GEOGRAPHY

College of Natural Sciences and Mathematics

Program Description
Geography students at Sacramento State explore Earth's natural and cultural environments using methods from the natural sciences and the social sciences. They study climate, weather, landforms, water resources, and plants and animals, as well as peoples, societies, economies, and cities. These phenomena overlap in intricate ways, giving rise to distinctive places and regions. Geography’s approach emphasizes Earth’s spatial relationships and patterns, and the processes that govern them, whether found in nature or in human behavior.

Students work with quantitative and qualitative data from a variety of sources, including published censuses and maps, aerial imagery, field and lab work, surveys, and interviews. They use a variety of tools, including Global Positioning Systems (GPS), Geographic Information Systems (GIS), and other computer applications to collect, display, and analyze spatial data. Geography students study and address complex issues, especially those with a human-environment interface, such as climate change, resource management, urban growth and design, globalization, immigration, ethnic identity, and territorial conflict. Geographical understanding is applied at different scales, from the local to the global, and regional expertise is cultivated.

Lower division offerings in physical geography, cultural geography, and geographical techniques introduce students to the discipline. At the upper division level, students can choose among regional classes, topical classes on subjects from meteorology to transportation, and technique classes that include GIS, map making, quantitative methods, remote sensing, and field work. Majors select a concentration in a geographic subfield. Although not required, the department encourages students to take elective courses and/or pursue a minor complementary to their geographical interests. It also encourages and facilitates students going on Education Abroad.

Degree Programs
BA in Geography (Geographic Information Systems and Analysis) (http://catalog.csus.edu/colleges/natural-sciences-mathematics/geography/ba-in-geography-geographic-information-systems-and-analysis/)

BA in Geography (Human Geography) (http://catalog.csus.edu/colleges/natural-sciences-mathematics/geography/ba-in-geography-human-geography/)

BA in Geography (Metropolitan Area Planning) (http://catalog.csus.edu/colleges/natural-sciences-mathematics/geography/ba-in-geography-physical-geography/)

Minor in Geography (http://catalog.csus.edu/colleges/natural-sciences-mathematics/geography/minor-in-geography/)


Certificate in Pre-Planning (Metropolitan Planning or Resource Planning) (http://catalog.csus.edu/colleges/natural-sciences-mathematics/geography/certificate-in-pre-planning/)

Special Features
- Numerous internships and jobs in the Sacramento area, including many with state and local government
- Many opportunities for field work in a variety of settings
- A senior project class in which each student conducts his/her own research
- A small major allowing for lots of interaction with faculty and fellow students, including attendance at state and regional professional meetings
- Various pathways to complete the major, providing flexibility and the opportunity to make efficient progress toward graduation

Career Possibilities
Geographer · Cartographer · Climatologist · Resource Scientist · Meteorologist · Geospatial Intelligence Professional · Environmental Scientist · Geographic Information System Specialist · Geographic Consultant · Surveyor · Sustainability Coordinator · Water Resources Analyst · Redevelopment Specialist · Environmental Planner · Energy Analyst · Foreign Area Specialist · Land Economist · Recreation Planner · Locational Analyst · Environmental Education Specialist · Conservationist · Urban Planner · Transportation Planner · Aerial Photo Interpreter · Remote Sensing Specialist · Community Development Specialist · Land Use Planner · Demographer · Cultural Resources Manager · Air Resources Specialist · Real Estate Research Analyst · Pedestrian and Bicycle Advocate · Teacher · Recycling Coordinator · Route Planner · Habitat Manager

Contact Information
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Department of Geography Website (http://www.csus.edu/geog/)

Faculty
GEOG 1. Physical Geography: The Distribution of Natural Phenomena. 3 Units

General Education Area/Graduation Requirement: Physical Science (B1)
Term Typically Offered: Fall, Spring, Summer

Introductory study of the distribution over the face of the earth of selected aspects of climate, plant cover, soils, and landforms and of processes and conditions giving rise to these distributions. The use of maps as communicative devices in comparative analysis and study of distribution and processes.

GEOG 2. Cultural Geography. 3 Units

General Education Area/Graduation Requirement: GE AREA D
Term Typically Offered: Fall, Spring

Consideration of the diversity of patterns of land use, settlement and movement established and evolved by humans as a result of the interaction of cultural and physical factors; emphasis on student use of maps and other tools of geographic presentation for analyzing the nature, variation and distribution of cultural features of the earth's surface.
GEOG 2H. Cultural Geography - Honors.  3 Units
Prerequisite(s): Open to Honors students only.
General Education Area/Graduation Requirement: GE AREA D
Term Typically Offered: Fall, Spring, Summer

Consideration of the diversity of patterns of land use, settlement and movement established and evolved by humans as a result of the interaction of cultural and physical factors; emphasis on student use of maps and other tools of geographic presentation for analyzing nature, variation and distribution of cultural features of the earth's surface.
Note: This is a special offering designed as part of the G.E. Honors program.

GEOG 3. Introduction to Maps and Geographic Technologies.  3 Units
Term Typically Offered: Spring only

Introduction to maps, map concepts, and geographic technologies. Maps are the most effective way to communicate spatial data, and introduces students to the quickly changing world of maps (both hard-copy and digital) and geographic technologies including map and aerial photograph interpretation, spreadsheet operations, introductory statistics, global positioning systems (GPS), Internet mapping, satellite and aerial images, and geographic information systems (GIS) that aid in data collection, analysis, and presentation. Lecture two hours; laboratory two hours.

GEOG 5. Violent Weather/Changing Atmosphere.  3 Units
General Education Area/Graduation Requirement: Physical Science (B1)
Term Typically Offered: Fall, Spring

Introduction to meteorological and climatological principles and concepts. These principles will be used to examine severe atmospheric phenomena, including hurricanes, tornadoes, thunderstorms, lightning, destructive winds, severe storms, heat waves, droughts and floods, particularly in relation to human-caused climate change and the effects of these phenomena on humanity.

GEOG 105. Computer Cartography.  3 Units
Prerequisite(s): GEOG 109 or instructor permission.
Term Typically Offered: Fall only

Preparation of maps and diagrams, emphasizing thematic map design using various mapping and design programs. Detailed study of important map projections. Passing score on ELM exam recommended. Lecture one hour, laboratory six hours.

GEOG 107. Remote Sensing.  3 Units
Term Typically Offered: Spring only

Aerial photographs and scanned satellite images, emphasis on the former. Topics include the electromagnetic spectrum, cameras, films, image geometry as related to planimetric and topographic mapping, multispectral techniques, and interpretation of imagery, emphasizing land use and landforms. Lecture two hours; laboratory three hours.

GEOG 109. Geographic Information Systems.  3 Units
Term Typically Offered: Fall, Spring, Summer

Introduction to GIS, including history and overview of current applications; the nature of spatial data; geographic data structures, acquisition, analysis, and display of geographic data. Lab exercises use various computers and include both raster- and vector-based GIS systems. Lecture two hours; laboratory three hours.

GEOG 110. Advanced Geographic Information Systems.  3 Units
Prerequisite(s): GEOG 109 or instructor permission.
Term Typically Offered: Fall only

Builds on the introduction to the hardware, software and operations of GIS offered with the previous courses, providing the essentials required by a beginning GIS analyst or applications support specialist. Emphasis will be placed on problem solving strategies in the context of GIS projects.

GEOG 111. Elements Of Meteorology.  3 Units
Prerequisite(s): GEOG 1 or instructor permission.
General Education Area/Graduation Requirement: Further Studies in Area B (B5)
Term Typically Offered: Fall, Spring

Basic concepts of weather and weather elements: structure and general circulation of the atmosphere, earth’s heat and water balance, precipitation, air masses and fronts, air pollution meteorology. Some micrometeorological concepts with application to air pollution, agriculture, and similar problems.

GEOG 113. Climate.  3 Units
General Education Area/Graduation Requirement: Further Studies in Area B (B5)
Term Typically Offered: Fall only

Study of the distribution of heat and moisture over the earth's surface. Basic processes by which heat and moisture acquire unequal distributions in space and time. Classification of climate. Climatic change. Climate models.
Introduction to the geographic distribution of life. Communities and biomes, changing continents and climates, dispersal, colonization, extinction, life on islands, and past and present human impacts are examined.

Note: Field trip required.

Field trip(s) may be required.

Geographic survey of a selected region with emphasis on its physical environment and selected economic, demographic, political, and cultural patterns. Consideration may include its connection to other world regions and its role in current events. The specific region is identified by the Geography Department at scheduling. This course and GEOG 129B and GEOG 129C may be taken for up to 9 units.

A selected world region is the focus of this course that geographically includes climate, landforms, vegetation, economics, demographics, culture, and the region's connection to other world regions and its role in current events. The specific region is identified by the Geography Department at scheduling. This course and GEOG 129B and GEOG 129C may be taken for up to 9 units.

Survey of Europe with emphasis on its physical environment, contemporary demographic, economic, and ethnic patterns, and the changing political landscape. Consideration will also be given to Europe's historic and present-day links with other world regions, and to the geographic basis for many of the social, political, economic, and environmental challenges facing contemporary Europe.

Geographic survey of a selected region with emphasis on its physical environment and selected economic, demographic, political, and cultural patterns. Consideration may include its connection to other world regions and its role in current events. The specific region is identified by the Geography Department at scheduling. This course and GEOG 129B and GEOG 129C may be taken for up to 9 units.

A selected world region is the focus of this course that geographically surveys the region's physical and human environment. Topics may include climate, landforms, vegetation, economics, demographics, culture, and the region's connection to other world regions and its role in current events. The specific region is identified by the Geography Department at scheduling. This course and GEOG 129A and GEOG 129C may be taken for up to 9 units.

A selected world region is the focus of this course that geographically surveys the region's physical and human environment. Topics may include climate, landforms, vegetation, economics, demographics, culture, and more. The specific region is identified by the Geography Department at scheduling. This course and GEOG 129A and GEOG 129B may be taken for up to 9 units.

Study of landforms, climate, vegetation, population distribution and change, industry, transportation, water, energy, and agriculture in California.
GEOG 141. Geography of Economic Activity. 3 Units
Term Typically Offered: Fall only – even years

Spatial organization of man's activities related to production, exchange and consumption. Attention is given to resource development and the areal variations of factors affecting it, to concepts of spatial interaction and to spatial aspects of agricultural, industrial and urban land use. An examination of problems related to regional economic development. Changing perceptions of spatial organization of economic activities is also considered. Emphasis is on both theoretical framework and case study applications.

GEOG 143. Environmental Hazards and Society. 3 Units
Term Typically Offered: Spring only – odd years

Focuses on how a place's social systems and physical systems intersect to create hazards. Considers the development of various theoretical approaches to hazards; risk perception and societal responses to hazard events; the history of U.S. disaster response; and approaches to risk/ vulnerability assessment.

GEOG 145. Population Geography. 3 Units
General Education Area/Graduation Requirement: GE AREA D
Term Typically Offered: Spring only

Spatial patterns of population numbers and characteristics; migration and spread of ideas; potential for economic and cultural developments.

GEOG 147. Urban Geography. 3 Units
Term Typically Offered: Fall only – odd years

Consideration of cities as centers of human activity from the rise of urban life in the Old and New Worlds to the present day patterns of metropolis and megalopolis. The functions and interactions of cities in Earth’s limited space and on Earth's limited resources are studied historically and crossculturally. Also examined are changing perceptions of the urban phenomenon and attempts to enhance the quality of urban life.

GEOG 148. Urban and Regional Planning. 3 Units
Term Typically Offered: Fall, Spring

Introduction to the theory and practice of urban and regional planning. Topics include the history of planning, the development of comprehensive and land use plans, growth management, and transportation and environmental planning. Includes guest speakers from the planning community as well as the opportunity to work on a project with a community organization or government agency to put into practice what is discussed in class.

GEOG 149. Transportation Geography. 3 Units
Prerequisite(s): GEOG 141, GEOG 147, or GEOG 148 or instructor permission.
Term Typically Offered: Spring only – odd years

Explores the geography of transportation using both theory and applications, quantitative and qualitative methods. Topics include the history and economic importance of transportation systems for all major modes; their political, social, and environmental aspects; and basic analytical methods, including accessibility dynamics, network analysis, and spatial interaction models. Focus will be on the U.S., with frequent reference to local issues, though material will be drawn on from around the world.
GEOG 190.  Senior Research Seminar in Geography.  3 Units  
Prerequisite(s): GEOG 1, GEOG 2, GEOG 3, GEOG 102; senior standing, and GWAR certification before Fall 09; or WPJ score of 80+; or 3-unit placement in ENGL 109M or ENGL 109W; or 4-unit placement in ENGL 109M or English 109W and co-enrollment in ENGL 109X; or WPJ score 70 or 71 and co-enrollment in ENGL 109X; instructor permission.  
General Education Area/Graduation Requirement: Writing Intensive Graduation Requirement (WI)  
Term Typically Offered: Spring only  
Writing-intensive capstone course requiring students to complete independent research projects displaying their mastery of geography's content and methods. Projects undertaken in a given semester share a common thematic and/or regional focus. Students use bibliographic, field, spatial analytic, graphic, and verbal skills. Context for projects is provided by a review of the recent history of the discipline. Lecture/discussion three hours.

GEOG 192A.  Geography Field Experience A.  1 - 2 Units  
Prerequisite(s): one geography course or instructor permission.  
Term Typically Offered: Fall, Spring  
A particular geographical area is explored and studied via beginning-level field observation. Emphasis may be placed on physical features, cultural features, or both.  
Credit/No Credit

GEOG 192B.  Geography Field Experience B.  1 - 2 Units  
Prerequisite(s): one geography course or instructor permission.  
Term Typically Offered: Fall, Spring  
A particular geographical area is explored and studied via intermediate-level field observation. Emphasis may be placed on physical features, cultural features, or both.  
Credit/No Credit

GEOG 192C.  Geography Field Experience C.  1 - 2 Units  
Prerequisite(s): one geography course or instructor permission.  
Term Typically Offered: Fall, Spring  
A particular geographical area is explored and studied via advanced-level field observation. Emphasis may be placed on physical features, cultural features, or both.  
Credit/No Credit

GEOG 193A.  Field Geography: Urban-Metropolitan.  3 Units  
Prerequisite(s): Instructor permission  
Term Typically Offered: Spring only – odd years  
Examines the internal structure and external relations of Sacramento as a metropolitan center and of nearby urban communities through field observation and exercises. Emphasis is placed on mapping and interviewing as ways of gaining useful information on urban patterns.

GEOG 193B.  Field Geography: Suburban-Rural.  3 Units  
Prerequisite(s): Instructor permission.  
Examines competition for land use in suburban Sacramento as urban sprawl overruns less intensive uses. Small towns in the lower Sacramento Valley also examined. Group field trips, interviews, field mapping and discussions. Field trip(s) may be required.  
Term Typically Offered: Fall, Spring

GEOG 193C.  Field Geography: Physical.  3 Units  
Prerequisite(s): Instructor permission.  
Term Typically Offered: Fall only  
Survey of selected areas with systematic examination of elements of the natural landscape. Group field trips and individual preparation of reports and consultation with instructor. Field trip(s) may be required.

GEOG 194.  Geography - Related Work Experience.  6 - 12 Units  
Prerequisite(s): Consent of supervising faculty and Department Chair.  
Term Typically Offered: Fall, Spring  
Supervised employment in a company or agency doing geography-related work, arranged through the Department of Geography and the Cooperative Education Program office. Requires preparation of application packet, completion of a 3-6 month full- or part-time work assignment, and a written report. Units not applicable to the Geography major.  
Credit/No Credit

GEOG 195A.  Geography Internship A.  1 - 3 Units  
Term Typically Offered: Fall, Spring  
Supervised work experience at the beginning level in an approved professional environment, working with professionals in public or private organizations. Supervision supplied by a geography faculty member and on-site supervisor. Placements require 4-12 hours per week, depending on units.  
Note: Open to all Geography majors and minors with permission of supervising faculty member and Department Chair. GEOG 195A, GEOG 195B, and GEOG 195C may be taken for up to 6 total units.  
Credit/No Credit

GEOG 195B.  Geography Internship B.  1 - 3 Units  
Term Typically Offered: Fall, Spring  
Supervised work experience at an intermediate level in an approved professional environment, working with professionals in public or private organizations. Supervision supplied by a geography faculty member and on-site supervisor. Placements require 4-12 hours per week, depending on units.  
Note: Open to all Geography majors and minors with permission of supervising faculty member and Department Chair. GEOG 195A, GEOG 195B, and GEOG 195C may be taken for up to 6 total units.  
Credit/No Credit

GEOG 195C.  Geography Internship C.  1 - 3 Units  
Term Typically Offered: Fall, Spring  
Supervised work experience at an advanced level in an approved professional environment, working with professionals in public or private organizations. Supervision supplied by a geography faculty member and on-site supervisor. Placements require 4-12 hours per week, depending on units.  
Note: Open to all Geography majors and minors with permission of supervising faculty member and Department Chair. GEOG 195A, GEOG 195B, and GEOG 195C may be taken for up to 6 total units.  
Credit/No Credit
GEOG 196D. GIS Data Acquisition and Management. 3 Units
Prerequisite(s): GEOG 109
Term Typically Offered: Fall, Spring

This course focuses on acquisition and management of geospatial datasets and addresses the interpretation of a variety of data formats available in global information systems (GIS). It explores concepts of geospatial data management strategies, primary GIS data creation, secondary data acquisitions, and leveraging leading-edge geospatial data deployments.

GEOG 196G. Programming for GIS II. 3 Units
Prerequisite(s): GEOG 150 or instructor approval.
Term Typically Offered: Spring only

This is an advanced course in programming and scripting for intermediate to advanced GIS users, using an object-oriented programming approach. You will develop well documented and structured geoprocessing programs for data management, processing, and automation in the Python programming language, leveraging libraries such as ArcPy and GDAL.

GEOG 196U. Geography of Housing in the United States. 3 Units
Term Typically Offered: Fall only

Geographic perspectives on housing in the US. History, policy, alternative housing movements, and spatial theories of urban change as they relate to housing are addressed. Emphasis on examining the role of place and space in the development of housing strategies through reading, discussion, and activities.

GEOG 198. Co-Curricular Activities. 1 - 6 Units
Prerequisite(s): Consent of faculty Sponsor and department chair.
Term Typically Offered: Fall, Spring

Co-curricular activities related to subject matter and concerns of the Geography Department, e.g. students may qualify for credit by providing special tutorial assistance to EOP students or others in introductory courses.
Note: May be repeated for up to 6 units of credit.

Credit/No Credit

GEOG 199. Special Problems. 1 - 3 Units
Prerequisite(s): Approval of the faculty sponsor and Department Chair.
Term Typically Offered: Fall, Spring, Summer

Individual projects or directed reading.
Note: Open only to students competent to carry on individual work.

Credit/No Credit

GEOG 199A. Geography Special Problems A. 1 - 3 Units
Prerequisite(s): Approval of the faculty sponsor and department chair.
Term Typically Offered: Fall, Spring

Individual projects or directed reading at a beginning level. Graded (CR/NC Available) Units: 1.0 - 3.0
Note: Open only to students competent to carry on individual work.

Credit/No Credit

GEOG 199B. Geography Special Problems B. 1 - 3 Units
Prerequisite(s): Approval of the faculty sponsor and department chair.
Term Typically Offered: Fall, Spring

Individual projects or directed reading at an intermediate level, ordinarily taken following completion of GEOG 199A. Graded (CR/NC Available) Units: 1.0 - 3.0
Note: Open only to students competent to carry on individual work.

Credit/No Credit

GEOG 199C. Geography Special Problems C. 1 - 3 Units
Prerequisite(s): Approval of the faculty sponsor and department chair.
Term Typically Offered: Fall, Spring

Individual projects or directed reading at an advanced level. Ordinarily taken following completion of GEOG 199A and GEOG 199B. Graded (CR/NC Available) Units: 1.0 - 3.0
Note: Open only to students competent to carry on individual work.

Credit/No Credit

GEOG 299. Special Problems. 1 - 3 Units
Prerequisite(s): Approval of the faculty sponsor and Department Chair.
Term Typically Offered: Fall, Spring

Individual projects or directed reading.
Note: Open only to students competent to carry on individual work.

Credit/No Credit