

# GEOGRAPHY

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## DEPARTMENT OFFICE

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## DEPARTMENT CHAIR

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## Faculty

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## Programs Offered

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Bachelor of Arts in Geography

Environment and Society Concentration

Geospatial Techniques Concentration

Biophysical Environment Concentration

Globalization and Identity Concentration

Minor in Geography

Teaching Credential Preparation

Geography is the academic discipline that bridges the natural and social sciences. Geographers study and analyze the relationships between human activities and the natural and built environment. They take a multidisciplinary approach to solving real-world problems at all spatial scales, from local to global. Thus, Geography provides students with the conceptual frameworks needed to understand the complex processes shaping the world around us. It also provides students with the skills needed to help create a more sustainable and just future.

Geography at Sonoma State University has developed four concentrations, reflecting four major fields of study within the broader discipline. These study plans provide an opportunity for students to strengthen their backgrounds and to develop an expertise in these particular areas.

The Environment and Society Concentration focuses on human-environment relations, sustainable development, and natural resource management.

The Globalization and Identity Concentration focuses on global economic and political change, how this affects people's access to wealth and power, and how it shapes their sense of self in an ever-changing world.

The Biophysical Environment Concentration focuses on natural environment systems from global to local scales, including weather and climate change, landform history, and biological patterns and processes.

The Geospatial Techniques Concentration focuses on geographic

information science and its application in resource management, land-use planning, and land-change science.

All Geography Majors, no matter their concentration, take a range of core courses that ensure that they have a strong background in both the natural and social sciences. They also take geospatial techniques and field methods courses that develop their research and problem-solving skills. In addition, the curriculum strengthens students' writing, critical thinking, and oral presentation skills; areas that are important for any successful career. The department's strong intern program affords students on-the-job experience.

Geography majors may apply for the Terrence M. Smith Geography Scholarship, the Geography Alumni Scholarship, or the Claude Minard Memorial Scholarship. Students pursuing studies in climatology or meteorology are eligible to compete for the annual Call Memorial Scholarships.

## Careers in Geography

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Sonoma State University graduates in geography find employment opportunities in both the public and private sectors. Private sector employers include consulting companies in fields such as agriculture, viticulture, environmental management, land use mapping, land change analysis, and marketing. Non-profits that regularly hire geographers range from international organizations, such as the Nature Conservancy or the International Crisis Group, to small local organizations such as the Sonoma Ecology Center. Government employers include the Environmental Protection Agency, U.S. Forest Service, State Department, Department of Homeland Security, CalTrans, California Division of Forestry, as well as various city and county departments in areas such as parks and recreation, open space, water, urban planning, and others.

Geographers work for these organizations in various capacities, including as geographic information technicians and analysts, remote sensing analysts, planners, location analysts, park rangers, resource managers, and consultants.

Many SSU geographers decide to go into teaching, from the elementary level to higher education. Please visit the department website for more information and career ideas.

SSU graduates in geography often decide to continue on to graduate school, entering various programs across the country. Fields of study include geography, international development, rural development, urban planning, transportation planning, journalism, law, and a host of others.

## Geography Department Resources

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### Geospatial Technology Instructional Laboratory

The Geography Department has a well-equipped computer laboratory that supports advanced instruction in geographic information

systems (GIS), satellite image processing, and digital cartography. The GIS Lab includes 15 workstations supported by a file server, as well as ArcGIS Arc/Info, ERDAS Imagine, IDRISI, Adobe Illustrator, geobrowsers, digitizing tablets, and a color plotter and printer.

### The Center for Interdisciplinary Geospatial Analysis (CIGA)

The Center for Interdisciplinary Geospatial Analysis promotes the application of geospatial technology to social and environmental problems through research, education, and community service. The lab seeks interdisciplinary collaboration among campus and external researchers, students, and other organizations in projects that involve geographic information and spatial analysis at local to global scales. The CIGA provides computer, software and data resources, Geographic Information System (GIS) and remote sensing expertise, consulting services, educational courses, and community outreach. Students are given a unique opportunity to broaden and refine their education by working on real-world problems in CIGA research projects and service contracts.

### Map Library

The Map Library houses an extensive collection of digital and paper maps, wall maps, aerial photographs, remotely sensed imagery, and one of the most complete historical weather libraries in California.

### Biophysical Geography Laboratory

The department's biophysical laboratory is equipped with various types of equipment and technology to support both instruction and research. It maintains a collection of high-precision GPS mobile receivers. It houses a complete weather station that provides students with current weather data to complement historical resources. The lab also possesses a fully equipped soils and geomorphology lab for research and analysis.

## Bachelor of Arts in Geography

Degree Requirements	Units
General education	51
Geography Courses	42
Supporting Courses	8
General Electives	10
<b>Total units needed for graduation</b>	<b>120</b>

**Note:** Courses required for the major must be taken for a traditional letter grade, except for courses that are offered CR/NC only. Students must earn a C- or better in any course applied to the major.

### Core Requirements for the Major (16 units)

Lower Division Core	Units
GEOG 203: Cultural Geography	3
GEOG 204: Global Environmental Systems	4
GEOG 205: Map Reading and Interpretation	1

<b>Regional Synthesis</b>	<b>4</b>
GEOG 392: Latin America and the Caribbean	4
GEOG 394: Africa, South of the Sahara	4
GEOG 396: Special Topics in Area Studies	4

<b>Geographic Research and Synthesis</b>	<b>4</b>
GEOG 490: Senior Seminar	4

### Environment and Society Concentration

This concentration is designed for students interested in human-environment relations, sustainable development, and natural resource management

#### Breadth Courses (10 Units)

<b>Geospatial Techniques</b>	<b>4</b>
GEOG 380: Remote Sensing and Image Processing	4
GEOG 385: Cartographic Visualization	3-4
GEOG 387: Introduction to GIS	4

#### Upper Division Physical

GEOG 360: Geomorphology	4
GEOG 370: Weather and Climate	4

#### Field Course and Internship

GEOG 314AB: Field Experience, Northern California	1-2
GEOG 314C: Field Experience Beyond Northern California	1-2
GEOG 314D: Field Experience Abroad	2-3
GEOG 315: Field Methods in Geography	2
GEOG 499: Internship	2-5

#### Concentration Courses (16 Units)

GEOG 322: Liberation Ecologies: Globalization, Environment, and Social Movements	4
GEOG 335: Global Food Systems: Scarcity and Sustainability	4
GEOG 340: Conservation of Natural Resources	4
GEOG 345: Tourism Geographies	4
GEOG 365: Biogeography and Landscape Ecology	4
GEOG 372: Global Climate Change: Past, Present, Future	4
GEOG 375: Natural Hazards	4

#### Supporting Courses (8 Units)

Suggested courses, with substitutions possible in consultation with an advisor.

ANTH 345: Anthropology and the Environment	4
ECON 381: Natural Resources and Environmental Economics	4
ENSP 307: Environmental History	4
ENSP 310: Introduction to Planning	3
ENSP 330: Energy, Technology, and Society	4

### Globalization and Identity Concentration

This concentration is designed for students interested in focusing on global economic and political change, how this affects people's access to wealth and power, and how it shapes their sense of self in an ever-changing world.

### **Breadth Courses (10 Units)**

#### **Geospatial Techniques**

GEOG 380: Remote Sensing and Image Processing	4
GEOG 385: Cartographic Visualization	3-4
GEOG 387: Introduction to GIS	4

#### **Upper-Division Physical**

GEOG 360: Geomorphology	4
GEOG 365: Biogeography and Landscape Ecology	4
GEOG 370: Weather and Climate	4
GEOG 372: Global Climate Change: Past, Present, Future	4
GEOG 375: Natural Hazards	4

#### **Field Course and Internship**

GEOG 314AB: Field Experience, Northern California	1-2
GEOG 314C: Field Experience Beyond Northern California	1-2
GEOG 314D: Field Experience Abroad	2-3
GEOG 315: Field Methods in Geography 2	
GEOG 499: Internship	2-5

#### **Concentration Courses (15-16 Units)**

GEOG 302: World Regions in Global Context	4
GEOG 320: Geopolitics	4
GEOG 322: Liberation Ecologies: Globalization, Environment, and Social Movements	4
GEOG 335: Global Food Systems: Scarcity and Sustainability	4
GEOG 338: Social Geography	3
GEOG 345: Tourism Geographies	4
GEOG 350: Urban Geography	4

#### **Supporting Courses (8 Units)**

Suggested courses, with substitutions possible in consultation with an advisor

ANTH 352: Global Issues	4
ECON 303: International Economics	4
ECON 403: Seminar in Economic Development	4
POLS 303: Intro to Comparative Government and Global Systems	4
POLS 304: Introduction to International Relations	4
POLS 452: Third World Political Systems	4
WGS 385: Gender and Globalization	

### **Biophysical Environment Concentration**

This concentration is designed for students interested in focusing on the natural environment, including weather and climate change, landform processes, and biophysical patterns and processes.

#### **Breadth Courses (12 Units)**

#### **Geospatial Techniques**

GEOG 380: Remote Sensing and Image Processing	4
GEOG 385: Cartographic Visualization	3-4
GEOG 387: Introduction to GIS	4

#### **Upper-Division Human**

GEOG 320: Geopolitics	4
GEOG 322: Geographic Perspectives on International Development	4
GEOG 335: Global Agricultural Systems and Issues	4
GEOG 340: Conservation of Natural Resources	4
GEOG 350: Urban Geography	4

#### **Field Course and Internship**

GEOG 314AB: Field Experience, Northern California	1-2
GEOG 314C: Field Experience Beyond Northern California	1-2
GEOG 314D: Field Experience Abroad	2-3
GEOG 499: Internship	2-5

#### **Concentration Courses (14 Units)**

GEOG 315: Field Methods in Geography	2
GEOG 360: Geomorphology	4
GEOG 365: Biogeography and Landscape Ecology	4
GEOG 370: Weather and Climate	4
GEOG 372: Global Climate Change	4
GEOG 375: Natural Hazards	4

#### **Supporting Courses (8 Units)**

Suggested courses, with substitutions possible in consultation with an advisor

ENSP 309: Soil Science	3-4
ENSP 322: Conservation Biology	4
ENSP 427: Conservation Design	3
BIOL 300: Ecology	4
BIOL 330: Plant Taxonomy	4
BIOL 485: Biometry	4
GEOL 303: Advanced Principals of Geology	3
GEOL 304: Geological Mapping and Report Writing	1
GEOL 323: Hydrology	3
MATH 165: Elementary Statistics	4

### **Geospatial Techniques Concentration**

This concentration is designed for students interested in geographic information science and its application in resource management, land-use planning, and land-change science.

#### **Breadth Courses (9-10 Units)**

#### **Upper-Division Human**

GEOG 320: Geopolitics	4
GEOG 322: Geographic Perspectives on International Development	4
GEOG 335: Global Agricultural Systems and Issues	4
GEOG 340: Conservation of Natural Resources	4
GEOG 350: Urban Geography	4

#### **Upper-Division Physical**

GEOG 360: Geomorphology	4
GEOG 365: Biogeography and Landscape Ecology	4
GEOG 370: Weather and Climate	4
GEOG 372: Global Climate Change: Past, Present, Future	4
GEOG 375: Natural Hazards	4

<b>Field Course and Internship</b>	<b>1-2</b>
GEOG 314AB: Field Experience, Northern California	1-2
GEOG 314C: Field Experience Beyond Northern California	1-2
GEOG 314D: Field Experience Abroad	2-3
GEOG 499: Internship	2-5

**Concentration Courses (16-17 Units)**

GEOG 315: Field Methods in Geography	2
GEOG 380: Remote Sensing and Image Processing	4
GEOG 385: Cartographic Visualization	3-4
GEOG 387: Introduction to GIS	4
GEOG 487: Advanced GIS	3

**Supporting Courses (8 Units)**

Suggested courses, with substitutions possible in consultation with an advisor

Math 165: Elementary Statistics	4
CS 101: Introduction to Computers and Computing	3
CS 115: Programming I	4

**Geography Major Without Concentration**

This option is intended for students who wish to design their own major. It allows students to take a broader range of courses.

**Breadth Courses (11-12 Units)**

<b>Geospatial Techniques</b>	<b>4</b>
GEOG 380: Remote Sensing and Image Processing	4
GEOG 385: Cartographic Visualization	3-4
GEOG 387: Introduction to GIS	4

**Upper-Division Human**

GEOG 320: Geopolitics	4
GEOG 322: Geographic Perspectives on International Development	4
GEOG 335: Global Food Systems	4
GEOG 340: Conservation of Natural Resources	4
GEOG 350: Urban Geography	4

**Upper-Division Physical**

GEOG 360: Geomorphology	4
GEOG 365: Biogeography and Landscape Ecology	4
GEOG 370: Weather and Climate	4
GEOG 372: Global Climate Change: Past, Present, Future	4
GEOG 375: Natural Hazards	4

**Elective courses in Geography (14-15 Units)**

**Supporting courses outside Geography (8 Units)**

**Sample Four-year Program for Bachelor of Arts in Geography**

This suggested plan urges students to take one of the lower-division introductory geography courses in the spring of their freshman year. This plan does not identify a concentration, elective courses within the major, or supporting courses, both of which should be chosen after consultation with the Geography advisor(s). The sequence of courses is a suggestion only, so please see your

Geography advisor each semester for assistance.

**FRESHMAN YEAR:: 30 Units**

<b>Fall Semester (15 Units)</b>	<b>Spring Semester (15 Units)</b>
GE MATH (B4) (3)	GE PHIL 101 (A3) (3)
GE ENG 101 (A2) (3)	GE UNIV 200 (A1) (3)
GE (3)	GE GEOG 203 (D2) (3)
GE (3), University Elective (3)	GE (3), University Elective (3)

**SOPHOMORE YEAR:: 29 Units**

<b>Fall Semester (15 Units)</b>	<b>Spring Semester (14 Units)</b>
GE (3)	GEOG 204 (B3) (4)
GE (3), GE (3)	GE (3), GE (3)
GE (3)	GE (3)
University Elective (3)	GEOG 205 (1)

**JUNIOR YEAR:: 30 Units**

<b>Fall Semester (15 Units)</b>	<b>Spring Semester (15 Units)</b>
Upper-Division GE (3)	Upper-Division GE (3)
GEOG (Upper-Div Regional) (4)	GEOG (Upper-Div. Human) (4)
GEOG (Upper-Div. Techniques) (4)	GEOG (Upper-Div. Physical) (4)
Upper-Div. Supporting (4)	University Elective (4)

**SENIOR YEAR:: 31 Units**

<b>Fall Semester (16 Units)</b>	<b>Spring Semester (15 Units)</b>
Geography Elective (4)	GEOG 490 (4)
Geography Elective (3-4)	Upper-Division Supporting (4)
Geography Elective (2)	Course or Internship (4)
Upper-Division GE (3)	Geography Elective (4)
University Elective (3-4)	University Elective (3)

**TOTAL UNITS:: 120**

**Minor in Geography**

GEOG 203 Cultural Geography	3
GEOG 204 Global Environmental Systems	4
Upper-division courses chosen in consultation with advisor	13
<b>Total units in the minor</b>	<b>20</b>

**Teaching Credential Preparation**

The Geography Department participates in a teacher preparation program that certifies the subject matter competence in social sciences required for entry into a teaching credential program and exempts the student from taking the Praxis II Subject Assessment Examination in the social sciences. Geography majors interested in seeking a general elementary credential may demonstrate subject matter competence by passing the Praxis II Multiple Subject Assessment for Teachers. For further information, contact Miriam Hutchins, School of Social Sciences, (707) 664-2409.