Geography

Geography is an inquiry into the patterns and processes that make up the surface of the Earth. It is a broad field of inquiry that, in our department, includes glaciers and climate change, the origins of agriculture and the evolution of plant life, the culture of cities and the dynamics of the global economy.

Such a wide range of themes gives each student great freedom to choose a research topic, develop an intellectual style, and select approaches to gathering evidence and making persuasive arguments. That freedom also includes opportunities to go outside of the department and make use of the tremendous resources of the campus as a whole. Our goal is to help each student find his or her own combination of intellectual rigor, creativity, and independence.

Ph.D. Program in Geography

The program is divided into three major areas:

- Global Development and Political Economy
- Earth System Science
- Geospatial Representation and Analysis

Within these domains, a wide range of faculty interests are represented, such as political ecology, economic geography, cultural geography, post-colonial studies, urban studies, geography of race and gender, climatology, geomorphology, remote sensing, and geographic information systems (GIS). Faculty members come with a broad spectrum of regional specialties as well, including Africa, South and East Asia, the Arctic, the Everglades and Mississippi Delta, Brazil, the Caribbean, and Latin America.

The faculty has been expanded in recent years to include a number of affiliates in other departments with expertise in such fields as GIS, gender and social movements, natural resources, fluvial geomorphology, environmental engineering, landscape ecology, and urban planning.

Berkeley students are expected to be independent, and we welcome those who have had professional experience and wish to return to deepen their education. Students are encouraged to range freely through the curriculum and to follow their inspiration where it leads, working in tandem with faculty advisors. Students choose their own mentors, often utilizing two or three faculty in equal measure; these may include faculty affiliates and members from other departments.

While faculty have their own research agendas and teaching specialties, and often collaborate with students, we believe students should march to their own drummer. We expect students to read extensively, develop the necessary research skills, and produce well-crafted thesis and dissertation. Many students publish their findings along the way, as well. Berkeley Geography offers the highest quality graduate training for future scholars and teachers at the collegiate level, as well as for those going into professional careers in government, NGOs and consulting.

General Admission Requirements for Graduate Study

Applying for Graduate Admission

Thank you for considering UC Berkeley for graduate study! UC Berkeley offers more than 120 graduate programs representing the breadth and depth of interdisciplinary scholarship. The Graduate Division hosts a complete list (https://grad.berkeley.edu/admissions/choosing-your-program/list/) of graduate academic programs, departments, degrees offered, and application deadlines can be found on the Graduate Division website.

Prospective students must submit an online application to be considered for admission, in addition to any supplemental materials specific to the program for which they are applying. The online application and steps to take to apply can be found on the Graduate Division website (https://grad.berkeley.edu/admissions/steps-to-apply/).

Admission Requirements

The minimum graduate admission requirements are:

1. A bachelor's degree or recognized equivalent from an accredited institution;
2. A satisfactory scholastic average, usually a minimum grade-point average (GPA) of 3.0 (B) on a 4.0 scale; and
3. Enough undergraduate training to do graduate work in your chosen field.

For a list of requirements to complete your graduate application, please see the Graduate Division's Admissions Requirements page (https://grad.berkeley.edu/admissions/steps-to-apply/requirements/). It is also important to check with the program or department of interest, as they may have additional requirements specific to their program of study and degree. Department contact information can be found here (https://guide.berkeley.edu/graduate/degree-programs/).

Where to apply?

Visit the Berkeley Graduate Division application page (http://grad.berkeley.edu/admissions/apply/).

Additional Departmental Application Requirements

In addition to the information and documents required by the Graduate Division, the Geography Department asks all prospective applicants to include the following materials in their application:

- **Statement of purpose** outlining the applicant's intellectual objectives in her or his graduate career. Students can refer to the Graduate Division Statement of Purpose Guide here: http://grad.berkeley.edu/admissions/apply/statement-purpose/
- **Personal history statement.** Students should indicate any challenges, hardships or obstacles they may have overcome. The department would like to know if students have supported themselves through school, if they are a first generation college student, if they took on a leadership position, tutored or mentored underrepresented students, or took advantage of unique opportunities. Students can refer to the Graduate Division Personal Statement Guide here: http://grad.berkeley.edu/admissions/apply/personal-statement/
- **Three letters of academic appraisal**, preferably from former instructors.
- **GRE Scores are OPTIONAL during the upcoming Fall 2021 application cycle**. Students who have previously taken or would like to take the GRE are welcome to send their scores with their application, but there will be no disadvantage to students who choose not to submit GRE scores.

- Applicants are asked to list the faculty they have contacted or expect to contact concerning their application, as well as the faculty in the department whose research is of particular interest to them and who they can foresee as a potential advisor.
- Resumes or CVs are optional, but highly recommended.
- Writing samples are optional.

Important Notes:

- The geography department does NOT admit students for a Master's degree. Students may only apply for the Ph.D. program in geography.
- The department does NOT offer admission for spring terms; students may only apply for programs that begin with the fall term.

Questions?

If you have questions regarding your application to the Ph.D. program in geography, please email Bobby Ewing, Graduate Student Affairs Officer, at rewing@berkeley.edu (svarner@berkeley.edu).

General Program Outline

First Year Curriculum and Course Enrollment

All students take GEOG 200A in their first year. This course is designed to help each student to see, think, and write geographically; to learn how to make and to judge arguments; and to prepare a thesis proposal. Students with a Human Geography focus will also take GEOG 200B and GEOG 200C following GEOG 200A.

Those with an Earth Systems Science focus are exempt from GEOG 200B and GEOG 200C (these students will take a course identified by their faculty adviser). All students in the doctoral program must take at least 12 units every semester (primarily in the form of appropriate graduate seminars) before taking the qualifying exam and advancing to candidacy. In addition, students must enroll in the Geography Colloquium (GEOG 295). This is a weekly colloquium which features invited speakers.

Analytic Paper

By the end of the third year, students entering with only a bachelor's degree must hand in a paper that would be suitable—in length and in quality—for submission to an academic or scientific journal. Students entering with a master's degree are exempt from this requirement.

The analytic paper may be an investigation of an intellectual problem in the form of an original synthesis of secondary literature; it may advance a new idea, or question an existing theory or notion, by assembling information that already exists in the literature; or it may use original information gathered from archives or in the field.

The student should have a proposal for the paper by the end of the first year, and must be in constant and close consultation with their main adviser. The adviser will determine the appropriate format and length of the paper. The paper must be handed in, and approved by the main adviser, no less than a month before the qualifying exam. A copy of the paper with the adviser's approval should be turned in to the Graduate Student Affairs Officer.

Dissertation Prospectus

Prior to taking the qualifying exam, all students must prepare a preliminary dissertation prospectus of between five and ten pages for their exam committee. A prospectus is a valuable first step in writing a dissertation, as it requires students to clarify their project and create a plan for carrying out their research. Before students begin their dissertation research, they must have a dissertation prospectus meeting —during which the student discusses their proposal—with at least two members of their QE committee.

Qualifying Exam

The qualifying exam must be taken by the end of the third year, although it is recommended that students entering with a master's degree take it by the end of their second year. The exam is based on a discussion of three broad geographic fields built around bibliographies produced in consultation with the examining committee.

Immediately after passing the QE, students will apply to the Graduate Division for advancement to candidacy. Advancing to candidacy by the end of the third year qualifies a student for the Dissertation Completion Fellowship (https://grad.berkeley.edu/policy/degrees-policy/#f31-doctoral-completion-fellowship-dcf).

Additional Departmental Requirements

- As part of their training, all students will be expected to serve as graduate student instructors (GSIs) for at least one semester.
- Students will be expected to complete an annual review with their first-year mentor or their faculty advisor each year to ensure timely completion of degree requirements.
- All students are expected to give an exit talk during the semester in which they file their dissertation.

Timeline of Degree Conferral

The dissertation is written under the supervision of a committee of three university faculty members, one of whom must be from outside the geography department and a member of the Berkeley Academic Senate. All students must give the department a copy of their thesis before their final report to the Graduate Division will be signed. Upon final acceptance of the dissertation, the degree of Ph.D. is awarded. It is expected that the student will complete the Ph.D. by the end of the sixth year in the program.

Geography

GEOG 200A Contemporary Geographic Thought 5 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023
The class has several goals. One is to give students a sound basis upon which to judge arguments. A second is to help students see, think, and write geographically--that is, to interpret the making and meaning of our physical and human landscapes. A third goal is to introduce students to the tremendous range of geographical inquiry and what is probably the major strength of geography as a form of thought: to wit, making links across space, among peoples, and between humans and the earth. The fall semester class also serves to introduce students to the practices and expectations of scholarly work more generally, including professionalization, publishing, and public speaking.

Rules & Requirements

Prerequisites: Required of all first year graduate students

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

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

Terms offered: Spring 2025, Spring 2024, Spring 2023
'Geographical Difference/Differentiation' is a 5 unit course with Seminar and Workshop components. The Seminar reads canonical work in social theory against contemporary Geography, including metropolitan traditions of critique of capitalism, urbanization, space and time, discipline-biopower-sovereignty, and the now; Southern traditions of agrarian, subaltern and materialist postcolonial studies; Black radical and oceanic traditions that stretch Geography in new ways; and finally, geo-graphy as a form of Earth-writing concerned with the unraveling subject, ruined landscapes mixtures of form. The Workshop runs in parallel on particular weeks, focusing on geographic problematization and the research process.

Rules & Requirements

Prerequisites: Required of all first-year graduate students

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

GEOG 200C Foundations in Geographic Thought 5 Units

Terms offered: Fall 2025, Fall 2023, Spring 2022
This course is meant as a Foundation in Geography theory. But this course is more
about geographic methods of dissolution or abolition than it is about constructing a
coherent, systematic body of work founded in a unified body of geographic thought
and/or tradition. We will read some texts that are often considered foundational but
we will read them with and through people who contested, undermined, and remade
them. We will engage with similar undoings of the work of both Geographers and
people who have been central to geographic thought.

Objectives & Outcomes

Course Objectives: The ultimate course goal will be (1) to learn some of the key foundational concepts and
approaches central in contemporary geographic thought; (2) to develop the critical
skills necessary to splinter, crack, and shatter these foundations and approaches, and
finally (3), with the shards, ashes, and remnants collectively reconstruct a form of
Geographic thought that might be of some utility for this political moment.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Kosek

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

Terms offered: Fall 2025, Fall 2016, Fall 2011

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Sayre

GEOG 205 Black Geographies 4 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

This graduate seminar explores the inextricable connection between blackness and geography.

Considering Katherine McKittrick's claim that Black geographies are "'the terrain of political
struggle itself' or where the imperative of a perspective of struggle takes place," we will situate
the spatial relations of blackness by placing Black people at the core of spatial production and
examine the mechanisms by which this takes place. In this course we ask: what are the
limitations and possibilities of traditional geographies? How does Black geographic thought
produce wider material and conceptual space for geographic knowledge? How does Geography
account for and understand blackness as condition, experience, and imaginary?

Objectives & Outcomes

Course Objectives: The course is organized around on two themes: (1) "Black Spatial Matters" involves our analysis of critical approaches to nature, space, place, and other geographic matters that meaningfully contribute to theorizations of blackness; and (2) "Black Space Matters," through which we will focus on the political economic means by which the production of Black space is foundational to imaginative Black placemaking, self-actualization, and ways to catalogue future and existing spaces. Each text that falls under the "Black Spatial Matters" category will be followed by a corresponding "Black Space Matters" text. The two texts should be thought directly in relation to one another. Throughout the course we will engage such themes as Black cities, Black economies, Black poetics, and Black value by drawing on intellectual histories and politics of Black feminist, queer, indigenous, post-colonial, and critical race studies.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Summers

GEOG 206 Research Seminar in Comparative Urban Studies 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023
In this seminar students will discuss research design, method, writing, and engage with one
another's research and dissertation projects. Two-thirds of each class meeting will be
devoted to discussion of students' work in progress. Each student will present their ongoing
projects 3-4 times throughout the semester and receive constructive feedback from the
seminar participants. One third of each class meeting is used for professional development
workshops on topics of analyzing fieldnotes, engaging literature, publishing journal articles,
gender and racial dynamics in academia, job talks and Job market, converting dissertation
into a book, using maps, tables, and numbers in presentation, and doing a social science with
something to say.

Rules & Requirements

Credit Restrictions: Students will receive no credit for GEOG 206 after completing GEOG 206. A deficient grade in GEOG 206 may be removed by taking GEOG 206.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Hsing

GEOG 207 The Art of the Pitch: Grant Writing, Research Proposals & Fellowships 4 Units

Terms offered: Fall 2025
This is a practical course with an emphasis on applying for grants and fellowships. Students will choose a fellowship program and complete application components during the course. We'll also be conducting in person mock interviews. This class is most useful for those who plan to apply for a grant of fellowship such as the Foreign Language Area Studies grant (FLAS), a Fulbright Fellowship or similar funding opportunity that is based on a personal statement and research proposal.

Objectives & Outcomes

Student Learning Outcomes: Craft a strong research proposal.
Demonstrate an understanding of the eligibility requirements, application processes, and deadlines for various funding opportunities.
Develop a competitive personal statement.
Identify suitable funding opportunities.
Prepare and engage in mock interviews, showcasing the ability to communicate ideas and qualifications persuasively.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

GEOG 214 Development Theories and Practices 4 Units

Terms offered: Spring 2011, Spring 2010, Spring 2009
This course examines how concepts and theories of "development" have been produced, maintained, used, and challenged in different regions of the world economy. It will offer a framework for analyzing how changing and contending models of development both reflect and shape social processes and practices.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Hart

GEOG 215 Seminar in Comparative and International Development 4 Units

Terms offered: Fall 2020, Spring 2019, Spring 2017
This seminar is designed for students intending to do research on topics of comparative development, the organization of work, and access to resources in different regions of the world economy. Participants in the seminar will be expected to write a research proposal and to participate actively in reading and responding to each other's work.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructors: Hart, Hsing

GEOG 220 Capital, Value, and Scale 4 Units

Terms offered: Spring 2013, Spring 2009, Spring 2007
This seminar focuses on major works in political economy and social theory concerning capitalism, human action, and space-time. We grapple with what "value" means in "Capital", paying particular attention to issues of historical specificity, abstract labor time, and the "value theory of labor." We spatialize the argument by a close reading of David Harvey, and we look at attempts to understand capital's relation to human action and other forms of value, in anthropology and the work of Pierre Bourdieu. Finally, we take up the issue of scale in hope of formulating a coherent conceptual framework for integrating across scales, from the human-body (or even smaller scales) up to global, economic, cultural and ecological processes

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Sayre

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

Terms offered: Spring 2018
This class will introduce the theory, background, and practice of (analog) gaming, and simulation, or, more generally speculative world-building. These activities are increasingly important in contemporary culture, and also in science, policy, business, planning, and government, in situations where understanding how the world works, how the world might work, or how things might work differently are important. In addition to approaching games as objects of study, students will design new games on topics of their choice, alone or in groups, as a practical component of this class.

Objectives & Outcomes

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

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: OSullivan

GEOG 228 Spatial Simulation Modeling 4 Units

Terms offered: Spring 2015
Simulation is now a widely adopted approach to science. This class will examine what simulation models are, and why and how they are used. Models that focus
on spatial processes (aggregation, segregation, diffusion, movement, growth) will be closely considered. A particular concern will be to explore how simulation
models may help elucidate the relationships between processes and the spatial outcomes they produce.

Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: O'Sullivan

GEOG 230 Economies of Race 4 Units

Terms offered: Prior to 2007
This course examines the economy as a domain of social analysis for understanding the black experience. Throughout the course we will examine what forms economic institutions and practices take across the black Diaspora. We will examine the central place of race within capitalist economies, largely overlooked by mainstream economic analyses and unpack its implications for equality in wider capitalist markets, state systems, and policy initiatives. Through historical and ethnographic accounts we will explore how people across the Diaspora cope with crises and inequality, both individually and collectively, and how historical narratives are brought to bear on those methods, and on notions of the future.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Lewis

GEOG C241 Glaciology 4 Units

Terms offered: Spring 2024, Spring 2021, Spring 2020, Spring 2018
A review of the mechanics of glacial systems, including formation of ice masses, glacial flow mechanisms, subglacial hydrology, temperature and heat transport, global flow, and response of ice sheets and glaciers. We will use this knowledge to examine glaciers as geomorphologic agents and as participants in climate change.

Rules & Requirements

Prerequisites: Graduate standing or consent of instructor

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Cuffey

Formerly known as: 241

Also listed as: EPS C242

GEOG 244 Complex Environmental Systems 3 Units

Terms offered: Spring 2016, Spring 2014, Spring 2013
Applying a complex-systems approach to environmental problems can yield valuable insight into risk, potential drivers of change, likely outcomes of perturbation, and whether it is even possible to forecast or manage system behavior. This course explores complex-systems theory and applications in geography, ecology, and earth science. Case studies include climate change, coupled human-environmental systems, vegetation community change, river networks, forest fires, earthquakes, and peatlands.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Larsen

GEOG 245 Topics in Trace Gas Biogeochemistry 4 Units

Terms offered: Spring 2025, Spring 2008, Fall 2007
This graduate seminar will cover classic and modern research papers in trace gas biogeochemistry. Specific topics will vary by semester and may include: greenhouse gases, ozone-depleting gases, biosphere-atmosphere exchange, tropical forest biogeochemistry, Arctic biogeochemistry, peatland/wetland biogeochemistry, atmospheric impacts of croplands, volatile organic compounds, field and lab methods, the evolution of Earth's atmosphere, and air-sea gas exchange. Class sessions will involve the presentation, analysis and discussion of research papers in biogeochemistry. In addition, students will have the opportunity to present their own research, contextualized in the broader field of atmospheric biogeochemistry.

Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

Instructor: Rhew

GEOG 246 Geomorphology of California 4 Units

Terms offered: Fall 2011, Fall 2009, Fall 2006
Numerous tectonic and Earth surface processes act in concert to produce the physical landscapes of our planet. This course examines three major regions of California (the Sierra Nevada, the Basin and Range, and the Southern Coast Ranges) as specific case studies for demonstrating how landscapes can be understood using concepts from tectonics, geomorphology, and geography. Two four-day field trips and preparatory readings for them will illuminate the integrated action of tectonics, geologic structure and lithology, drainage network development, hydraulics, soil production, hillslope transport, fluvial transport, aeolian transport, and glacial/perigicial processes. A term project will be required.

Rules & Requirements

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

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Cuffey

GEOG 247 Digital Transformations in Land, Housing, and Property 4 Units

Terms offered: Spring 2023
Technology shapes how land is known, used, valued and imagined. This seminar responds to how 21st century digital innovations are changing real estate planning and development; the commodification and trade of land, housing, and property; and politics and practices of dwelling globally. We will develop theoretical perspectives on what the digital brings to property via case studies of cloud computing, urban housing, and agrarian and rural land.

Objectives & Outcomes

Course Objectives: Attend to how these transformations extend and shift patterns of state control, capital accumulation, and grassroots politics.
Situate digital transformations within existing property relations that characterize particular geographies.
Understand how the state, capital, and grassroots actors employ digital technologies to remake global land, housing, and property.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Fields

GEOG 248 Geospatial Analysis for Biodiversity Research 4 Units

Terms offered: Fall 2025, Fall 2006, Fall 2004
This graduate seminar will provide an introduction to the theory and practice of geospatial analysis for biodiversity research. The course will consist of lectures on the nature of geographic data, representation of geographic information, sources of geospatial data, field sampling, and spatial analysis, modeling, inference, and uncertainty. Lectures will be complemented with reading discussions illustrating current research on biodiversity using geospatial data and analysis. The class will furthermore consist of field activities that will use geographic information science (GIS), remote sensing imagery, global positioning systems (GPS/GNSS), and field sampling to understand patterns of biodiversity across space and time.

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/Graduate

Grading: Letter grade.

GEOG 249 Spatiotemporal Data Analysis in the Climate Sciences 3 Units

Terms offered: Fall 2008
This graduate seminar teaches objective techniques for spatiotemporal data analysis focusing primarily on Empirical Orthogonal Function (EOF) analysis and its derivatives. The context will be climate data analysis, but the technique is readily translatable to other fields. The goal is to get the student sufficiently comfortable with the technique so they can use it in their research.
Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Chiang

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

Terms offered: Spring 2020, Fall 2014, Spring 2014, Fall 2013
Individual projects and group discussions concerning social constraints to, and effects of, natural resource planning and management. Application of sociological theories to problems of managing wildland ecosystems. Students will examine topics of individual interest related to the management of wildland uses. Enrollment limited.
Rules & Requirements

Prerequisites: Consent of instructor

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Fortmann

Also listed as: ESPM C255

GEOG 251 Topics in Cultural Geography 4 Units

Terms offered: Spring 2025, Spring 2024, Fall 2020
Research seminar on selected topics in cultural geography.
Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Groth

GEOG 252 Topics in Economic Geography 4 Units

Terms offered: Fall 2025, Fall 2021, Spring 2016
Research seminar on selected topics in economic geography.
Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructors: Hsing, Watts

GEOG 253 Topics in Urban Geography 4 Units

Terms offered: Spring 2014, Fall 2012, Spring 2012
Research seminar on selected topics in urban geography.
Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructors: Groth, Hsing

GEOG 254 Topics in GIS 4 Units

Terms offered: Fall 2016
Research seminar on selected topics in GIS.
Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: O'Sullivan

GEOG 255 Topics in Political Geography 4 Units

Terms offered: Spring 2025, Fall 2024, Spring 2021
Research seminar on selected topics in political geography.
Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructors: Hart, Kosek

GEOG 257 Topics in Climatology 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2018
Research seminar on selected topics in climatology.
Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Chiang

GEOG 260 Topics in Biogeography 4 Units

Terms offered: Fall 2022, Spring 2015, Spring 2013
Research seminar on selected topics in biogeography.
Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Byrne

GEOG 279 Statistics and Multivariate Data Analysis for Research 3 Units

Terms offered: Fall 2017, Spring 2015
An introduction to advanced statistical methods for research. Topics include hypothesis testing, distribution fitting, ANOVA and MANOVA, PCA, cluster analysis, ordination, discriminant analysis, regression, time series analyses, causality, and data mining techniques. Students will complete assignments that use real datasets and will gain feedback in working with their own datasets.
Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Larsen

GEOG 280 Advanced Field Study in Geography 3 - 7 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018
All day Saturday. Each additional unit requires four hours of field work per week. Extended field project required.
Rules & Requirements

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

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

Terms offered: Spring 2009
This course introduces graduate students to a range of applications of Geographic Information Systems (GIS) in geographical research, and theoretical considerations of the meaning, strengths, and limitations of the methods. We first review, in general, how geographic variables can be represented in a database. This leads to an extended discussion of the application of GIS methods to a variety of problems in physical and human geography, using topographic data, census data, and other sources, manipulated by widely used GIS software. Students build skills and understanding through work on example problems. Finally, the broad question of how GIS represents geographic variables, and the strengths and limitations of the technique, are re-visited using perspective gained from examples. Students will be expected to elaborate these issues in the context of their own research programs.

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

GEOG 285 Topics in Earth System Remote Sensing 3 Units

Terms offered: Fall 2024, Fall 2021, Fall 2020
Questions asked about a changing planet are strongly influenced by data collected across a variety of spatial and temporal scales. Remote sensing of globally distributed ecosystems and human landscapes enables the exploration of questions not possible without the extension of those dimensions. This course will focus on developing scalable Earth system research questions using a variety of tools including advanced remote sensing methods, image acquisition including UAV systems, data synthesis and analytical approaches, literature review, progress reporting, and student presentations.

Objectives & Outcomes

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

Instructor: Chambers

GEOG 295 Geography Colloquium 1 Unit

Terms offered: Fall 2025, Spring 2025, Fall 2024
Invited lectures on current research and field work.

Rules & Requirements

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

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

GEOG 296 Directed Dissertation Research 1 - 12 Units

Terms offered: Spring 2024, Fall 2023, Spring 2023

Rules & Requirements

Prerequisites: Advancement to Ph.D. candidacy

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

GEOG N296 Directed Dissertation Research 1 - 4 Units

Terms offered: Summer 2023 10 Week Session, Summer 2023 3 Week Session, Summer 2023 Second 6 Week Session

Rules & Requirements

Prerequisites: Advancement to Ph.D. candidacy

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

Hours & Format

Summer:
6 weeks - 1-4 hours of independent study per week
8 weeks - 1-4 hours of independent study per week
10 weeks - 1-4 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

GEOG 297 Directed Field Studies 1 - 6 Units

Terms offered: Spring 2023, Fall 2019, Spring 2019
Rules & Requirements

Prerequisites: Open to students directly engaged in field studies

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Offered for satisfactory/unsatisfactory grade only.

GEOG 298 Directed Study for Graduate Students 1 - 6 Units

Terms offered: Fall 2025, Fall 2023, Spring 2023
Special tutorial or seminar on selected topics not covered by available courses or seminars.
Rules & Requirements

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

Additional Details

Subject/Course Level: Geography/Graduate

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

GEOG 299 Individual Research 1 - 8 Units

Terms offered: Spring 2024, Fall 2023, Spring 2023
Individual research for graduate students in consultation with staff member.
Rules & Requirements

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

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

GEOG N299 Individual Research 1 - 4 Units

Terms offered: Summer 2025 10 Week Session, Summer 2024 10 Week Session, Summer 2023 10 Week Session
Individual research for graduate students in consultation with staff member.
Rules & Requirements

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

Hours & Format

Summer:
6 weeks - 1-4 hours of independent study per week
8 weeks - 1-4 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate

Grading: Letter grade.

GEOG 301 Professional Training: Teaching Practice 1 - 4 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018
Rules & Requirements

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

Additional Details

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

Grading: Offered for satisfactory/unsatisfactory grade only.

GEOG C301 Communicating Ocean Science 4 Units

Terms offered: Spring 2021, Spring 2020, Spring 2019, Spring 2015, Fall 2014, Spring 2014, Spring 2013
For graduate students interested in improving their ability to communicate their scientific knowledge by teaching ocean science in elementary schools or science centers/aquariums. The course will combine instruction in inquiry-based teaching methods and learning pedagogy with six weeks of supervised teaching experience in a local school classroom or the Lawrence Hall of Science with a partner. Thus, students will practice communicating scientific knowledge and receive mentoring on how to improve their presentations.

Rules & Requirements

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

Hours & Format

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

Additional Details

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

Grading: Letter grade.

Instructor: Ingram

Also listed as: EPS C301/INTEGBI C215

GEOG C302 Effective Scientific Communication 3 Units

Terms offered: Fall 2009, Fall 2007
This course will introduce methods of organizing and delivering oral presentations, initating and organizing manuscripts, and utilizing digital communication methods, such as web-based media. Students will develop effective communication techniques through in-class experience. This class will have an emphasis on the sciences but will be useful and open to graduate students of all disciplines.

Hours & Format

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

Additional Details

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

Grading: Letter grade.

Instructors: Resh, Rhew

Also listed as: ESPM C302

GEOG 375 Pedagogical Practices in Geography 4 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023
This course centers the work of teaching as a foundational aspect of our practice as geographers. Undoubtedly, the interdisciplinary nature of geography provides multiple avenues from where we can address some of our most pressing social, environmental, economic and political dilemmas. But how do we bring theory to practice? And how do we do this in a classroom setting? To answer these questions, this course offers pedagogical frameworks and practical skills for how theory and practice connect for both instructors and students. We will begin with a review of pedagogical literature and an analysis of how foundational scholars like Paulo Freire and bell hooks approach teaching as an act of community-making and empowerment.

Hours & Format

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

Additional Details

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

Grading: Offered for satisfactory/unsatisfactory grade only.

Instructor: Negrín

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

Terms offered: Fall 2023, Fall 2022, Fall 2021
Individual study for comprehensive or language requirements in consultation with the field adviser.

Rules & Requirements

Prerequisites: For candidates for master's degree

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

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate examination preparation

Grading: Offered for satisfactory/unsatisfactory grade only.

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

Terms offered: Summer 2009 10 Week Session
Individual study for comprehensive or language requirements in consultation with the field adviser.

Rules & Requirements

Prerequisites: For candidates for master's degree

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

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

Hours & Format

Summer:
6 weeks - 2.5-7.5 hours of independent study per week
8 weeks - 1.5-5.5 hours of independent study per week

Additional Details

Subject/Course Level: Geography/Graduate examination preparation

Grading: Offered for satisfactory/unsatisfactory grade only.

GEOG 602 Individual Study for Doctoral Students 1 - 6 Units

Terms offered: Fall 2023, Spring 2023, Fall 2022
Individual study in consultation with the major field adviser, intended to provide an opportunity for qualified students to prepare themselves for the various examinations required of candidates for the Ph.D.

Rules & Requirements

Prerequisites: For candidates for Ph.D

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

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

Hours & Format

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

Additional Details

Subject/Course Level: Geography/Graduate examination preparation

Grading: Offered for satisfactory/unsatisfactory grade only.