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 in broad range of applications, including 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 and laboratory 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 (GTIL)

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

systems (GIS), satellite image processing, digital cartography, and laboratory and field methods' data analysis. The GTIL includes 17 workstations, ArcGIS Desktop, ERDAS Imagine, IDRISI, Adobe Illustrator, and geobrowsers.

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.

Sonoma Quaternary Laboratory (SQUAL)

The Sonoma Quaternary Laboratory specializes in reconstructing ecological, climate and landscape change caused by environmental and climate forces as well as human impacts over the past several thousand years. These paleoenvironmental reconstructions provide an important context for evaluating current and future environmental and climate change. The SQUAL houses state-of-the-art equipment for micro- and macro-botanical analysis as well as other sedimentary analyses. Students working in SQUAL have the opportunity to gain unique field and laboratory research skills.

Map Library

The Map Library houses an extensive collection of digital and paper maps, and aerial photographs.

Bachelor of Arts in Geography

(See page 147 for a sample four-year program.)

Degree Requirements	Units
General education	50
Geography Courses	42
Supporting Courses	8
General Electives	11
Total units needed for graduation	**120**

***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	*7*
GEOG 201 Global Environmental Systems	4
GEOG 203 Human Geography **or** GEOG 202: World Regional Geography	3
Regional Synthesis	*4*
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	*5*
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.

Breadth Courses (6-7 Units)

Geospatial Techniques	*3-4*
GEOG 380 Environmental Remote Sensing	4
GEOG 385 Cartographic Visualization	3-4
GEOG 387 Introduction to GIS	4
Practical Experiences	*2-4*
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.

Breadth Courses (10-11 Units)

Geospatial Techniques	*3-4*
GEOG 380 Environmental Remote Sensing	4
GEOG 385 Cartographic Visualization	3-4

GEOG 387 Introduction to GIS 4

The Biophysical Environment *3-4*

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 *2-5*

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 (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 350 Globalization and the city 4

Supporting Courses (8 Units)

Suggested courses, with substitutions possible in consultation with an advisor

ANTH 352 Global Issues 4
ANTH 354 Quest for the Other: Tourism and Culture 4
ECON 303 International Economics 4
ECON 403 Seminar in Economic Development 4
POLS 303 Introduction 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 4

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 *3-4*

GEOG 380 Environmental Remote Sensing 4
GEOG 385 Cartographic Visualization 3-4
GEOG 387 Introduction to GIS 4

Human Geography *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 340 Conservation of Natural Resources 4
GEOG 350 Globalization and the City 4
GEOG 352 Climate Change and Society 4

Practical Experiences *4-5*

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 (14 Units)

GEOG 315 Field Methods in Geography 2
GEOG 317 Lab Methods in Physical Geography 2-3
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

Supporting Courses (8 Units)

Suggested courses, with substitutions possible in consultation with an advisor

ENSP 302 Applied Ecology 4
ENSP 309 Soil Science 3-4
ENSP 322 Conservation Biology 3-4
BIOL 330 Plant Taxonomy 4
BIOL 333 Ecology 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)

Human Geography *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 340 Conservation of Natural Resources 4
GEOG 350 Globalization and the City 4
GEOG 352 Climate Change and Society 4

The Biophysical Environment *4*

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 *1-3*

GEOG 312 Geographic Conferences 1-2
GEOG 313 Field Experience Abroad 2-3
GEOG 314 Field Experience 1-2
GEOG 499 Internship 2-5

Concentration Courses (16-17 Units)

GEOG 315 Field Methods in Geography	2
GEOG 380 Environmental Remote Sensing	4
GEOG 385 Cartographic Visualization	3-4
GEOG 387 Introduction to GIS	4
GEOG 483 Environmental GIS	3-4
GEOG 487 Advanced GIS	3

Supporting Courses (7-8 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 (10-12 Units)

Geospatial Techniques	*3-4*
GEOG 380 Environmental Remote Sensing	4
GEOG 385 Cartographic Visualization	3-4
GEOG 387 Introduction to GIS	4
Human Geography	*4*
GEOG 320 Geopolitics	4
GEOG 322 Liberation Ecologies: Globalization, Env. and Social Movements	4
GEOG 335 Global Food Systems: Scarcity and Sustainability	4
GEOG 340 Conservation of Natural Resources	4
GEOG 350 Globalization and the City	4
GEOG 352 Climate Change and Society	4
Upper-Division Physical	*3-4*
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

Elective courses in Geography (14-16 Units)

Supporting courses outside Geography (8 Units)

Minor in Geography

GEOG 203 Cultural Geography **or** GEOG 202: World Regional Geography	3
GEOG 201 Global Environmental Systems	4
Upper-division courses chosen in consultation with advisor	13
Total units in the minor	20

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.

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)	*Spring Semester (14 Units)*
GE MATH (B4) (3)	GE PHIL 101 (A3) (4)
GE ENG 101 (A2) (4)	GE GEOG 203 (D2) (3)
GE (3)	GE (4)
GE (3), University Elective (3)	University Elective (3)

SOPHOMORE YEAR: 29 Units

Fall Semester (15 Units)	*Spring Semester (14 Units)*
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

Fall Semester (15 Units)	*Spring Semester (15 Units)*
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

Fall Semester (16 Units)	*Spring Semester (15 Units)*
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