

Geography

Science, Mathematics & Engineering

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DEGREES

A.S. — Geography
A.S. — Environmental Studies and Sustainability

CERTIFICATE OF ACHIEVEMENT

Professional Applications of Geographic Information Systems (GIS)

Program Description

Geography is the science of place and space. Geographers study the relationships among geographic places, natural systems, society, cultural activities, and the interdependence of all these over space.

There are two main branches of geography: human geography and physical geography. Human geography is concerned with the spatial aspects of human existence - how people and their activities are distributed over space, how people use and perceive space, and how people interact with the physical environment. Physical geographers study the physical elements and spatial processes that make up and shape the environment, including energy, air, water, weather, climate, landforms, soils, animals, plants, etc. Many aspects of geography are studied and analyzed using a variety of spatial technologies such as Geographic Information Systems (GIS), Global Positioning Systems (GPS) and remotely-sensed imagery. These tools are becoming more and more commonplace throughout society.

Geographers also study the linkages between human activity and natural systems. Geographers were, in fact, among the first scientists to sound the alarm that human-induced changes to the environment were beginning to threaten the balance of life itself. Geographers today are active in the study of diverse topics, such as global warming, desertification, deforestation, loss of biodiversity, groundwater pollution, flooding, origin and diffusion of disease, urban and regional planning, global trade, social problems (e.g. poverty, ethnic conflict), and many more.

The CRC Geography program offers courses that satisfy lower division General Education requirements in both the physical and social sciences. In addition, the program offers two associate's degrees: an A.S. degree in Geography and an A.S. degree in Environmental Studies and Sustainability. Both degrees provide students with a solid foundation in these disciplines and prepare students to complete upper-division coursework leading to the baccalaureate degree. Students may also earn a certificate in Geographic Information Systems (GIS). Students planning to transfer to a four-year school with a major in Geography or Environmental Studies should consult the lower division requirements at the university they plan to attend.

Career Opportunities

Natural Resource Management	Environmental Conservation
International Development	Urban and Regional Planning
Tourism	Education (K-12 through University)
Cartographer	Climatologist
Park Ranger	Transportation Specialist
Real Estate Analyst	International Business
Marketing Analyst	Land Surveyor
Research Scientist	Remote Sensing Specialist
Demographer	GIS Analyst

and many more (please contact the program for additional information).

Some Career Opportunities may require more than two years of college study.

Highlights

- Comprehensive course offerings as well as specialized training in Geographic Information Systems (GIS)
- Program's students have won top awards at state, regional and national levels since 1999
- Field study courses to Yosemite, Pt. Reyes, Monterey/Big Sur, Tahoe, and the Eastern Sierra
- Internships available with regional governmental agencies
- Three courses fulfill the CRC and CSU multicultural requirement
- Day, evening, and online sections

NOTE TO TRANSFER STUDENTS:

If you are interested in transferring to a four-year college or university to pursue a bachelor's degree in this major, it is critical that you meet with a CRC counselor to select and plan the courses for your major. Schools vary widely in terms of the required preparation. The courses that CRC requires for an associate's degree in this major may be different from the requirements needed for the bachelor's degree.

For information about the student learning outcomes for this program, see <http://www.crc.losrios.edu/pslo>

Field Study Classes at Cosumnes River College

Nature is often the best classroom! Come learn outside in Cosumnes River College's field study courses. These classes consist of short classroom sessions followed by extended trips to some of the most unique and beautiful environments in California, including Big Sur, Monterey Bay, Mt. Lassen, Point Reyes, Yosemite and more! These short-term classes are offered by several departments, including Biology, Geography, Geology, Photography, and Physical Education. For more information about specific classes, consult the class schedule or contact each department.



DEGREE
A.S. - Geography
 CODE #1536

REQUIRED PROGRAM.....Units

Fall or Spring semester:
 GEOG 300 Physical Geography:
 Exploring Earth's Environmental Systems3¹

Fall or Spring semester (best if concurrent with Geog 300):
 GEOG 301 Physical Geography Laboratory 1

Fall or Spring semester:
 GEOG 310 Human Geography:
 Exploring Earth's Cultural Landscapes3

Fall semester:
 GEOG 331 Exploring Maps and Geographic Technologies3

Check with departments for scheduled offering:
 PSYC 330 Introductory Statistics for the Behavioral Sciences (3)
 or STAT 300 Introduction to Probability and Statistics (4)..... 3-4

Check with departments for scheduled offering:
A minimum of 6 units from the following:6²

- ANTH 310 Cultural Anthropology (3)
 - BIOL 310 General Biology (4)
 - or BIOL 350 Environmental Biology (3)
 - or BIOL 307 Biology of Organisms (4)
 - ECON 304 Principles of Microeconomics (3)
 - or ECON 302 Principles of Macroeconomics (3)
 - GEOG 305 Global Climate Change (3)
 - GEOG 306 Weather and Climate (3)
 - GEOG 320 World Regional Geography (3)
 - GEOG 322 Geography of California (3)
 - GEOG 335 Introduction to Geographic Information Systems Applications (3)
 - GEOG 353 Introduction to the Global Positioning System (GPS) (0.5)
 - GEOG 390 Field Studies in Geography (0.5 - 4)
 - GEOG 481 Honors Seminars: Nature & Culture (3)
 - GEOG 482 Honors Seminar in Geography (1)
 - GEOL 300 Physical Geology (3)
 - GEOL 301 Physical Geology Laboratory (1)
 - GEOL 330 Introduction to Oceanography (3)
 - HIST 371 History of the Americas from the 19th Century Wars of Independence to the Present (3)
 - or HIST 370 History of the Americas through the 19th Century Wars of Independence (3)
 - or HIST 360 History of African Civilizations (3)
 - or HIST 308 History of World Civilizations, 1500 to Present (3)
 - or HIST 307 History of World Civilizations to 1500 (3)
 - HUM 320 Asian Humanities (3)
 - or HUM 332 American Humanities (3)
 - or HUM 324 Global Islam: Culture and Civilization (3)
 - PHIL 352 Introduction to World Religions (3)
 - POLS 310 Introduction to International Relations (3)
 - SOC 300 Introductory Sociology (3)
- TOTAL UNITS REQUIRED 19-20**

¹A minimum of 60 units is required for the A.S. degree which includes core courses, electives, and general education (GE) graduation requirements. Geography majors are encouraged to complete additional GE requirements from a list of suggested courses on file in the Geography Department and at the Counseling Center. Students should use PROJECT ASSIST (<http://www.assist.org>) to research lower division major requirements at the transfer institution of their choice and also work with a counselor to determine the most appropriate transfer coursework.

²A maximum of 2 units from GEOG 390 will be counted toward the degree requirement.

G.E. Graduation Requirements for this degree - See pages 20-21.

DEGREE
A.S. - Environmental Studies and Sustainability
 CODE #1635

The Environmental Studies & Sustainability Program is an interdisciplinary, and multidisciplinary, course of study that presents a broad overview of ecological issues from a variety of perspectives in the natural, physical, and social sciences. The coursework examines the interplay between natural and social systems, and the ideological foundations of humankind's attitudes and behaviors with respect to their ever-changing environment. This program is designed to prepare students to research, analyze, and propose solutions to the myriad environmental challenges facing the world today.

The Environmental Studies & Sustainability Associate of Science degree is designed to correlate with the lower division courses required to transfer into an Environmental Studies Program at many four-year institutions as well as a broad education for transfer in related disciplines.

The disciplines of Environmental Studies and Geography are complementary fields, both focused on aspects of human-environment interaction. This complementarity is reflected in the many 4-year institutions that house combined Geography and Environmental Study programs. Students interested in double-majoring in these two closely-related disciplines, and/or simultaneously earning a Certificate in Geographic Information Systems, are encouraged to examine the required coursework and plan their program of study accordingly.

Students should use PROJECT ASSIST (<http://www.assist.org>) to research lower division major requirements at the transfer institution of their choice and should also work with the program adviser and a counselor to determine the appropriate transfer coursework.

Students interested in pursuing an Environmental Science major should consult with science faculty and counselors to tailor the specific coursework necessary to transfer to the 4-year institution of their choice.

Career Opportunities

Natural Resource Management; Forestry; Range Management; Wildlife Biology; Agriculture; Soil and Water Conservation; Land Use Planning; Waste Management; Environmental Education; Environmental Policy And Planning; Environmental Law; Environmental Consulting; Environmental Lobbying; Environmental Planning; Environmental Protection; Environmental Compliance; Environmental Engineering; Air Quality Control; Landscape Architecture; Urban and Regional Planning; Alternative Energy Development; Risk Analysis; Contaminated Lands Reclamation; Research; Consulting

REQUIRED PROGRAM.....Units

Core Courses:

- GEOG 302 Environmental Studies & Sustainability3
- BIOL 350 Environmental Biology (3)
- or BIOL 352 Conservation Biology (3)3
- ECON 306 Environmental Economics.....3

Field/Applied Courses:

A minimum of three (3) units from the following:3

- BIOL 390 Natural History Field Study (0.5 - 4)
- GEOG 390 Field Studies in Geography (0.5 - 4)
- GEOL 390 Field Studies in Geology (0.5 - 4)
- GEOG 331 Exploring Maps and Geographic Technologies (3)
- GEOG 335 Introduction to Geographic Information Systems Applications (3)
- GEOG 353 Introduction to the Global Positioning System (GPS) (0.5)

Natural Science/Ecology Courses:

A minimum of three (3) units from the following:3

- BIOL 300 The Foundations of Biology (3)
- BIOL 307 Biology of Organisms (4)
- BIOL 310 General Biology (4)
- BIOL 366 Introduction to Toxicology:
 The Biology and Chemistry of Poisons (3)
- BIOL 400 Principles of Biology (5)

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A.S. - Environmental Studies and Sustainability continued

Chemistry Courses:

A minimum of four (4) units from the following:4
 CHEM 305 Introduction to Chemistry (5)
 CHEM 321 Environmental Chemistry (3)
 CHEM 322 Environmental Chemistry Laboratory (1)
 CHEM 400 General Chemistry (5)

Earth Science Courses:

A minimum of three (3) units from the following:3
 GEOG 300 Physical Geography: Exploring Earth's Environmental Systems (3)
 GEOG 301 Physical Geography Laboratory (1)
 GEOL 300 Physical Geology (3)
 GEOL 301 Physical Geology Laboratory (1)

Quantitative Courses:

A minimum of three (3) units from the following:3
 STAT 300 Introduction to Probability and Statistics (4)
 PSYC 330 Introductory Statistics for the Behavioral Sciences (3)
 MATH 350 Calculus for the Life and Social Sciences I (3)
 MATH 400 Calculus I (5)

Social Science Courses:

ECON 304 Principles of Microeconomics3
 GEOG 310 Human Geography: Exploring Earth's Cultural Landscapes3
TOTAL UNITS REQUIRED31

Suggested Electives:

ANTH 310, ARCH 302, ARCH 303, ARCH 340, ARCH 341; BIOL 351; ECON 302; GEOG 305, GEOG 306; GEOL 330; HORT 302, HORT 323; POLS 301; PS 302

Associate Degree

The Environmental Studies & Sustainability Associate in Science (A.S.) Degree may be obtained by completion of the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See *CRC graduation requirements*.

CERTIFICATE OF ACHIEVEMENT Professional Applications of Geographic Information Systems (GIS)

CODE #1432

A geography information system (GIS) is a database management system that facilitates the collection and the analysis of geographic data from both the physical and cultural environments. This interdisciplinary certificate program is designed to equip students to use this powerful new technology to display, model and analyze spatial data of all types to assist with problem solving and decision making processes. The certificate will be awarded upon completion of the required course sequence and 6 units from one of the listed concentrations.

REQUIRED PROGRAM.....Units

Fundamentals of Geography

GEOG 310 Human Geography:
 Exploring Earth's Cultural Landscapes (3)
 or GEOG 300 Physical Geography: Exploring Earth's
 Environmental Systems (3)3
 GEOG 353 Introduction to the
 Global Positioning System (GPS)0.5
 GEOG 335.1 Fundamentals of
 Geographic Information Systems1
 GEOG 335.2 Intermediate GIS1
 GEOG 335.3 Projects Using GIS1
 GEOG 331 Exploring Maps and Geographic Technologies3
 GEOG 495 Independent Studies in Geography1-3¹

Spatially related courses

Six (6) units selected from one of the following concentrations: 6

Agriculture/Horticulture/Plant Science

A minimum of 6 units from the following:
 PLTS 310 Soils and Plant Nutrition (3)
 PLTS 300 Introduction to Plant Science (3)
 HORT 326 Landscape Design (3)
 HORT 322 Landscape Graphics (3)
 HORT 300 Introduction to Horticulture (3)
 AGB 310 Agriculture Computer Applications (3)
 AGB 300 Introduction to Agriculture Business (3)

Architecture

A minimum of 6 units from the following:
 ADT 310 Architectural Computer-Aided Drawing I (3)
 ARCH 325 Architectural Digital Design and Communication I (2)
 ARCH 320 Architectural Design and Communication I (3.5)
 ARCH 300 Introduction to Design Professions (2)

Biological Sciences

A minimum of 6 units from the following:
 BIOL 410 Principles of Botany (5)
 BIOL 420 Principles of Zoology (5)
 BIOL 400 Principles of Biology (5)
 BIOL 350 Environmental Biology (3)
 BIOL 342 The New Plagues: New and Ancient Diseases
 Threatening the World (3)
 BIOL 307 Biology of Organisms (4)

Business/Marketing/Real Estate

A minimum of 6 units from the following:
 RE 300 California Real Estate Principles (3)
 RE 190 Real Property Management (3)
 RE 140 Real Estate Appraisal (3)
 RE 120 Real Estate Practice (3)
 MKT 330 Internet Marketing (3)
 MKT 314 Advertising (3)
 MKT 300 Principles of Marketing (3)
 MKT 122 International Marketing (3)
 BUS 360 E-Business: Introduction and Environment;
 Technology and Infrastructure (3)
 BUS 350 Small Business Management/Entrepreneurship (3)
 BUS 300 Introduction to Business (3)

Computer Science

A minimum of 6 units from the following:
 CISA 321 Intermediate Database Management (1)
 CISA 320 Introduction to Database Management (1)
 CISP 350 Database Programming (3)
 CISP 360 Introduction to Structured Programming (4)
 CISP 300 Algorithm Design/Problem Solving (3)

Earth Science

A minimum of 6 units from the following:
 PS 302 Introduction to Physical Science (4)
 GEOL 330 Introduction to Oceanography (3)
 GEOL 305 Earth Science (3)
 GEOL 300 Physical Geology (3)
 GEOG 322 Geography of California (3)
 GEOG 306 Weather and Climate (3)
 GEOG 320 World Regional Geography (3)

Public Safety/Fire Technology

A minimum of 6 units from the following:
 FT 320 Hazardous Materials (3)
 FT 301 Fire Prevention Technology (3)
 FT 300 Fire Protection Organization (3)

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Professional Applications of Geographic Information Systems (GIS) continued

Social Science

A minimum of 6 units from the following:

- SOC 301 Social Problems (3)
- SOC 300 Introductory Sociology (3)
- ANTH 300 Physical Anthropology (3)
- ANTH 310 Cultural Anthropology (3)

TOTAL UNITS REQUIRED 16.5 - 18.5

¹Only one unit required. Independent study unit must be GIS related.

GEOGRAPHY (GEOG)

**GEOG 300
Physical Geography: Exploring Earth's Environmental Systems** **3 Units**

Prerequisite: None

Advisory: Concurrent enrollment in GEOG 301 (Physical Geography Lab) is suggested. GEOG 301 meets the UC and CSU transfer requirement for a 1-unit science lab

General Education: AA/AS Area IV; CSU Area B1; IGETC Area 5A

Course Transferable to UC/CSU

Hours: 54 hours LEC

This course investigates the interrelationships between Earth and humans, with an emphasis on natural systems (solar energy balance, weather and climate, water resources, landforms, natural hazards, vegetation, and soil). Relevant application of these elements to today's world is stressed to help students better understand Earth's physical environment as well as human-environment interaction. A field trip may be required to relate class discussions to the real world.

**GEOG 301
Physical Geography Laboratory** **1 Unit**

Prerequisite: None

Corequisite: GEOG 300; (may be taken previously)

General Education: CSU Area B3; IGETC Area 5A

Course Transferable to UC/CSU

Hours: 54 hours LAB

This course provides "hands-on" study of the basic principles and concepts involved in understanding Earth's environment systems. Labs feature observation, collection, analysis and display of data related to the study of Earth's energy balance, weather and climate, vegetation, tectonic processes, landforms, and natural hazards. Additionally, labs involve geographic methods and technology, including interpretation of maps and other geographic imagery, weather instrumentation, navigation equipment such as a compass and the Global Positioning System (GPS), and other relevant computer and Internet applications. A field trip (with possible small fee) may be required.

**GEOG 302
Environmental Studies & Sustainability** **3 Units**

Prerequisite: None

General Education: AA/AS Area V(b)

Course Transferable to CSU

Hours: 54 hours LEC

This introductory course offers an interdisciplinary perspective on the major environmental problems confronting society and explores solutions directed toward producing a more sustainable future. Course topics include an introduction to environmental issues, and related values, ethics and politics; a primer on Earth system science's, the interconnected nature of the atmosphere, hydrosphere, lithosphere, and biosphere; a global survey of natural resources and exploitation; changing global climates; the world water crisis; the demography of human population, and contrasts between less- and more-developed countries; agricultural and food supply challenges; renewable and nonrenewable energy resources; and land use patterns and related issues. Throughout the course, human impacts on the environment, environmental impacts on human societies, and the sustainability of economies and practices at local, regional, and global scales are investigated. A field trip may be required to relate class discussions to the real world.

**GEOG 305
Global Climate Change** **3 Units**

Same As: BIOL 351

Prerequisite: None

General Education: AA/AS Area IV; CSU Area B2

Course Transferable to UC/CSU

Hours: 54 hours LEC

This interdisciplinary course explores the natural and human factors causing the Earth's climate to change. Whether alarmed, skeptical, or just curious about climate change, this course will provide the scientific tools to analyze the evidence that climate change is a looming threat. Through lectures, readings, discussions and projects, students will examine the Earth's present and past climates as well as the influence of climate on the geographical distribution of plants, animals and human societies. This course is the same as BIOL 351, and only one may be taken for credit. See "Cross-Listed Courses" in the catalog.

**GEOG 306
Weather and Climate** **3 Units**

Prerequisite: None

General Education: AA/AS Area IV; CSU Area B1; IGETC Area 5A

Course Transferable to UC/CSU

Hours: 54 hours LEC

This course is an introduction to atmospheric processes including energy and moisture exchanges, atmospheric pressure, winds, and global circulation. Severe weather conditions such as hurricanes and tornadoes are also studied. World, regional, and local climates are investigated. Student work will include weather observations and analysis of atmospheric data using charts, weather maps and radar and satellite imagery from the Internet and other sources. Because this course involves the use of some quantitative concepts, students are encouraged to have fundamental algebraic skills prior to enrolling in the course.

GEOG 310**Human Geography: Exploring Earth's Cultural Landscapes****3 Units***Prerequisite: None**General Education: AA/AS Area V(b); AA/AS Area VI; CSU Area D5; IGETC Area 4E**Course Transferable to UC/CSU**Hours: 54 hours LEC*

This course investigates the diverse patterns of human settlement, development, and movement on earth, which evolved as a result of cultural and environmental factors. Emphasis is placed on understanding global population and migration patterns, language, religion, ethnicity, political and economic systems, development issues, agriculture and urbanization.

GEOG 320**World Regional Geography****3 Units***Prerequisite: None**General Education: AA/AS Area V(b); AA/AS Area VI; CSU Area D5; IGETC Area 4E**Course Transferable to UC/CSU**Hours: 54 hours LEC*

This course is a global survey of the world's major geographic realms: their physical environments, cultures and economies; their origins, interactions and global roles. Basic geographic concepts and ideas are used to study and compare cultures, landscapes, resources, livelihood and land use across Earth. Explanation for the globalization of culture and economy, the widening gap between rich and poor countries, and ethnic diversity in the United States and abroad is stressed throughout the course. A major goal of this course is to improve each student's "mental map of the world."

GEOG 322**Geography of California****3 Units***Prerequisite: None**General Education: AA/AS Area V(b); AA/AS Area VI; CSU Area D5; IGETC Area 4E**Course Transferable to UC/CSU**Hours: 54 hours LEC*

This course investigates California's physical, cultural, and economic environments, analyzing cardinal changes resulting from both natural and human interaction. The emphasis is on cultural diversity, human alteration of the landscape, and contemporary problems resulting from accelerated competition for natural, financial, and human resources.

GEOG 331**Exploring Maps and Geographic Technologies****3 Units***Prerequisite: None**General Education: AA/AS Area IV**Course Transferable to UC/CSU**Hours: 44 hours LEC ; 30 hours LAB*

Maps are the most effective way to communicate spatial information. This course introduces students to the quickly changing world of maps (both hard-copy and digital) and geographic techniques and technologies such as map and aerial photograph interpretation, spreadsheet operations, basic statistics, cartography, Global Positioning Systems (GPS), Internet mapping, remote sensing and Geographic Information Systems (GIS) that aid in data collection, analysis and presentation.

GEOG 335**Introduction to Geographic Information Systems Applications****3 Units***Prerequisite: None**Advisory: CISC 302**Course Transferable to CSU**Hours: 30 hours LEC ; 72 hours LAB*

Geographic Information Systems (GIS) are computer-based tools that are used to generate spatial data in order to make a decision. Through the use of ArcGIS software, this course establishes an understanding of GIS, its applications, and functionality. Students build a foundation of theory and techniques for GIS functionality, data formats and input, spatial analysis, data presentation and manipulation, and map production. Students will learn many of the functions of GIS. This course is not open to students who have received credit for GEOG 335.1, 335.2, and 335.3.

GEOG 335.1**Fundamentals of Geographic Information Systems****1 Unit***Prerequisite: None**Advisory: CISC 302**Course Transferable to CSU**Hours: 12 hours LEC ; 18 hours LAB*

Geographic Information Systems (GIS) are computer-based tools that are used to generate spatial data in order to make a decision. Through the use of ArcGIS software, this course establishes a basic understanding of GIS, its applications, and functionality. Students build a foundation of theory and techniques for GIS functionality, data formats and input, spatial analysis, data presentation and manipulation, and map production. Students will learn many of the basic functions of GIS including presentation, symbology, and labeling of data as well as spatial data analysis and map production. This course is not open to students who have received credit for GEOG 335. See "Cross-Referenced Courses" in the catalog.

GEOG 335.2**Intermediate GIS****1 Unit***Prerequisite: GEOG 335.1 with a grade of "C" or better**Course Transferable to CSU**Hours: 12 hours LEC ; 18 hours LAB*

Geographic Information Systems (GIS) are systems of computers and people used to generate spatial data in order to make a decision. Through the use of ArcGIS software, this course builds on the foundation of GIS techniques learned in Geography 335.1. Students will learn techniques for GIS data input, spatial analysis, methods of ArcGIS customization, and database management. The basics of spatial data models will be discussed. Students will learn how to input spatial data, normalize spatial data, perform spatial analysis, measure distances, and output GIS based maps.

GEOG 335.3**Projects Using GIS****1 Unit***Prerequisite: GEOG 335.2 with a grade of "C" or better**Course Transferable to CSU**Hours: 6 hours LEC ; 36 hours LAB*

Geographic Information Systems (GIS) are increasingly being used by business, industry, and research institutions in place of other analysis of spatial data. This course is designed to allow students to produce projects using industry-leading GIS software and technologies. The students will work individually to plan and produce a project including data selection and input, spatial data analysis, production of output materials, and presentation of results. The types of information analyzed may include political, social, health, environmental, or economic data. The final grade will be partly based on the project produced.

GEOG 353
Introduction to the Global Positioning System (GPS) **.5 Unit**
Prerequisite: None
Course Transferable to CSU
Hours: 9 hours LEC ; 12 hours LAB

This course introduces the Global Positioning System (GPS). Topics include basic concepts of GPS including hands-on operation of the technology, real-world applications, computer interfaces, GIS and other mapping software. A field trip may be required which could include a nominal fee.

GEOG 370
Introduction to GIS Programming **2 Units**
Prerequisite: GEOG 335.2. with a grade of "C" or better
Course Transferable to CSU
Hours: 30 hours LEC ; 18 hours LAB

This course introduces students to programming skills in Geographic Information Systems. Fundamentals of Object Oriented Programming Languages, programming techniques in ArcView's Avenue and introduction to GIS application development will be covered. Students will learn how to customize the ArcView interface and create and modify commands. Students will use Avenue to integrate GIS with existing software, automate GIS operations and customize methods of GIS analysis.

GEOG 390
Field Studies In Geography **.5-4 Units**
Prerequisite: None
Course Transferable to CSU
Hours: 18 hours LEC ; 54 hours LAB

This course covers the study of geographic principles and processes in specific environments (mountains, deserts, coastal, urban, etc.). Course content will vary by destination and will include topics in physical geography, human geography, as well as an introduction to geographic tools and techniques for field research. For specific details, see the course description(s) listed in the schedule. Students will be responsible for providing their own lodging (or camping equipment) and food. Field trip(s) required. This course may be taken four times for credit under a new topic or destination.

GEOG 481
Honors Seminars: Nature & Culture **3 Units**
Same As: HONOR 382 and HUM 484
Prerequisite: None
General Education: AA/AS Area I; CSU Area C2; CSU Area D5; IGETC Area 3B; IGETC Area 4E
Course Transferable to UC/CSU
Hours: 54 hours LEC

This seminar examines multicultural interpretations and use of the environment from the Native American era to modern day using various geographic regions as case studies. Interdisciplinary in approach, this course draws upon the natural sciences, humanities, and social sciences to explain how the physical environment has been interpreted, utilized, and impacted differently by various cultures through time. Two field trips are required as part of this seminar. This course is intended for academically-accomplished students, regardless of major. Enrollment is limited to Honors Program students (see catalog). This course is the same as HONOR 382 and HUM 484, and only one may be taken for credit. See "Cross-Listed Courses" in the catalog.

GEOG 482
Honors Seminar in Geography **1 Unit**
Same As: HONOR 384
Prerequisite: None
General Education: AA/AS Area IV
Course Transferable to CSU
Hours: 9 hours LEC ; 27 hours LAB

Honors Seminars in Geography are special one-unit intensive courses for academically accomplished students or those with the potential for high academic achievement. In these seminars, students will study advanced topics from the area of Geography. Enrollment is limited to Honors Program students (see catalog). This course is the same as HONOR 384. This course, under either name, may be taken a total of four times for credit on different topics. See "Cross-Listed Courses" in the catalog.

GEOG 495
Independent Studies in Geography **1-3 Units**
Prerequisite: None
Course Transferable to CSU
See UC Limitations & Counselor
Hours: 18 hours LEC ; 54 hours LAB

GEOG 499
Experimental Offering in Geography **.5-4 Units**
Prerequisite: None
Course Transferable to CSU
See UC Limitations & Counselor
Hours: 18 hours LEC ; 54 hours LAB