatest resource has been its wealth and diversity of people, who have made it a center of technological and cultural innovation from Hollywood to Silicon Valley. Yet California has a dark side of exploitation and racialization.
California: Read More [+]

Hours & Format
Summer: 6 weeks - 8 hours of lecture per week

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
California: Read Less [-]

GEOG C55 Introduction to Central Asia 3 Units
Terms offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
This course will introduce the student not only to ancient and modern Central Asia, but also to the role played by the region in the shaping of the history of neighboring regions and regimes. The course will outline the history, languages, ethnicities, religions, and archaeology of the region and will acquaint the student with the historical foundations of some of the political, social and economic challenges for contemporary post-Soviet Central Asian republics.
Introduction to Central Asia: Read More [+]

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 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: Near Eastern Studies C26/Geography C55
Also listed as: MELC C26
Introduction to Central Asia: Read Less [-]

GEOG 70AC The Urban Experience: Race, Class, Gender & The American City 4 Units
Terms offered: Summer 2024 First 6 Week Session, Spring 2024, Spring 2022
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.
The Urban Experience: Race, Class, Gender & The American City: Read More [+]

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 and 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
The Urban Experience: Race, Class, Gender & The American City: Read Less [-]
GEOG 72AC The Bay Area 3 Units
Terms offered: Summer 2024 First 6 Week Session, Spring 2024, Summer 2023 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.
The Bay Area: Read More [+]

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week
Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Instructor: Lunine

GEOG 80 An Introduction to Geospatial Technologies: Mapping, Space and Power 4 Units
Terms offered: Spring 2024, Fall 2023, Fall 2022
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.
An Introduction to Geospatial Technologies: Mapping, Space and Power: Read More [+]

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.
Instructor: Wilmott

GEOG N80 Digital Worlds: An Introduction to Geospatial Technologies 4 Units
Terms offered: Summer 2024 8 Week Session, Summer 2019 8 Week Session, Summer 2018 8 Week Session
An introduction to the increasingly diverse range of geospatial technologies and tools including but not limited to geographical information systems (GIS). Via a mix of lecture and lab-based instruction, students will develop knowledge and skills in web-mapping and GIS. How these tools are used to represent fundamental geographic concepts, and the wider socioeconomic context of these technologies will also be explored.
Digital Worlds: An Introduction to Geospatial Technologies: Read More [+]

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Digital Worlds: An Introduction to Geospatial Technologies: Read Less [-]
GEOG 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.

Data, Evidence, and Methods in Geographic Inquiry: Read More [+]

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.

Sophomore Seminar: Read More [+]

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.

Sophomore Seminar: Read Less [-]

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.

Mapping: Space, Cartography and Power: Read More [+]

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

Mapping: Space, Cartography and Power: Read Less [-]
**GEOG 88 Data Science Applications in Geography 2 Units**

Terms offered: Spring 2019, Spring 2018, Spring 2017

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

Data Science Applications in Geography: Read More [+]

**Hours & Format**

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

**Additional Details**

Subject/Course Level: Geography/Undergraduate

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

Data Science Applications in Geography: Read Less [-]

**GEOG 98 Directed Group Study 1 - 4 Units**

Terms offered: Spring 2023, Spring 2022, Spring 2021

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

Directed Group Study: Read More [+]

**Rules & Requirements**

Repeat rules: Course may be repeated for credit 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.

Directed Group Study: Read Less [-]

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

Terms offered: Summer 2017 Second 6 Week Session, Fall 1979, Fall 1967

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

Field Study of Cuba: Landscapes of Power, Production, Promise: Read More [+]

**Hours & Format**

Summer: 6 weeks - 15 hours of seminar per week

**Additional Details**

Subject/Course Level: Geography/Undergraduate

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

Instructor: Vasile

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

The Black City: Oakland California: Read Less [-]
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. Black Geographic Thought: Read More [+]

Rules & Requirements

Prerequisites: Students that register for Geog 105 during Summer Session are required to 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

Black Geographic Thought: Read Less [-]

GEOG 107 Waste Matters: Exploring the Abject, Discarded, and Disposable 3 Units
Terms offered: Summer 2020 Second 6 Week Session, Fall 1996, Spring 1992
This experiential undergraduate seminar seeks to interrupt traditional managerial discourses about waste that view it as a technocratic problem and instead understand waste as deeply embedded in society, culture, and politics. In this class we will explore the myriad sociocultural, political, and economic processes on “the problem of waste” and also open up the classroom setting to an intimate and immersive engagement with the various lived experiences of people whom inhabit and are entangled with/in/by waste. To do so, the course combines weekly seminar discussions of key academic texts, supplemented with three ‘discovery experiences’ that speak to the multiple socio-political workings of waste. Waste Matters: Exploring the Abject, Discarded, and Disposable: Read More [+]

Objectives & Outcomes

Course Objectives:
• To critically reflect upon the creation and destruction of value through examining discourses and practices of waste.
• To explore concepts and histories of development in a diverse set of contexts through a close examination of the politics of consumption and disposal.
• To better understand questions of sustainability, urban ecological design, and people’s relationship to nature in the city through unpacking our relationship to trash.
• To consider the role of stigmatized labor in constructing and upholding gender, race, and class difference.
• To consider our own practices of consumption and waste through examining the specific waste geographies of the Bay Area.
• To explore a set of social movements and artistic practices derived from the creative power of waste.

Rules & Requirements

Credit Restrictions: Students will receive no credit for GEOG 107 after completing GEOG 107. A deficient grade in GEOG 107 may be removed by taking GEOG 107.

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: Laudati

Waste Matters: Exploring the Abject, Discarded, and Disposable: Read Less [-]
GEOG 108 Geographies of Energy: The Rise and Fall of the Fossil Fuel Economy 3 Units
Terms offered: Summer 2021 Second 6 Week Session, Summer 2020 Second 6 Week Session, Summer 1999 10 Week Session
This course surveys the historical relationship between fossil fuels and the capitalist economy. Beginning with the origin of intensive fossil fuel use in the early modern world, and then moving through the industrial epochs of coal and then oil, this course asks how have fossil fuels shaped the trajectory of our modern economic world? Students will investigate the broad, structural impact these resources have had on labor relations, economic development, culture, the environment, politics, and more. Framed around the current, contested transition off of coal, oil, and gas, this course also asks what the future of fossil fuels look like. Will we disentangle ourselves from these sources of energy – what does the future hold?
Geographies of Energy: The Rise and Fall of the Fossil Fuel Economy: Read More [+]

Objectives & Outcomes

Course Objectives: Cultivate an understanding of the relationship of fossil fuels and energy, more broadly, to the geographic and historic development of the modern economy. Familiarize students with debates about the relationship of energy to the origin of capitalism. Develop students’ understanding of the complex impacts of the advent of both coal and oil. Promote a fundamental understanding of how these resources are extracted, and the conflicts and difficulties surrounding their production. Introduce students to theoretical debates about resource crises that developed in the 1970s. Examine, in detail, the conflict today to end fossil fuels: the barriers in the way, the political actors involved, and the economic complexities of the transition. Students will also participate in a short research project that will encourage source-finding, thesis development, and relational thinking across disciplines.

Rules & Requirements

Credit Restrictions: Students will receive no credit for GEOG 108 after completing GEOG 108. A deficient grade in GEOG 108 may be removed by taking GEOG 108.

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: Eckhouse

Geographies of Energy: The Rise and Fall of the Fossil Fuel Economy: Read Less [-]

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.

Critical Economic Geographies: Read More [+]

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. Final exam required.

Instructor: Fields

Critical Economic Geographies: Read Less [-]
GEOG C112 Global Development: Theory, History, Geography 4 Units
Terms offered: Spring 2024, Spring 2023, Spring 2022
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.

Global Development: Theory, History, Geography: Read More [+]

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.

Thinking Globally, Acting Regionally: Geographies of Climate Change: Read More [+]

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

Thinking Globally, Acting Regionally: Geographies of Climate Change: Read Less [-]
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.

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.

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 125 The American City 4 Units**
Terms offered: Fall 2014, Spring 2010, Spring 2009
The American city, palimpsest of a nation. It all comes together in the modern metropolis: economy, society, politics, culture, and geography. Cities as the economic engines of capitalism, centers of industry, finance, business, consumption, and innovation. Cities as political powers and political pawns, and the government of cities, suburbs, and metropolitan areas. Cities as magnificent constructs, built of concrete, credit and land rents, from skyscrapers to housing tracts, freeways to shopping malls, airports to open spaces. Cities as landscapes of social division by class, race and nationality, and the turf battles from mean ghetto streets to the hideaways of privilege.
The American City: Read More [+] 
**Hours & Format**
Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week 
**Additional Details**
Subject/Course Level: Geography/Undergraduate 
Grading/Final exam status: Letter grade. Final exam required.

**GEOG 126 Sonic Geographies 4 Units**
Terms offered: 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.
Sonic Geographies: Read More [+] 
**Hours & Format**
Fall and/or spring: 15 weeks - 9 hours of fieldwork per week 
**Additional Details**
Subject/Course Level: Geography/Undergraduate 
Grading/Final exam status: Letter grade. Alternative to final exam. 
Instructor: Wanek

**GEOG 127 Geographic Film Production 4 Units**
Terms offered: Fall 2024, Spring 2024, Fall 2023
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.
Geographic Film Production: Read More [+] 
**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
Sonic Geographies: Read Less [-] 
Geographic Film Production: Read Less [-]
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.
Ocean Worlds: Read More [+]

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
Ocean Worlds: Read Less [-]

GEOG 130 Food and the Environment 3 Units
Terms offered: Summer 2024 First 6 Week Session, Summer 2023 First 6 Week Session, Summer 2022 First 6 Week Session
How do human populations organize and alter natural resources and ecosystems to produce food? The role of agriculture in the world economy, national development, and environmental degradation in the Global North and the Global South. The origins of scarcity and abundance, population growth, hunger and obesity, and poverty.
Food and the Environment: Read More [+]

Hours & Format
Summer:
6 weeks - 7.5 hours of lecture per week
8 weeks - 5.5 hours of lecture per week

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Food and the Environment: Read Less [-]

GEOG N130 Food and the Environment 3 Units
Terms offered: Summer 2024 First 6 Week Session, Summer 2023 First 6 Week Session, Summer 2022 First 6 Week Session
How do human populations organize and alter natural resources and ecosystems to produce food? The role of agriculture in the world economy, national development, and environmental degradation in the Global North and the Global South. The origins of scarcity and abundance, population growth, hunger and obesity, and poverty.
Food and the Environment: Read More [+]

Hours & Format
Summer:
6 weeks - 7.5 hours of lecture per week
8 weeks - 5.5 hours of lecture per week

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Food and the Environment: Read Less [-]

GEOG C135 Water Resources and the Environment 3 Units
Terms offered: Fall 2024, Spring 2018, Spring 2016
Distribution, dynamics, and use of water resources in the global environment. Water scarcity, water rights, and water wars. The terrestrial hydrologic cycle. Contemporary environmental issues in water resource management, including droughts, floods, saltwater intrusion, water contamination and remediation, river restoration, hydraulic fracturing, dams, and engineering of waterways. The role of water in ecosystem processes and geomorphology. How water resources are measured and monitored. Basic water resource calculations. Effects of climate change on water quantity, quality, and timing.
Water Resources and the Environment: Read More [+]

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.
Instructor: Larsen
Also listed as: ESPM C133
Water Resources and the Environment: Read Less [-]
GEOG C136 Terrestrial Hydrology 4 Units
Terms offered: 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.
Terrestrial Hydrology: Read More [+]

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.
Top Ten Global Environmental Problems: Read More [+]

Rules & Requirements
Prerequisites: Geography 40, ESPM 15, or equivalent

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture 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: Fall 2024, Fall 2023, Fall 2022
Political factors affecting ecological conditions in the Third World. Topics include environmental degradation, migrations, agricultural production, role of international aid, divergence in standard of living, political power, participation and decision making, access to resources, global environmental policies and treaties, political strife and war.
Global Environmental Politics: Read More [+]

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

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: Chiang, Fung, Boos
Also listed as: EPS C181

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.
Atmosphere, Ocean, and Climate Dynamics: Read More [+]

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

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture 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
Atmosphere, Ocean, and Climate Dynamics: Read Less [-]
GEOG 140A Physical Landscapes: Process and Form 4 Units
Terms offered: Spring 2023, Spring 2022, Spring 2021
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: Fall 2023, Fall 2022, Spring 2021
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: Consent of instructor needed if student has not taken an introductory-level undergraduate physics course
Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week
Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Instructor: Chiang

GEOG 143 Global Change Biogeochemistry 3 Units
Terms offered: Fall 2023, Spring 2022, Fall 2019
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 not 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.
Principles of Meteorology: Read More [+]

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.

GEOG 145 Platform Geographies 4 Units
Terms offered: Fall 2022, Fall 2021, Fall 2013
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.
Platform Geographies: Read More [+]

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 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/INTEGBI C100

GEOG C146 Communicating Ocean Science 4 Units
For undergraduates interested in improving their ability to communicate their scientific knowledge by teaching ocean science in elementary schools or science centers/aquariums. The course will combine instruction in inquiry-based teaching methods and learning pedagogy with six weeks of supervised teaching experience in a local school classroom or the Lawrence Hall of Science with a partner. Thus, students will practice communicating scientific knowledge and receive mentoring on how to improve their presentations.
Communicating Ocean Science: Read More [+]

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

Hours & Format
Fall and/or spring: 15 weeks - 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/INTEGBI C100

Communicating Ocean Science: Read Less [-]
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.

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: 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/INTEGBI C166

Instructor: Rhew, Halversen, Chiang

Communicating Climate Science: Read More [-]
Biogeography: Read Less [-]
GEOG 149A Climates of the World 3 Units
Terms offered: Fall 2023, Fall 2022, Fall 2021
This course provides a very basic description of atmospheric physics and
dynamics at the large scale, followed by region-specific climate systems
and response. We examine the inter-relationships between the role of
climate variations and change to impacts, risk and adaptation. Each
week’s reading will be integrated into class participation with examples
from recent weather events. Class begins with a brief weather review that
focuses on a specific geographic region, followed by the topic of the day,
a break, and class discussion of weather events and impacts related to
the topic. There will be four homework sets, four quizzes, a mid-term and
final exam.
Climates of the World: Read More [+]
Objectives & Outcomes
Course Objectives: This course is geared to students in the social
sciences with an interest in understanding climate processes and
climate change. The objectives are to provide a foundation in basic
meteorological processes derived primarily from conservation laws.
Through repetition with applications to the real world and reinforcement
of concepts students with little mathematical training will grasp the main
concepts and apply their understanding to understand climate trends.
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: Geography 149
Climates of the World: Read Less [-]

GEOG 149B Climate Impacts and Risk Analysis 3 Units
Terms offered: Spring 2024, Spring 2023, Spring 2022
Climate impacts and risk analysis is the study of weather-related
catastrophes such as heat waves, floods, droughts, fires, and tropical
cyclones, and builds on material from GEOG 149A: Climates of the
World.
We will review how large-scale climate and local weather patterns set up,
learn detection and attribution to climate change, risk probabilities and
the types of impacts incurred.
Climate Impacts and Risk Analysis: Read More [+]
Objectives & Outcomes
Course Objectives: The objective is to provide an understanding of
climate attribution, risk probabilities and socio-economic and ecological
impacts of climate change and strategies of risk reduction. Through class
discussions and homework assignments students will learn of historic
climate catastrophes, how different societies have responded and what
we can learn from these responses in terms of building climate resilience.
We will go through simplified physical processes associated with recent
climate events and delve into the details of how they occur and to what
extent climate extremes are trending. One of the important learning
objectives is to provide dual learning, that is, I propose to offer upper
level undergraduates that lack sufficient mathematics and physics, while
at the same provide graduate students and atmospheric science/statistics
undergraduates a detailed understanding of climate impacts and risks.
Graduate students have an augmented set of homework problems.
Student Learning Outcomes: An expected learning outcome is the
ability to articulate climate risk with clear descriptions of mechanisms
of change, degree and likelihood of impacts and methods of risk
reduction. This class and Climates of the World will essentially be a two-
semester sequence that (1) introduces students to the basic concepts of
meteorology, climate change, climate extremes and (2) the types of risks
and strategies that are currently being implemented and are in planning
stages.
Rules & Requirements
Prerequisites: Geog 149A or equivalent course
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: Miller
Climate Impacts and Risk Analysis: Read Less [-]
**GEOG C154 Post-Apocalyptic Botany 4 Units**
Terms offered: 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.
Post-Apocalyptic Botany: Read More [+]

**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

Post-Apocalyptic Botany: Read Less [-]

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

**Hours & Format**

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

**Additional Details**

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

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

**Instructor:** Lewis

**Also listed as:** AFRICAM C156

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

**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?

Decolonizing Nature: Race, Empire and the Environment: Read More [+]

**Hours & Format**

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

**Additional Details**

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

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

**Instructor:** Kosek

Decolonizing Nature: Race, Empire and the Environment: Read Less [-]
GEOG C157 Central American Peoples and Cultures 4 Units
Terms offered: Spring 2014, Fall 2012, Spring 2011, Fall 2004
A comparative survey of the peoples and cultures of the seven countries of the Central American Isthmus from a historical and contemporary perspective.
Central American Peoples and Cultures: Read More [+]

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Instructor: Manz
Also listed as: CHICANO C161
Central American Peoples and Cultures: Read Less [-]

GEOG 159AC The Southern Border 4 Units
Terms offered: Fall 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.
The Southern Border: Read More [+]

Rules & Requirements
Prerequisites: Upper division standing
Requirements this course satisfies: Satisfies the American Cultures requirement

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Instructors: Manz, Shaiken
Also listed as: EDUC 186AC/ETH STD 159AC
American Cultural Landscapes: Read Less [-]

GEOG 160B American Cultural Landscapes 4 Units
Terms offered: Spring 2016, Spring 1997, Spring 1996
Introduces ways of seeing and interpreting American histories and cultures, as revealed in everyday built surroundings--homes, highways, farms, factories, stores, recreation areas, small towns, city districts and regions. Encourages students to read landscapes as records of past and present social relations, and to speculate for themselves about cultural meaning.
American Cultural Landscapes: Read More [+]

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Instructor: Ekman
American Cultural Landscapes: Read Less [-]
GEOG 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.

The American Landscape: Place, Power and Culture: Read More [+]

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

American Cultural Landscapes, 1600 to 1900: Read Less [-]

GEOG C160A American Cultural Landscapes, 1600 to 1900 4 Units

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

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

American Cultural Landscapes, 1600 to 1900: Read More [+]

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Undergraduate

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

Instructor: Groth

Also listed as: AMERSTD C112A/ENV DES C169A

American Cultural Landscapes, 1600 to 1900: Read Less [-]

GEOG C160B American Cultural Landscapes, 1900 to Present 4 Units

Terms offered: Spring 2017, Spring 2015, Spring 2014

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

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Undergraduate

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

Instructor: Groth

Also listed as: AMERSTD C112B/ENV DES C169B

American Cultural Landscapes, 1900 to Present: Read Less [-]
**GEOG 164 Global China 3 Units**
Terms offered: Spring 2024, Spring 2023, Spring 2022
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.

Global China: Read More [+]

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.
Instructor: Chang

Global China: Read Less [-]

**GEOG 167AC Decolonial Border Geographies 4 Units**
Terms offered: Spring 2024, Spring 2023, Spring 2022
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.

Decolonial Border Geographies: Read More [+]

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.
Instructor: Negrin da Silva

Decolonial Border Geographies: Read Less [-]

**GEOG 170 Special Topics in Geography 3 Units**
Terms offered: Fall 2024, Spring 2024, Summer 2023 First 6 Week Session
This course is designed to provide a vehicle for instructors to address a topic with which they are especially concerned; usually more restricted than the subject matter of a regular lecture course. Topics will vary with instructor. See departmental announcements.

Special Topics in Geography: Read More [+]

**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.

Special Topics in Physical Geography: Read More [+]

**Rules & Requirements**
Repeat rules: Course may be repeated for credit when topic changes.
GEOG 172 Topics in Social Geography 4 Units
Terms offered: Fall 2022, Fall 2012, Fall 2011
This course is designed to provide a vehicle for instructors to address a topic in social geography with which they are especially concerned; usually more restricted than the subject matter of a regular lecture course. Topics will vary with instructor. See departmental announcements.
Topics in Social Geography: Read More [+]
Rules & Requirements
Repeat rules: Course may be repeated for credit with instructor consent.

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Topics in Social Geography: Read Less [-]

GEOG 173A Cross-listed Topics in Human Geography 1 - 4 Units
Terms offered: Spring 2010, Spring 2007
This course is designed to accommodate cross-listed courses offered through other departments, the content of which is applicable to geography majors. Content and unit values vary from course to course.
Cross-listed Topics in Human Geography: Read More [+]
Rules & Requirements
Repeat rules: Course may be repeated for credit without restriction.

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Cross-listed Topics in Human Geography: Read Less [-]

GEOG 175 Undergraduate Seminars 4 Units
Terms offered: Fall 2018, Fall 2015, Fall 2014
A reading and research seminar for undergraduate students. Topics will vary with instructor.
Undergraduate Seminars: Read More [+]
Rules & Requirements
Repeat rules: Course may be repeated for credit with instructor consent.

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

Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Undergraduate Seminars: Read Less [-]

GEOG 178 Racial Ecologies 3 Units
Terms offered: Not yet offered
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.
Racial Ecologies: Read 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
Racial Ecologies: Read Less [-]
GEOG C179A GC-Maker Lab I: Skills and Theory 2 Units
Terms offered: Fall 2016
In the environmental and biological sciences, one of the biggest challenges in transitioning from student to researcher is learning how to measure something without an off-the-shelf device. This course will provide the theoretical background and the practice of building a Gas Chromatograph (GC) system for environmental research. The first semester is for students who seek to develop fundamental skills in instrumental development and design. The second semester (c179b) is only open to those who have taken this first semester course and will entail the construction of a working gas chromatograph system. This class will be especially useful for students who wish to pursue research following graduation.
Rules & Requirements
Prerequisites: Chem 3AL, or instructor permission
Hours & Format
Fall and/or spring: 15 weeks - 2 hours of laboratory per week
Additional Details
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.
Instructor: Rhew
Also listed as: ESPM C179A
GC-Maker Lab I: Skills and Theory: Read More [+]

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
GC-Maker Lab II: Instrument development: Read More [+]

GEOG 180 Field Methods for Physical Geography 5 Units
Terms offered: Spring 2024, Spring 2023, Spring 2022
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.
Field Methods for Physical Geography: Read More [+]

Field Methods for Physical Geography: Read Less [-]
GEOG 181 Urban Field Study 4 Units
Terms offered: Fall 2024, Spring 2024, Fall 2023
Introduction to the metropolitan Bay Area: its history, economy, social makeup. Evolution of urban landscapes and spatial patterns. Social justice and conflict in the city. Business and industry location, real estate and housing, producing and consuming in the city. Regional characteristics of class, race, gender and politics.
Urban Field Study: Read More [+]

Rules & Requirements

Prerequisites: Consent of instructor

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Undergraduate

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

GEOG 182 Field Study of Buildings and Cities 3 Units
Terms offered: 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.
Field Study of Buildings and Cities: Read More [+]

Objectives & Outcomes

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

Hours & Format

Summer: 6 weeks - 7.5 hours of lecture per week

Additional Details

Subject/Course Level: Geography/Undergraduate

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

Instructor: Groth

Field Study of Buildings and Cities: Read Less [-]

GEOG 183 Cartographic Representation 5 Units
Terms offered: Spring 2024, Fall 2023, Fall 2022
Problems in the representation of quantitative and qualitative data on thematic maps.
Cartographic Representation: Read More [+]

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Undergraduate

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

GEOG 185 Earth System Remote Sensing 3 Units
Terms offered: Spring 2023, Spring 2022, Spring 2021
This lecture-lab course is focused on Earth system remote sensing applications, including a survey of methods and an accompanying lab. This first part of the course will cover general principles, image acquisition and interpretation, and analytical approaches. The second part will cover global change remote sensing applications that will include terrestrial ecosystems, Earth sciences, the hydrosphere, and human land-use.
Earth System Remote Sensing: Read More [+]

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Undergraduate

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

Instructor: Chambers

Earth System Remote Sensing: Read Less [-]
**GEOG 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.
Web Cartography: Read More [+]

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

**Additional Details**
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Alternative to final exam.
Instructor: Cowart

Web Cartography: Read Less [-]

**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.
Geographic Information Analysis: Read More [+]

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

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

**Additional Details**
Subject/Course Level: Geography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Instructor: Kim

Also listed as: LD ARCH C188
Geographic Information Science: Read Less [-]

**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.

Geographic Information Science: Read More [+]

**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: O'Sullivan

Also listed as: LD ARCH C188
Geographic Information Science: Read Less [-]
GEOG 189 Visual Geography 4 Units
Terms offered: Fall 2024, Summer 2024 Second 6 Week Session, Spring 2024
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 its 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: Fall 2024, Spring 2024, Fall 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.
Honors Course: Read More [+]
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.
Honors Course: Read Less [-]

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.
Honors Course: Read More [+]
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.
Honors Course: Read Less [-]
**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.
Field Study in Geography: Read More [+]

**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.

Field Study in Geography: Read Less [-]

**GEOG 198 Directed Group Study 1 - 4 Units**
Terms offered: Fall 2023, Spring 2023, Fall 2022
Directed Group Study: Read More [+]

**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.

Directed Group Study: Read Less [-]

**GEOG 199 Supervised Independent Study 1 - 4 Units**
Terms offered: Fall 2024, Summer 2024 First 6 Week Session, Summer 2024 Second 6 Week Session

**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.

Supervised Independent Study: Read Less [-]