GEOGRAPHY

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Programs Offered

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

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

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, and remotely sensed imagery.

**Bachelor of Arts in Geography**

(See page 143 for a sample four-year program.)

<table>
<thead>
<tr>
<th>Degree Requirements</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education</td>
<td>50</td>
</tr>
<tr>
<td>Geography Courses</td>
<td>42</td>
</tr>
<tr>
<td>Supporting Courses</td>
<td>8</td>
</tr>
<tr>
<td>General Electives</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total units needed for graduation</strong></td>
<td><strong>120</strong></td>
</tr>
</tbody>
</table>

**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**

GEOG 203 Cultural Geography or GEOG 202: World Regional Geography 3
GEOG 201 Global Environmental Systems 4

**Regional Synthesis**

GEOG 392 Latin America and the Caribbean 4
GEOG 394 Africa, South of the Sahara 4
GEOG 396 Special Topics in Area Studies 4

**Geographic Research and Synthesis**

GEOG 316 Geography Inquiry 1
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

<table>
<thead>
<tr>
<th>Breadth Courses (6-7 Units)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Geospatial Techniques</td>
<td>3-4</td>
</tr>
<tr>
<td>GEOG 380 Environmental Remote Sensing</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 385 Cartographic Visualization</td>
<td>3-4</td>
</tr>
<tr>
<td>GEOG 387 Introduction to GIS</td>
<td>4</td>
</tr>
</tbody>
</table>

**Practical Experiences**

GEOG 312 Geographic Conferences 1-2
GEOG 313 Field Experience Abroad 2-3
GEOG 314 Field Experience 1-2
GEOG 315 Field Methods in Geography 2
GEOG 317 Lab Methods in Physical Geography 2-3
GEOG 460 Lab Assistant in Geography 2-3
GEOG 499 Internship 2-5

**Concentration Courses (19-20 Units)**

*Take at least 6 units from each group*

**Group 1**

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 352 Climate Change and Society 4

**Group 2**

GEOG 360 Geomorphology 4
GEOG 365 Biogeography 4
GEOG 372 Global Climate Change: Past, Present, Future 4
GEOG 375 Natural Hazards 3-4
GEOG 483 Environmental GIS 3-4

**Supporting Courses (8 Units)**

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

ANTH 345 Anthropology and the Environment 4
ANTH 354 Quest for the Other: Tourism and Culture 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
ENSP 404 Environmental Law 3
ENSP 416 Environmental Planning 3

**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.

<table>
<thead>
<tr>
<th>Breadth Courses (10-11 Units)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Geospatial Techniques</td>
<td>3-4</td>
</tr>
<tr>
<td>GEOG 380 Environmental Remote Sensing</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 385 Cartographic Visualization</td>
<td>3-4</td>
</tr>
<tr>
<td>GEOG 387 Introduction to GIS</td>
<td>4</td>
</tr>
</tbody>
</table>

**The Biophysical Environment**

GEOG 360 Geomorphology 4
GEOG 365 Biogeography 4
GEOG 370 Weather and Climate 4
GEOG 372 Global Climate Change: Past, Present, Future 4
GEOG 375 Natural Hazards 3-4
Practical Experiences
GEOG 312 Geographical Conferences
GEOG 313 Field Experience Abroad
GEOG 314 Field Experience
GEOG 315 Field Methods in Geography
GEOG 317 Lab Methods in Physical Geography
GEOG 460 Lab Assistant in Geography
GEOG 499 Internship

Concentration Courses (15-16 Units)
GEOG 302 World Regions in Global Context
GEOG 320 Geopolitics
GEOG 322 Liberation Ecologies: Globalization, Environment, and Social Movements
GEOG 335 Global Food Systems: Scarcity and Sustainability
GEOG 338 Social Geography
GEOG 350 Globalization and the City

Supporting Courses (8 Units)
Suggested courses, with substitutions possible in consultation with an advisor.
ANTH 352 Global Issues
ANTH 354 Quest for the Other: Tourism and Culture
ECON 303 International Economics
ECON 403 Seminar in Economic Development
POLS 303 Introduction to Comparative Government and Global Systems
POLS 304 Introduction to International Relations
POLS 452 Third World Political Systems
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 Environmental Remote Sensing
GEOG 385 Cartographic Visualization
GEOG 387 Introduction to GIS
Human Geography
GEOG 320 Geopolitics
GEOG 322 Liberation Ecologies: Globalization, Environment, and Social Movements
GEOG 335 Global Food Systems: Scarcity and Sustainability
GEOG 340 Conservation of Natural Resources
GEOG 350 Globalization and the City
GEOG 352 Climate Change and Society

Practical Experiences
GEOG 312 Geographical Conferences
GEOG 313 Field Experience Abroad
GEOG 314 Field Experience
GEOG 315 Field Methods in Geography
GEOG 317 Lab Methods in Physical Geography
GEOG 460 Lab Assistant in Geography
GEOG 499 Internship

Concentration Courses (14 Units)
GEOG 315 Field Methods in Geography
GEOG 317 Lab Methods in Physical Geography
GEOG 360 Geomorphology
GEOG 365 Biogeography
GEOG 366 Geomorphology
GEOG 370 Weather and Climate
GEOG 372 Global Climate Change: Past, Present, Future
GEOG 375 Natural Hazards

Supporting Courses (8 Units)
Suggested courses, with substitutions possible in consultation with an advisor.
ENSP 302 Applied Ecology
ENSP 309 Soil Science
ENSP 322 Conservation Biology
BIOL 330 Plant Taxonomy
BIOL 333 Ecology
BIOL 465 Biometry
GEOL 303 Advanced Principals of Geology
GEOL 304 Geological Mapping and Report Writing
GEOL 323 Hydrology
MATH 165 Elementary Statistics

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)
Human Geography
GEOG 320 Geopolitics
GEOG 322 Liberation Ecologies: Globalization, Environment, and Social Movements
GEOG 335 Global Food Systems: Scarcity and Sustainability
GEOG 340 Conservation of Natural Resources
GEOG 350 Globalization and the City
GEOG 352 Climate Change and Society

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

Fall Semester (16 Units)
- GE MATH (B4) (3)
- GE ENG 101 (A2) (4)
- GE GEOG 203 (D2) (3)
- University Elective (3)

Spring Semester (14 Units)
- GE PHIL 101 (A3) (4)
- GE GEOG 203 (D2) (3)
- GE (3), University Elective (3)
- University Elective (3)

SOPHOMORE YEAR: 29 Units

Fall Semester (15 Units)
- GE (3)
- GEOG 204 (B3) (4)
- GE (3), GE (3)
- University Elective (3)

Spring Semester (14 Units)
- GE (3)
- GEOG 204 (B3) (4)
- GE (3), GE (3)
- University Elective (3)

JUNIOR YEAR: 30 Units

Fall Semester (15 Units)
- Upper-Division GE (3)
- Upper-Division GE (3)
- GEOG (Upper-Div Regional) (4)
- GEOG (Upper-Div Human) (4)

Spring Semester (15 Units)
- Upper-Division (4)
- University Elective (4)
- Upper-Div. Supporting (4)
- University Elective (4)

SENIOR YEAR: 31 Units

Fall Semester (16 Units)
- Geography Elective (4)
- Geography Elective (3-4)
- Geography Elective (2)
- Upper-Division GE (3)
- University Elective (3-4)

Spring Semester (15 Units)
- Geography Elective (4)
- Geography Elective (3-4)
- Upper-Division Supporting (4)
- Course or Internship (4)
- University Elective (4)
- University Elective (3)

TOTAL UNITS: 120