Program

BA in Geography
Option in:
  Human Geography & Planning
  Physical and Environmental Geography
Certificate in Geographic Information Systems (GIS) Technology
Certificate in Rural & Town Planning
Minor in Environmental Studies
Minor in Geography
Minor in Planning & Development
MA in Geography
  Option in Geography
  Option in Environmental Policy & Planning

The geographer and the planner study how people create, interact with, change, and understand their environments. The Department of Geography and Planning meets the needs of students who wish: 1) to receive a broad liberal arts education focusing on global literacy; 2) to become professionals in the field of planning (environmental, rural, urban, and community), environmental conservation and restoration, and GIS; or 3) to prepare for business, government, or teaching careers.

The Certificate in Geographic Information Systems Technologies provides students with a foundation in geographical technology and information science with hands-on use of the latest software.

The Certificate in Rural and Town Planning is valuable to our majors and other students who wish to prepare for careers in urban or environmental planning and related fields such as resource management and rural economic development.

The Environmental Studies Minor provides interdisciplinary investigation into critical environmental issues. The Minor is appropriate for all majors seeking to increase environmental literacy in their chosen fields.

The Geography Minor is of value to students majoring in the sciences, recreation, economics, business, geology, social sciences, and to those seeking teaching credentials. The Minor in Planning and Development is attractive to students in public administration, political science, business, engineering, recreation, and economics who wish to pursue a career in planning.

Faculty and Facilities

The faculty and staff are committed to involving students in technical innovations in Geographic Information Systems (GIS), cartography, and remote sensing. Excellence in writing and communication is emphasized as well. The faculty conduct lecture courses in multimedia classrooms and supplement their classes with field trips, community research, internships, and public service. The diverse geography and resources of Northern California provide a valuable laboratory in which to learn geographic and planning concepts and processes.

Career Outlook

Given its emphasis on global literacy, environment, and technology, geography is a widely recognized growth field. Geography and planning students may choose from several subjects and skills to prepare for careers in public and private sectors. Geographers and planners bring valuable expertise to the fields of water resources, fire ecology, cartography, transportation, land management, recreation, environmental restoration, and economic development. Geographic Information Systems (GIS) have many applications in fire research, environmental management, planning, agriculture, the social sciences, and business. Many graduates of our program have found teaching positions in elementary schools, community colleges, and universities.

Geography and Planning

College of Behavioral and Social Sciences
Dean: Gayle E. Hutchinson
Department of Geography and Planning
Butte Hall 507
530-898-5285
530-898-6781 (fax)
e-mail: geop@csuchico.edu
http://www.csuchico.edu/geop/
Chair: Jacquelyn Chase
Undergraduate Advisors:
Scott Brady
Don Hankins
Dean Fairbanks
Eugenie Rovai
Noriyuki Sato
Certificate in Rural & Town Planning:
Jacquelyn Chase
Certificate in Geographic Information Systems Technologies:
LaDonna Knigge
Environmental Studies Minor:
Mark Stemen
Graduate Coordinator: Guy King
The Bachelor of Arts in Geography

Total Course Requirements for the Bachelor's Degree: 120 units

See “Requirements for the Bachelor’s Degree” in the University Catalog for complete details on general degree requirements. A minimum of 40 units, including those required for the major, must be upper division.

A suggested Major Academic Plan (MAP) has been prepared to help students meet all graduation requirements within four years. Please request a plan from your major advisor or visit it and other current advising information at http://em.csuchico.edu/aap/ProgramSearch.

General Education Requirements: 48 units

See “General Education Requirements” in the University Catalog and the Class Schedule for the most current information on General Education Requirements and course offerings. The course requirements marked below with an asterisk (*) may also be applied toward General Education.

Diversity Course Requirements: 6 units

See “Diversity Requirement” in the University Catalog. Most courses taken to satisfy these requirements may also apply to General Education.

U.S. History, Constitution, and American Ideals: 6 units

See “U.S. History, Constitution, and American Ideals” under “Bachelor’s Degree Requirements”. This requirement is normally fulfilled by completing HIST 130 and POLS 155 or approved equivalents. Courses used to satisfy this requirement do not apply to General Education.

Literacy Requirement:

See “Mathematics and Writing Requirements” in the University Catalog. Writing proficiency in the major is a graduation requirement and may be demonstrated through satisfactory completion of a course in your major, which has been designated as the Writing Proficiency (WP) course for the semester in which you take the course. Students who earn below a C- are required to repeat the course and earn a C- or better to receive WP credit. See the Class Schedule for the designated WP courses for each semester. You must pass ENGL 130 (or its equivalent) with a C- or better before you may register for a WP course.

Course Requirements for the Major: 48 units

Completion of the following courses, or their approved transfer equivalents, are required of all candidates for this degree. Additional required courses, depending upon the selected option or advising pattern, are outlined following the major core program requirements.

Major Core Program: 27 units

6 courses required:

GEOG 101 Physical Geography 3.0 FS *
Prerequisites: High school biology, chemistry, or physics is recommended.

GEOG 102 Human Geography 3.0 FS * GC

GEOG 219 Intro to Geog Methods 3.0 FS

GEOG 309 Geography Research and Writing 3.0 FS

GEOG 317 Field Techniques 3.0 FA

GEOG 490 Proseminar in Geography 3.0 FS WP

Prerequisites: ENGL 130 (or its equivalent) with a grade of C- or higher, senior standing, GEOG 309.

1 course selected from:

GEOG 303 Geography and World Affairs 3.0 FS * GC

GEOG 304 Environmental Issues 3.0 FS *

2 courses selected from:

GEOG 313 Introductory Cartography 3.0 FA

Prerequisites: GEOG 219 or equivalent.

GEOG 315 Spatial Analysis 3.0 FA

Prerequisites: GEOG 219 or MATH 105 or equivalent.

GEOG 319 Intro to Geo Information Systems 3.0 FS

Prerequisites: GEOG 219 or equivalent.

Note: Techniques courses completed for the Geography Core cannot be double counted toward the techniques courses taken in the geography advising options.

Major Option Course Requirements: 21 units

The following courses, or their approved transfer equivalents, are required dependent upon the option chosen. Students must select one of the following options for completion of the major course requirements.

The Option in Human Geography and Planning: 21 units

3 courses required:

GEOG 301 Global Economic Geography 3.0 SP GC

Prerequisites: GEOG 301 or GEOG 319 or equivalent.

GEOG 320 Intro Community & Rural Plng 3.0 FA

Prerequisites: GEOG 319 or equivalent.

GEOG 439 American Cultural Landscapes 3.0 FA

2 courses selected from:

GEOG 405S Nature and Restoration 3.0 FA

Prerequisites: GEOG 101 or GEOG 102 or equivalents.

GEOG 425 Ping Sustainable Comm & Region 3.0 FA

GEOG 426 Water Resource Policy/Plan 3.0 SP

Prerequisites: GEOG 304 or equivalent.

GEOG 435 Historical Geog of North Amer 3.0 FS

Prerequisites: Faculty permission.

This course is also offered as AMST 435.

GEOG 440 Environ Thought and Action 3.0 SP

Prerequisites: Faculty permission.

1-2 courses selected from:

GEOG 352 The United States 3.0 FA *

GEOG 353 Canada: Land and People 3.0 Inq

GEOG 354 Mexico: Land and People 3.0 FA * GC

GEOG 355 Cent Amer/Carib: Land/People 3.0 SP * GC

This course is also offered as LAST 354.

GEOG 356 South America 3.0 Inq

GEOG 360 Europe 3.0 Inq

GEOG 365 Former Soviet Union 3.0 Inq

GEOG 370 Pacific Rim Regions 3.0 Inq

GEOG 378 Australia and South Pacific 3.0 Inq

3-5 courses selected from:

GEOG 313 Introductory Cartography 3.0 FA

Prerequisites: GEOG 219 or equivalent.

GEOG 315 Spatial Analysis 3.0 FA

Prerequisites: GEOG 219 or MATH 105 or equivalent.

GEOG 317 Field Techniques 3.0 FA

GEOG 318 Remote Sensing Environ 3.0 SP

Prerequisites: GEOG 219.

GEOG 319 Intro to Geo Information Systems 3.0 FS

Prerequisites: GEOG 219 or equivalent.

GEOG 342 Geomorphology 3.0 FA

Prerequisites: GEOG 101 or GEOG 102 or equivalents, or faculty permission.

GEOG 343 Climatology 3.0 FA

Prerequisites: GEOG 101 or GEOG 102 or equivalent.

GEOG 413 Advanced Cartography 3.0 SP

Prerequisites: GEOG 313.

GEOG 419 Advanced Geo Information Systems 3.0 SP

Prerequisites: GEOG 315 and GEOG 319.

GEOG 427 Environmental Impact Analysis 3.0 SP

Prerequisites: GEOG 320 or equivalent or faculty permission.

GEOG 428 Site Planning 3.0 S2

Prerequisites: GEOG 219, GEOG 320, or equivalent.

GEOG 429 Env and Conservation Planning 3.0 S1

Prerequisites: GEOG 219, GEOG 320. Recommended: GEOG 101, GEOG 130, or NSCI 101.

GEOG 444 Biogeography 3.0 SP

Prerequisites: GEOG 101 or BIOL 102 or BIOL 334 or equivalent. Recommended: GEOG 219.

Note: A course from outside the department may be selected with advisor approval.

Option in Physical and Environmental Geography: 21 units

3 courses required:

GEOG 342 Geomorphology 3.0 FA

Prerequisites: GEOG 101 or GEOG 102 or equivalents, or faculty permission.

GEOG 343 Climatology 3.0 FA

GEOG 407 Analysis of Global Change 3.0 SP

Prerequisites: GEOG 342, GEOG 343, GEOG 444 and GEOG 445.

1 course selected from:

GEOG 444 Biogeography 3.0 S2

Prerequisites: GEOG 101 or BIOL 102 or BIOL 334 or equivalent. Recommended: GEOG 219.

GEOG 445 Pyrogeography 3.0 S1

Prerequisites: At least one of the following: AGRI 331, BIOL 414, BIOL 450, GEOG 141, GEOG 405, GEOG 444, GEOG 450, PSSC 130, PSSC 331, PSSC 334, PSSC 433, PSSC 436, PSSC 438, or faculty permission.

1 course selected from:

GEOG 405S Nature and Restoration 3.0 FA

Prerequisites: GEOG 101 and GEOG 102 or equivalents.

GEOG 426 Water Resource Policy/Plan 3.0 SP

Prerequisites: GEOG 304 or equivalent.
Honors in the Major

Advising is mandatory for all majors in this degree program. Consult your major department or advisor to apply.

5. Most students apply for or are invited to participate in Honors in the Major during the second semester of their junior year. Then they complete the 6 units of course work over the two semesters of their senior year.

6. Your honors work culminates with a public presentation of your honors project. While Honors in the Major is part of the Honors Program, each department administers its own program. Please contact your major department or major advisor to apply.

Geography and Economics Double Major

Students may take two geography and two economics courses from the following list. All 12 units will count toward both majors (geography courses will count toward 100-level electives in the economics major).

ECON 360 Urban Problems 3.0 FS
Prerequisites: ECON 103.
ECON 365 Environmental Economics 3.0 FS
ECON 375 Developing Countries 3.0 FS
Prerequisites: ECON 103.
ECON 376 Economics of the Pacific Rim 3.0 FS
Prerequisites: ECON 101 or ECON 102 or faculty permission.
ECON 462 Urban-Regional Economics 3.0 FS
Prerequisites: ECON 301 or faculty permission.
ECON 465 Economics of Energy 3.0 SP
Prerequisites: ECON 301.
GEOG 301 Global Economic Geography 3.0 SP GC
GEOG 304 Environmental Issues 3.0 FS *
GEOG 320 Intro Community & Rural Planning 3.0 FA
GEOG 416 Locational Analysis 3.0 Inq
Prerequisites: Concurrent enrollment in or prior completion of GEOG 315 or equivalent.
GEOG 425 Plng Sustainable Comm & Region 3.0 FA

Geography and History Double Major

Students may elect a geography and history double major. Up to 6 units of appropriate upper-division history courses (HIST) may be applied to the geography major. Prior approval by a department advisor and the chair is required.

The Minor in Environmental Studies

Course Requirements for the Minor: 24 units

The following courses, or their approved transfer equivalents, are required of all candidates for this minor.

Social Policy Core: 12 units

4 courses required:
ECON 365 Environmental Economics 3.0 FS
GEOG 304 Environmental Issues 3.0 FS *
GEOG 440 Envir Thought and Action 3.0 SP
Prerequisites: Faculty permission.
POLS 461 Environmental Politics/Admin 3.0 FA

Science Core

6-8 units selected from:
Biol 334 Conservation Ecology 3.0 FS *
Prerequisites: BIOL 101 or equivalent.
CHEM 107 Gen Chem for Applied Sciences 4.0 FS *
Prerequisites: Intermediate Algebra.
CHEM 111 General Chemistry 4.0 FS *
Prerequisites: Second-year high school algebra; one year high school chemistry. (One year of high school physics and one year of high school mathematics past Algebra II are recommended.)
GEOS 330 Environmental Science 3.0 FS *
Prerequisites: One course from Breadth Area B1 and one course from Breadth Area B2 of the General Education requirements.

Applications

Note: You must select at least two courses from one of the following three categories.

4-6 units selected from:

Natural Resources

GEOG 389 Geography Internship 1.0-3.0 FS
Note: Requires prior approval of the Environmental Studies coordinator.
GEOG 426 Water Resource Policy/Plan 3.0 SP
Prerequisites: GEOG 304 or equivalent.

Geos 340 Environmental Geology 3.0 FS *
Prerequisites: One course from Breadth Area B1 and one course from Breadth Area B2 of General Education requirements.

GEO 370 Energy in the Human Environ 3.0 SP *
Prerequisites: One course from Breadth Area B1.
GEO 460 Water Resources Management 3.0 SP
Prerequisites: Upper-division standing; GEO 330 or GEO 380.
GEO 530 Environmental Sys Modeling I 3.0 F2
Prerequisites: CHEM 112; GEO 330 or faculty permission; MATH 120; either PHYS 202B or PHYS 204C.
PSSC 390 Food Forever 3.0 FS * GC
RRCR 310 Natr Resource/Inform Citizen 3.0 FS
Prerequisites: Junior standing.
Nature, Society, and Human Values

ANTH 423 Human Behavioral Ecology 3.0 Inq
ANTH 435 Medical Anthropology 3.0 Inq
BIOL 322 Science and Human Values 3.0 SP *
Prerequisites: BIOL 101 or BIOL 108.

This course is also offered as PHIL 322.

GEOG 389 Geography Internship 1.0-3.0 FS

Note: Requires prior approval of the Environmental Studies coordinator.

GEOG 405S Nature and Restoration 3.0 FA
Prerequisites: GEOG 101 and GEOG 102 or equivalents.

GEOG 435 Historical Geog of North Amer 3.0 FS
Prerequisites: Faculty permission.
This course is also offered as AMST 435.

HIST 341 American Environment 3.0 FS * USD
PHIL 329 Environmental Ethics 3.0 FS *
PREREQUISITES: BIOL 342 or GEOG 130 or equivalent.
This course is also offered as DSCI 446.

RELS 347 Cross-Cultural Environ Ethics 3.0 FS *

Law, Policy, and the Environment

ANTH 437 Intl Development Globalization 3.0 S2
ANTH 487 Heritage Resource Planning 3.0 Inq
ECON 355 Economics of Gov Regulations 3.0 FS
Prerequisites: ECON 103.

GEOG 389 Geography Internship 1.0-3.0 FS
GEOG 423 Planning Methods 3.0 Inq
Prerequisites: GEOG 315, GEOG 120.
GEOG 427 Environmental Impact Analysis 3.0 SP
Prerequisites: GEOG 320 or equivalent or faculty permission.
HCSV 362 Environmental Health 3.0 FS
POLS 468 Planning Law 3.0 SP
POLS 489K Internship in Legal Studies 1.0-3.0 FS
Prerequisites: Faculty permission.

SOCI 420 Environmental Sociology 3.0 Inq

Note: Enrollment in GEOG 389 or POLS 489K requires the prior approval of the Environmental Studies coordinator.

The Minor in Geography

Course Requirements for the Minor: 21 units

The following courses, or their approved transfer equivalents, are required of all candidates for this minor.

3 courses required:

GEOG 101 Physical Geography 3.0 FS *
Prerequisites: High school biology, chemistry, or physics is recommended.
GEOG 102 Human Geography 3.0 FS * GC
GEOG 219 Intro to Geog Methods 3.0 FS

2 courses selected from:

GEOG 301 Global Economic Geography 3.0 SP GC
GEOG 303 Geography and World Affairs 3.0 FS * GC
GEOG 304 Environmental Issues 3.0 FS *

6 units selected from:

Any upper-division Geography (GEOG) course.

The Minor in Planning and Development

Course Requirements for the Minor: 21 units

The following courses, or their approved transfer equivalents, are required of all candidates for this minor.

5 courses required:

GEOG 101 Physical Geography 3.0 FS *
Prerequisites: High school biology, chemistry, or physics is recommended.
GEOG 102 Human Geography 3.0 FS * GC
GEOG 320 Intro Community & Rural Plng 3.0 FA
GEOG 424 Planning Studio 3.0 Inq
Prerequisites: GEOG 309 for majors; GEOG 423 or equivalent.
GEOG 427 Environmental Impact Analysis 3.0 SP
Prerequisites: GEOG 320 or equivalent or faculty permission.

6 units selected from:

Planning-related courses approved in advance by the program advisor.

Certificate in Geographic Information Systems (GIS) Technology

Course Requirements for the Certificate: 21 units

The following courses, or their approved transfer equivalents, are required of all candidates for this certificate.

A grade point average of 2.5 must be earned for courses required for the certificate. A grade of at least “C” must be earned in each course required of the certificate program.

7 courses required:

GEOG 219 Intro to Geog Methods 3.0 FA
GEOG 313 Introductory Cartography 3.0 FA
Prerequisites: GEOG 219 or equivalent.
GEOG 315 Spatial Analysis 3.0 FA
Prerequisites: GEOG 219 or MATH 105 or equivalent.
GEOG 318 Remote Sensing Environ 3.0 SP
Prerequisites: GEOG 217.
GEOG 319 Intro to Geog Info Systems 3.0 FS
Prerequisites: GEOG 219 or equivalent.
GEOG 413 Advanced Cartography 3.0 SP
Prerequisites: GEOG 313.
GEOG 419 Advanced Geog Info Systems 3.0 SP
Prerequisites: GEOG 315 and GEOG 319.

Certificate in Rural And Town Planning

Course Requirements for the Certificate: 21 units

The following courses, or their approved transfer equivalents, are required of all candidates for this certificate.

A grade point average of 2.5 must be earned for courses required for the certificate. A grade of at least “C” must be earned in each course required of the certificate program.

4 courses required:

GEOG 219 Intro to Geog Methods 3.0 FS
GEOG 319 Intro to Geog Info Systems 3.0 FS
Prerequisites: GEOG 219 or equivalent.
GEOG 320 Intro Community & Rural Plng 3.0 FA
GEOG 425 Plng Sustainable Comm & Region 3.0 FA

1 course selected from:

GEOG 428 Site Planning 3.0 S2
Prerequisites: GEOG 219, GEOG 120 or equivalent.
GEOG 429 Env and Conservation Planning 3.0 S1
Prerequisites: GEOG 219, GEOG 320. Recommended: GEOG 101, GEOG 130, or NSCI 101.

1 course selected from:

GEOG 427 Environmental Impact Analysis 3.0 SP
Prerequisites: GEOG 320 or equivalent or faculty permission.
POLS 468 Planning Law 3.0 SP

The Master of Arts in Geography

Course Requirements for the Master's Degree: 30 units

Continuous enrollment is required. A maximum of 6 semester units of transfer and/or CSU, Chico Open University course work may be applied toward the degree.

Graduate Time Limit:

All requirements for the degree are to be completed within five years of the end of the semester of enrollment in the oldest course applied toward the degree. See “Graduate Education” in the University Catalog for complete details on general degree requirements.

Geography master's degree students are required to maintain “normal progress” toward the degree. “Normal progress” is defined as advancing to classified status by the end of the first year in the program (unless qualifying courses must be completed) and advancing to candidacy by the end of the second year in the program. The department requires that all students finish their degree program by the end of the fifth year in the program. Extensions of this five-year period will be granted only under exceptional circumstances. At the end of each academic year, the department's Graduate Studies Committee will evaluate student progress and assign normal status, probationary status, or dismiss the student from the program.
Prerequisites for Admission to Conditionally Classified Status
1. Satisfactory grade point average as specified in “Admission to Master’s Degree Programs” in the University Catalog. Students with less than a 3.0 GPA are normally not admitted.
2. Approval by the department and the Office of Graduate Studies.
3. An acceptable baccalaureate from an accredited institution, or an equivalent approved by the Office of Graduate Studies. Appropriate academic preparation for the Option in Geography is a major or minor in geography; appropriate academic preparation for the Option in Environmental Policy and Planning is a major or minor in planning. All students who have not completed the transfer equivalent of GEOG 315, Spatial Analysis, must take this course in addition to the 30 units required for the degree.

Students not holding acceptable degrees are required to complete the 9 units of qualifying course work described below. Students holding acceptable degrees but lacking specific courses are required to complete qualifying course work. Qualifying course work shall not be counted as units toward the master's degree.
4. Two letters of recommendation.
5. A Statement of Purpose that designates an area of specialization and indicates which faculty members’ interests best match the student's interests. Consult the Graduate Coordinator for guidance.
6. Samples of the applicant's written work.

7. Completion of the Graduate Record Examination (GRE). Applicants with a GRE Aptitude Test score (combined verbal and quantitative) of less than 1000 are normally not admitted.
8. For the Option in Geography only: Students without an undergraduate major or minor in geography must complete the following 9 units of qualifying course work with a minimum grade of B in each course. All qualifying courses must be completed before a student will be considered for candidate status. None of these qualifying units will be counted toward the master's degree. The preparatory courses include:
   - 3 units of Physical Geography at the 300/400-level;
   - 3 units of Human Geography at the 300/400-level;
   - 3 units of Techniques in Geography at the 300/400-level.

   The Graduate Coordinator will determine the equivalency of undergraduate courses.
9. For Option in Environmental Policy and Planning only: Students without an undergraduate major or minor in planning must complete the following 9 units of qualifying course work with a minimum grade of B in each course. All qualifying courses must be completed before a student will be considered for candidate status. None of these qualifying units will be counted toward the master's degree. The preparatory courses include:
   - GEOG 320, Community and Rural Planning;
   - 3 units of Physical Geography at the 300/400-level;
   - 3 units of Human Geography at the 300/400-level.

   The Graduate Coordinator will determine the equivalency of undergraduate courses.

Prerequisites for Admission to Classified Status:
In addition to any requirements listed above:
1. Development of an approved program in consultation with the Graduate Coordinator and a faculty advisor of the student’s choice. Students must complete the development of an approved program and request advancement to classified status by the end of the second semester of the program. No more than 6 units combined of GEOG 689, GEOG 697, and GEOG 699P or GEOG 699T may be included in the program plan.
2. At least nine units of 600-level coursework, including GEOG 600 and 601, are required for advancement to classified status and must be completed by the end of the first year in the program. Failure to complete these 9 units in the first year will result in dismissal from the program.
3. Students who are required to complete qualifying courses must complete them by the end of their second year in the program. Additionally, at least 9 units of 600-level coursework, including GEOG 600 and GEOG 601 are required for advancement to classified status and must be completed by the end of the second year in the program. Failure to complete these 9 units and all qualifying course work by the end of the second year will result in dismissal from the program.

Adancement to Candidacy:
In addition to any requirements listed above:
1. Classified graduate standing and satisfactory completion of at least 18 units of the approved program.
2. Formation of the graduate advisory committee in consultation with the Graduate Coordinator and committee chair. This committee shall consist of at least three members and shall be in accord with the policies and requirements of the Office of Graduate Studies.
3. Completion of a thesis proposal or a project proposal. The proposal will be publicly presented and accepted by the student’s graduate advisory committee by the end of the second year of study. Students failing to complete a proposal or to form a graduate advisory committee by the end of the second year of study will be assigned a one-semester probationary status. Failure to complete a proposal during this probationary period will result in dismissal from the program. Students required to complete qualifying work must complete a proposal by the end of their third year in the program.
4. A student who has elected the thesis or project option will not be allowed to change the option.

Requirements for the MA in Geography with an Option in Geography:
Completion of all requirements as established by the departmental graduate committee and the Office of Graduate Studies, to include:
1. Completion of an approved program consisting of 30 units of 400/500/600-level course work as follows:
   (a) At least 24 units in geography.
   (b) At least 18 of the units required for the degree in 600-level courses.
   (c) Successful completion of the following courses:

   4 courses required:
   - GEOG 600 Intro to Graduate Research 3.0 FA
   - GEOG 601 Research Models in Geog & Plan 3.0 SP
   - GEOG 602 Seminar in Human Geography 3.0 FA
   - GEOG 605 Seminar in Applied Geog & Plng 3.0 F2
   Prerequisites: Faculty permission.

   1 course selected from:
   - GEOG 602 Seminar in Physical Geography 3.0 FA
   - GEOG 660 Landscape Ecology 3.0 FA
   Prerequisites: BIOL 350 or GEOG 444; MATH 314 or MATH 350 or GEOG 315.
   This course is also offered as BIOL 660.
   (d) Not more than 6 semester units of transfer and/or Open University credit (correspondence courses and extension course work are not acceptable).
   (e) At least 1 unit, but no more than 6 units, of GEOG 699P or GEOG 699T, Master’s Project or Master’s Thesis. No more than 6 units combined of GEOG 689, GEOG 697, and GEOG 699P/GEOG 699T may be included in the program.

2. Completion and approval of a thesis or project of adequate scope and depth, and a public defense of the work. Approval of the work by members of the Graduate Advisory Committee and the Graduate Coordinator.

(a) Thesis Plan (Geography): A thesis must show substantial analysis and discussion of an original topic in geography. The thesis must include a review of the pertinent literature, a discussion of the methodology used, a presentation of the data and results of the work, and a discussion of the conclusions and importance of the work.

(b) Project Plan (Geography): A project investigates a substantial problem of physical geography, human geography, or geographic techniques. The project may include cartographic or GIS work, field study of an environmental problem or variable, computer modeling, or field-based analysis of a problem of human geography. The project will include an academic discussion of the pertinent literature, the methodological approach, and of the application of its importance.

3. Approval by the Graduate Coordinator or Department Chair and the Graduate Coordinators Committee on behalf of the faculty of the University.
**Requirements for the MA in Geography with an Option in Environmental Policy and Planning**

Completion of all requirements as established by the departmental graduate committee and the Office of Graduate Studies, to include:

1. Completion of an approved program of 30 units of 400/500/600-level course work as follows:
   (a) Successful completion of the following courses:
   
   **4 courses required:**
   
   - **GEOG 600** Intro to Graduate Research 3.0 FA
     Prerequisites: Faculty permission.
   - **GEOG 601** Research Models in Geog & Plan 3.0 SP
     Prerequisites: GEOG 600.
   - **GEOG 604** Plng Practice & Theory 3.0 F1
   - **POLS 653** Environmental Policy & the Law 3.0 Inq

   **1 courses selected from:**
   
   - **GEOG 602** Seminar in Physical Geography 3.0 FA
     Prerequisites: Faculty permission.
   - **GEOG 603** Seminar in Human Geography 3.0 FA
     Prerequisites: Faculty permission.
   - **GEOG 605** Seminar in Applied Geog & Plng 3.0 F2
     Prerequisites: Faculty permission.
   - **GEOG 660** Landscape Ecology 3.0 FA
     Prerequisites: BIOL 350 or GEOG 444; MATH 314 or MATH 350 or GEOG 115.
     This course is also offered as BIOL 660.

   **1 courses selected from:**
   
   - **ECON 462** Urban-Regional Economics 3.0 FS
     Prerequisites: ECON 301 or faculty permission.
   - **ECON 466** Environmental & Resource Econ 3.0 FS
     Prerequisites: ECON 365.
   - **POLS 660A** Seminar: Public Management 3.0 FA
     Prerequisites: POLS 602; POLS 662 is recommended.
   - **POLS 667** Sem: Administration/Planning 3.0 FA

   **1-2 courses selected from:**
   
   - **GEOG 423** Plng Sustainable Comm & Region 3.0 FA
     Prerequisites: GEOG 427 Environmental Impact Analysis 3.0 SP
   - **GEOG 428** Site Planning 3.0 S2
     Prerequisites: GEOG 219, GEOG 320, or equivalent.
   - **GEOG 436** Transportation Planning 3.0 SP
     Prerequisites: GEOG 301, GEOG 320, or faculty permission.
   - **GEOG 433** Journeys in Environment 3.0 F1
   - **GEOG 444** GEOG 444, GEOG 450, PSSC 310, PSSC 331, PSSC 334, PSSC 433, PSSC 436, PSSC 438, or equivalent permission.

   (b) At least 18 units required for the degree in 600-level courses.
   
   (c) At least 24 units in geography.
   
   (d) Not more than 6 semester units of transfer and/or Open University credit (correspondence courses and extension course work are not acceptable).
   
   (e) At least 1 unit, but no more than 6 units of GEOG 699P, Master's Project, if completing a Project or GEOG 699T, Master's Thesis, if completing a thesis. No more than 6 units combined of GEOG 689, GEOG 697, and GEOG 699P/GEOG 699T may be included in the program.

2. Completion and approval of a thesis or project. The thesis or project must be of adequate scope and depth, as determined by the faculty advisor and Graduate Advisory Committee in consultation with the student; a public defense of the work is required.
   
   (a) Thesis Plan (Planning): A thesis contains the research and analysis of a historical or philosophical aspect of planning theory or practice. A planning thesis must rest on a thorough review of pertinent literature and on the analysis and presentation of data from primary and/or secondary sources. It must include a discussion of the study's results and a discussion of the major conclusions and importance of the work to the field and practice of planning.
   
   (b) Project Plan (Planning): A planning project analyzes some substantial practical problem of an environmental, land use, political, economic, or social planning issue. It must include a workable application of planning practice, such as implementation of an environmental impact report, a specific or general plan, a general plan element, or development feasibility study. The project will include a discussion of academic literature, methodological approach, and of the application of its importance.

3. Approval by the Graduate Coordinator and the Graduate Coordinators Committee on behalf of the faculty of the University.

**Graduate Requirement in Writing Proficiency:**

Writing proficiency is a graduation requirement.

Geography master's degree students will demonstrate their writing competence by successfully completing GEOG 600. In addition, no thesis or project will be accepted that does not demonstrate a high level of writing proficiency. Errors in structure, grammar, syntax, and spelling are not acceptable and will result in the rejection of the work.

Geography master's degree students will further demonstrate writing proficiency by successfully completing a specified writing assignment in each graduate seminar. A copy of this work will be placed in the student's department file.

**Graduate Grading Requirements:**

All courses in the approved program plan (with the exceptions of GEOG 689, GEOG 697, and GEOG 699P/GEOG 699T) must be taken for a letter grade. A minimum grade of B is required for any course used as part of the approved program. In addition, students must maintain a 3.0 grade point average in both of the following categories: all course work taken at any accredited institution subsequent to admission to the master's program and all course work taken at CSU, Chico subsequent to admission to the program.

While grading standards are determined by individual programs and instructors, it is also the policy of the University that unsatisfactory grades may be given when work fails to reflect achievement of the high standards, including high writing standards, expected of students pursuing graduate study.

**Graduate Advising Requirement:**

Advising is mandatory each semester for all graduate students. Conditionally classified and classified students must consult with the Graduate Coordinator. Candidates must consult with the Graduate Coordinator and their graduate advisory committee chair.

**The Faculty**

Scott A. Brady, 2000, Assoc Professor, PhD, Louisiana State U.

Jacquelyn R. Chase, 2000, Chair, Assoc Professor, PhD, UCLA.

Dean H K. Fairbanks, 2001, Assoc Professor, PhD, U Pretoria.

Don Hankins, 2005, Assist Professor, PhD, UC Davis.

Guy Q. King, 1988, Professor, PhD, U Utah.

LaDonna Knigge, 2006, Assist Professor, PhD, SUNY Buffalo.

Paul Z. Melcon, 1985, Assoc Professor, PhD, U Wisconsin.

Susan E. Place, 1988, Dean, Professor, PhD, UCLA.

Eugenie L. Rovai, 1991, Professor, PhD, Clark U.

Noriyuki Sato, 2008, Assist Professor, PhD, Indiana U.

Mark L. Stemen, 2001, Assoc Professor, PhD, U Iowa.

**Geography Course Offerings**

Please see the section on “Course Description Symbols and Terms” in the University Catalog for an explanation of course description terminology and symbols, the course numbering system, and course credit units. All courses are lecture and discussion and employ letter grading unless otherwise stated. Some prerequisites may be waived with faculty permission. Many syllabi are available on the Chico Web.

**GEOG 101 Physical Geography**

Prerequisites: High school biology, chemistry, or physics is recommended. This course is a survey of the basic processes that determine flows of energy through the atmosphere and examines the subsequent interactions among water, landforms, soil, and vegetation that create and modify the surface of the earth. Students develop a recognition of landscape patterns, as well as an understanding of the physical, chemical, and biological principles and functions that create those patterns, in order to understand the nature of the environment in which we live and the role of humans affecting that environment, 2.0 hours lecture, 3.0 hours laboratory. This is an approved General Education course. Special fee required; see the Class Schedule. (003857)

**GEOG 102 Human Geography**

Survey of human populations and activities, with an emphasis upon how social, economic, political, and religious institutions influence inter-relationships with the physical environment. This is an approved General Education course. This is an approved Global Cultures course. (003859)
GEOG 102H Human Geography - Honors 3.0 Spring
Prerequisites: Acceptance into the Honors Program. A special section of GEOG 102 for students in the Honors in General Education Program. Survey of human populations activities with an emphasis on how social, economic, political, and religious institutions influence interrelationships with the physical environment. This is an approved General Education course. This is an approved Global Cultures course. (020002)

GEOG 105 California Cultural Landscapes 3.0 Fa/Spr
Broad overview of spatial and temporal changes in the California landscape resulting from the interaction of various cultural groups with their environment. This is an approved General Education course. This is an approved US Diversity course. (003860)

GEOG 106 The American West 3.0 Fa/Spr
The historical cultural geography of the American West, emphasizing how various cultural groups have each made a unique imprint on the western landscape. This is an approved General Education course. (003861)

GEOG 117 Landscapes of Chico 1.0 Fall
Introduction to the natural and urban landscapes of Chico, moving from the Sacramento River, through Chico, and into the foothills. This course examines the human and physical geography of Chico and introduces freshmen and other new students to their new home. Course activities include lectures, lab assignments, and self-guided field trips. (020264)

GEOG 119A Introductory ArcGIS 1.0 Spring
Introduction of concepts and techniques of geographic information system analysis and the presentation of map data. The course introduces the ArcMap application. Not for geography majors. (020348)

GEOG 119B Intermediate ArcGIS 1.0 Spring
Intermediate level study of concepts and techniques of geographic information system analysis and the presentation of map data. Not for geography majors. (020349)

GEOG 119C Advanced ArcGIS 1.0 Spring
Advanced study of concepts and techniques of geographic information system analysis and the presentation of map data. Not for geography majors. (020350)

GEOG 198 Special Topics in Geography 1.0–3.0 Fa/Spr
This course is for special topics offered for 1.0–3.0 units. Typically the topic is offered on a one-time-only basis and may vary from term to term and be different in different sections. See the Class Schedule for the specific topic being offered. (003869)

GEOG 219 Introduction to Geographic Methods 3.0 Fa/Spr
A basic introduction to essential geographic techniques, including data collection, analysis, and presentation. Techniques include aerial photo and map interpretation, computer cartography, spreadsheet operations, landscape description and analysis, descriptive statistics, and field observation. This is a basic tools course for students majoring in geography, the natural and earth sciences, and in such applied fields as planning and recreation. Special fee required; see the Class Schedule. (015867)

GEOG 301 Global Economic Geography 3.0 Spring
A systematic survey of human economic activities. Analysis of resource exploitation and use, including agriculture, extractive activities, industry, commerce, and service functions. Recommended for business and liberal arts majors. This is an approved Global Cultures course. (003871)

GEOG 303 Geography and World Affairs 3.0 Fa/Spr
Geography in the news. Analysis of current world conflicts and problem areas, with an emphasis upon examination of social, economic, political, and environmental realities. This is an approved General Education course. This is an approved Global Cultures course. (003872)

GEOG 304 Environmental Issues 3.0 Fa/Spr
Geographic analysis of humanity's interaction with the environment. Examines natural and human systems, resources, population, energy, and pollution. Develops an appreciation of the beauty, balance, and complexity of natural systems and human success in attaining harmony with them. Enhances awareness and perception of each individual's role in and with the environment. This is an approved General Education course. (003873)

GEOG 306 Geographies of Disaster 3.0 Fa/Spr
This course provides a broad global overview of disasters resulting from natural or technological hazards. Disasters contribute to and kill, and properly losses due to disaster have continued to increase. This course emphasizes the spatial and temporal distribution of hazards, the human impact of disaster, roles played by technology and society in creating or worsening risky situations, and policy options for disaster preparation and loss reduction. This is an approved General Education course. Special fee required; see the Class Schedule. (003875)

GEOG 309 Geographical Research and Writing 3.0 Fa/Spr
Examination and evaluation of library research materials pertinent to geography. Practice in analysis and writing of geographical reports. Successful completion required for all geography majors before enrolling in WP course to meet writing requirement. (003876)

GEOG 313 Introductory Cartography 3.0 Fall
Prerequisites: GEOG 219 or equivalent. Introduction to the compilation, design, and production of thematic maps. Emphasis is on maps as communication devices. 2.0 hours activity, 2.0 hours discussion. Special fee required; see the Class Schedule. (003880)

GEOG 314 Aerial Photo Interpretation 3.0 Spring
Prerequisites: GEOG 219 or equivalent. Application of basic skills of aerial photographic interpretation to land use and environmental studies, geology, hydrology, range management, and urban studies. 2.0 hours activity, 2.0 hours discussion. (003937)

GEOG 315 Spatial Analysis 3.0 Fall
Prerequisites: GEOG 219 or MATH 105 or equivalent. This course entails application of statistical methods to geographic problems. Students will conduct quantitative analysis of spatial data. (003881)

GEOG 316H Crossing Boundaries: Gender and Modernization 3.0 Fa/Spr
Prerequisites: GEOG 219 or MATH 105 or equivalent. An overview of contemporary human geography and some aspects of women's studies, emphasizing the importance of space, movement, place, environment, and family. Primary texts such as novels, memoirs, and films will be used to explore the perspectives of a variety of culture groups. This is an approved US Diversity course. This course is also offered as ENGL 316H. (003882)

GEOG 317 Field Techniques 3.0 Fall
Analysis of various field techniques and tools employed by geographers, and supervised application of field techniques in geography. Written and oral presentation of Field Survey. 6.0 hours activity. Special fee required; see the Class Schedule. (003939)

GEOG 318 Remote Sensing of the Environment 3.0 Spring
Prerequisites: GEOG 219. An introduction to the theory, techniques, data acquisition, processing, and presentation of imagery acquired through aerial photographic and satellite means of remote sensing. Application of basic skills of aerial photographic interpretation and satellite digital image processing and analysis to physical and cultural geographic phenomena. 6.0 hours activity. Special fee required; see the Class Schedule. (003941)

GEOG 319 Introduction to Geographical Information Systems 3.0 Fa/Spr
Prerequisites: GEOG 219 or equivalent. This course provides an introduction to topics in Geographic Information Systems (GIS). The course will combine a conceptual discussion of topics with practical exercises using microcomputer software. Both the theory and practice of GIS analysis will be presented. Special fee required; see the Class Schedule. (003883)

GEOG 320 Introduction to Community and Rural Planning 3.0 Fall
Study of the theory and practice of planning. Analysis of planning processes, elements of the comprehensive plan, zoning, environmental impact of development, regional policies, and growth. Includes investigation of a practical planning problem. (003884)

GEOG 325 Geography and Tourism 3.0 Fall
Study of spatial and locational aspects of tourism, including environmental factors influencing tourism's location and character. (003888)

GEOG 342 Geomorphology 3.0 Fall
Prerequisites: GEOG 101 or GEOG 102 or equivalents, or faculty permission. Systematic analysis of the origin and development of landforms. Emphasis is on the study of geomorphic processes using maps, air photos, and field data. Special fee required; see the Class Schedule. (003926)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Term</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 343</td>
<td>Climatology</td>
<td>3.0</td>
<td>Fall</td>
<td>Systematic analysis of the processes and controls of the earth's climatic systems. Use of climatic classification systems; examination of climatic regions, microclimatology, and climatic applications. (003928)</td>
</tr>
<tr>
<td>GEOG 351</td>
<td>California</td>
<td>3.0</td>
<td>Inquire</td>
<td>The Golden State - land of contrast! A regional survey with emphasis upon the Earth and its human use. (003901)</td>
</tr>
<tr>
<td>GEOG 352</td>
<td>The United States</td>
<td>3.0</td>
<td>Fall</td>
<td>A regional study of our nation in terms of the physical earth and its human use. The course includes emphasis on issues and problems related to resources, environmental concerns, and settlement patterns. Cultural and regional differences in human-environmental relationships are compared and contrasted. This is an approved General Education course. (003902)</td>
</tr>
<tr>
<td>GEOG 353</td>
<td>Canada: Land and People</td>
<td>3.0</td>
<td>Inquire</td>
<td>The Canadian people and their cultural and physical landscapes are studied in terms of perceptions, processes, patterns, and relationships. (001630)</td>
</tr>
<tr>
<td>GEOG 354</td>
<td>Land and People of Mexico</td>
<td>3.0</td>
<td>Fall</td>
<td>An interdisciplinary approach to the study of social institutions and culture in terms of family, neighborhood, community, region, and nation, with specific emphasis on Mexico. This course is designed to be a component of the Upper-Division Theme on Mexico and Central America. This is an approved General Education course. This is an approved Global Cultures course. This course is also offered as LAST 354. (003903)</td>
</tr>
<tr>
<td>GEOG 355</td>
<td>Land and People of Central America and the Caribbean</td>
<td>3.0</td>
<td>Spring</td>
<td>Study of the physical environment, human settlement, development, and modern problems of the nations of Central America and the Caribbean. This course is designed to be a component of the Upper-Division Theme on Mexico and Central America. This is an approved General Education course. This is an approved Global Cultures course. This course is also offered as LAST 355. (003905)</td>
</tr>
<tr>
<td>GEOG 356</td>
<td>South America</td>
<td>3.0</td>
<td>Inquire</td>
<td>A survey of the physical and cultural environments of South America. Emphasis will be given to the interrelationships between the people and the land, the cultural similarities and differences of Spanish and Portuguese South America, and the resulting contemporary environment. (003907)</td>
</tr>
<tr>
<td>GEOG 360</td>
<td>Europe</td>
<td>3.0</td>
<td>Inquire</td>
<td>An analysis of an old but changing habitat that has been the focal point of much human achievement and strife. A nation-by-nation review of the homeland for half a billion people. (003910)</td>
</tr>
<tr>
<td>GEOG 365</td>
<td>Former Soviet Union</td>
<td>3.0</td>
<td>Inquire</td>
<td>A regional study of the world’s largest group of nations. This course considers environment, settlement, contemporary aspects, problems, and potentials. (003911)</td>
</tr>
<tr>
<td>GEOG 370</td>
<td>Pacific Rim Regions</td>
<td>3.0</td>
<td>Inquire</td>
<td>A survey of the physical, cultural, political, population, and resource patterns, and relationships in the economic and social evolution of the regions. You may take this course more than once for a maximum of 6.0 units. (003912)</td>
</tr>
<tr>
<td>GEOG 378</td>
<td>Australia and the South Pacific</td>
<td>3.0</td>
<td>Inquire</td>
<td>Modern Australia, New Zealand, and the South Pacific Islands, including Tahiti, Fiji, Samoa, Tonga, and New Guinea. Cultural and physical environments are analyzed and compared in terms of perceptions, processes, landscape patterns, and problems. (003918)</td>
</tr>
<tr>
<td>GEOG 389</td>
<td>Geography Internship</td>
<td>1.0–3.0</td>
<td>Fa/Spr</td>
<td>This internship is offered for 1.0-3.0 units. Students must register directly with a supervising faculty member. The internship provides service learning experience as a volunteer or supervisor in a campus or community environmental organization or agency. Each unit of credit requires a minimum of three hours of activity in the assigned role. 2.0 hours activity. You may take this course more than once for a maximum of 15.0 units. Credit/no credit grading only. (003922)</td>
</tr>
<tr>
<td>GEOG 398</td>
<td>Special Topics in Geography</td>
<td>1.0–3.0</td>
<td>Fa/Spr</td>
<td>This course is for special topics offered for 1.0-3.0 units. Typically the topic is offered on a one-time-only basis and may vary from term to term and be different for different sections. See the Class Schedule for the specific topic being offered. (003923)</td>
</tr>
<tr>
<td>GEOG 398H</td>
<td>Special Topics - Honors</td>
<td>3.0</td>
<td>Inquire</td>
<td>Prerequisites: Junior standing and current enrollment in the Honors Program. In a format designed for students in the Honors Program, this course will present selected topics not covered in the regular curriculum. Topics will vary from one semester to another. See the Class Schedule for the specific topic being offered. (003924)</td>
</tr>
<tr>
<td>GEOG 399</td>
<td>Special Problems</td>
<td>1.0–3.0</td>
<td>Fa/Spr</td>
<td>Prerequisites: Faculty permission. This course is an independent study of special problems offered for 1.0-3.0 units. You must register directly with a supervising faculty member. You may take this course more than once for a maximum of 6.0 units. Credit/no credit grading only. (003925)</td>
</tr>
<tr>
<td>GEOG 403S</td>
<td>Nature and Restoration</td>
<td>3.0</td>
<td>Fall</td>
<td>An analysis of the complex interactions between humans, plants, and animals in the restoration process. Includes the use of maps and other graphic material as well as reading, lecture, and discussion. Emphasis on how human activities can affect the distribution and abundance of various plant and animal species in both negative and positive ways. Restoration work on the Butte Creek Ecological Reserves and other similar sites provide a focus for class projects and discussion. (003930)</td>
</tr>
<tr>
<td>GEOG 407</td>
<td>Earth Systems Analysis of Global Change</td>
<td>3.0</td>
<td>Spring</td>
<td>Prerequisites: GEOG 342, GEOG 343, GEOG 444 and GEOG 445. This course brings together the fields of climatology, biogeography, and geomorphology to study earth systems science as an integrative discipline of spatially dependent earth processes with implications for human systems. Major mechanisms and processes which produce climate change are covered with an examination of the impacts of past climate change on human societies. Observations and modeling of selected earth system components at various spatial scales of analysis facilitate an understanding of spatial modeling from simple to complex systems. Special fee required; see the Class Schedule. (015873)</td>
</tr>
<tr>
<td>GEOG 413</td>
<td>Advanced Cartography</td>
<td>3.0</td>
<td>Spring</td>
<td>Prerequisites: GEOG 313. Cartographic data entry, manipulation, and analysis in a computer mapping environment. Emphasis is on geographic information processing. 2.0 hours discussion. Special fee required; see the Class Schedule. (003932)</td>
</tr>
<tr>
<td>GEOG 416</td>
<td>Locational Analysis</td>
<td>3.0</td>
<td>Inquire</td>
<td>Prerequisites: Concurrent enrollment in or prior completion of GEOG 315 or equivalent. Examination of retail, service, and industrial location decision processes. Use of geographic information systems, quantitative methods, and field techniques to analyze and optimize business locations. (003938)</td>
</tr>
<tr>
<td>GEOG 419</td>
<td>Advanced Geographic Information Systems (GIS)</td>
<td>3.0</td>
<td>Spring</td>
<td>Prerequisites: GEOG 315 and GEOG 319. This course examines technical issues and emerging developments in Geographic Information Systems (GIS). Topics include design considerations, data structures, algorithms, and problems. Both raster and vector GIS systems will be examined. Demonstration projects will require both cartographic and tabular output. Special fee required; see the Class Schedule. (003942)</td>
</tr>
<tr>
<td>GEOG 423</td>
<td>Planning Methods</td>
<td>3.0</td>
<td>Inquire</td>
<td>Prerequisites: GEOG 315, GEOG 320. Identification and analysis of the skills necessary for students of planning and regional development, with emphasis on the preparation of general plans and special plan elements. 6.0 hours activity. (003945)</td>
</tr>
<tr>
<td>GEOG 424</td>
<td>Planning Studio</td>
<td>3.0</td>
<td>Inquire</td>
<td>Prerequisites: GEOG 309 for majors; GEOG 423 or equivalent. Application of planning theory and skills to a variety of actual planning studies in the field. (003946)</td>
</tr>
<tr>
<td>GEOG 425</td>
<td>Planning for Sustainable Communities</td>
<td>3.0</td>
<td>Fall</td>
<td>Examination of economic, social, demographic, and political bases for sustainable community and regional development and planning. Introduces the theory, evolution and practice of planning for sustainable communities and regions through examination of environmental, economic, and equity issues. Special fee required; see the Class Schedule. (003947)</td>
</tr>
</tbody>
</table>
GEOG 426 Water Resource Policy and Planning 3.0 Spring
Prerequisites: GEOG 304 or equivalent.
Analysis of local, regional, national, and international water resource projects, distributions, and characteristics. Special fee required; see the Class Schedule. (003948)

GEOG 427 Environmental Impact Analysis 3.0 Spring
Prerequisites: GEOG 320 or equivalent or faculty permission.
Introduction to the identification of environmental resources and the evaluation of potential adverse impacts on air, soil, and water quality; on biological resources; and on public services associated with land development. The course provides an overview of the provisions of the California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA); analysis of environmental review procedures; environmental research and documentation; review and preparation of initial studies, mitigated negative declarations, and Environmental Impact Reports (EIRs). This course also evaluates legislation on global climate change and how CEQA addresses and mitigates for greenhouse gas emissions. (003949)

GEOG 428 Site Planning 3.0 EvnSp
Prerequisites: GEOG 219, GEOG 320, or equivalent.
Relationship of physical, biotic, cultural, and aesthetic factors to land planning. Techniques of solving site problems dealing with topography, grading, slope stability, seismicity, hydrology, vegetation, wildlife, soils, micro-climate energy use, view-shed, and functional design. Land development projects are analyzed, and plans for new development projects are prepared. Special fee required; see the Class Schedule. (003950)

GEOG 429 Environmental and Conservation Planning 3.0 OddSp
Prerequisites: GEOG 219, GEOG 320. Recommended: GEOG 101, GEOG 130, or NSCI 101.
This course introduces the theory and application of environmental and conservation planning. It critically examines the activities of environmental planning and the analytical approaches that can be used to direct resources toward conservation that yields the greatest return on biodiversity protection and ecosystem services sustainability. Students gain knowledge of the theories and techniques through practical experiences in planning activities, legal and environmental and conservation planning. Using sustainability as a framework, this course presents the underlying concepts of sustainable land-use planning to best manage for abiotic and biotic resources. Focus is on the regional, local, and landscape scales. (003952)

GEOG 430 Geodemography 3.0 Spring
Prerequisites: Faculty permission.
Geographic foundations of political developments and events, with emphasis on the geographical dimensions of demographic processes and how they underlie political changes. (003952)

GEOG 435 Historical Geography of North America 3.0 Fa/Spr
Prerequisites: Faculty permission.
A regional and topical description of North America at selected time periods, including cultural groups, land tenure systems, settlement patterns, agriculture, exploration and mapping, resource use, urbanization, population and migrations, and present-day results. This course is also offered as AMST 435. (003952)

GEOG 436 Transportation Planning 3.0 Spring
Prerequisites: GEOG 301, GEOG 320, or faculty permission.
An analysis of the function and distribution of the various modes of transportation and their role in urban and regional development. Techniques of planning transportation systems based on land use. (003955)

GEOG 439 American Cultural Landscapes 3.0 Fall
Analysis of the special character of North American landscapes. Examination of the historical evolution of contemporary landscapes through maps, reading, literature, field observations, and class discussion. Emphasis on comparison of regional patterns and the shaping of American landscapes by cultural and economic factors. (003956)

GEOG 440 Environmental Thought and Action 3.0 Spring
Prerequisites: Faculty permission.
This seminar is required of students minoring in Environmental Studies and is to be taken as the culminating course in the minor. The course integrates the cross-disciplinary elements of the minor, emphasizing the interplay among the scientific, social, legal, historical, and humanistic elements of the study of the environment. (003959)

GEOG 444 Biogeography: Examination of Plant and Animal Distributions 3.0 EvnSp
Prerequisites: GEOG 101 or BIOL 102 or BIOL 134 or equivalent. Recommended: GEOG 219.
Systematic analysis of basic ecological and environmental processes governing distribution patterns of biota. Emphasis is on biomes, ecosystems, communities, and species hierarchical levels, their functioning, and conservation planning. Students study applications of maps, remote sensing, field sampling, and data analysis to interpret distributions and historical change. Special fee required; see the Class Schedule. (003960)

GEOG 445 Pyrogeography 3.0 OddSp
Prerequisites: At least one of the following: AGRI 311, BIOL 414, BIOL 450, GEOG 304, GEOG 405, GEOG 444, GEOG 449, PSSC 330, PSSC 331, PSSC 334, PSSC 433, PSSC 436, PSSC 418, or faculty permission.
Pyrogeography is a comprehensive study of the physical and cultural parameters of fire. Topics covered include the spatial and temporal relationships of fire as an integral landscape process with an emphasis on the maintenance of North American ecosystems; the interpretation of the cultural uses of fire by indigenous communities as well as the historic and contemporary implications of fire management and policies; and the ecological implications of fire on biotic and abiotic systems. (020413)

GEOG 450 Field Studies 1.0–3.0 Fa/Spr
Prerequisites: Faculty permission.
On-site survey of the physical and cultural geography of selected California sites, or other areas and topics. You may take this course more than once for a maximum of 3.0 units. Special fee required; see the Class Schedule. (003969)

GEOG 460 Natural Hazards 3.0 Spring
Prerequisites: GEOG 101 or equivalent.
Identification, study, and understanding of the major natural hazard systems affecting human land use, settlement, and effective natural resource management. (003983)

GEOG 489 Internship 1.0–3.0 Fa/Spr
This course is an internship offered for 1.0–3.0 units. You must register directly with a supervising faculty member. Supervised work experience in applied geography or planning in public or quasi-public agencies. You may take this course more than once for a maximum of 15.0 units. (003992)

GEOG 490 Seminar in Geography 3.0 Fa/Spr
Prerequisites: ENGL 130 (or its equivalent) with a grade of C- or higher, senior standing, GEOG 109.
Seminar on selected topics in geography. You may take this course more than once for a maximum of 6.0 units. This is a writing proficiency, WP, course; a grade of C- or better certifies writing proficiency for majors. (003993)

GEOG 498 Special Topics in Geography 1.0–3.0 Fa/Spr
Prerequisites: Completion of 6 units of geography. This course is for special topics offered for 1.0–3.0 units. Typically the topic is offered on a one-time-only basis and may vary from term to term and be different for different sections. See the Class Schedule for the specific topic being offered. (004004)

GEOG 499H Honors Research in Geography 3.0 Fa/Spr
Prerequisites: Faculty permission.
An intensive 3-unit course in geographical research. See department office for details. Open only to students with at least a 3.0 GPA in the major. The course consists of a research project done under the supervision of a faculty member, a formal written paper, and a public presentation. You may take this course more than once for a maximum of 6.0 units. (004006)

GEOG 600 Introduction to Graduate Research 3.0 Fall
Prerequisites: Faculty permission.
A critical survey of contemporary directions and research in the major themes of geography and planning. (004007)

GEOG 601 Research Models in Geography and Planning 3.0 Spring
Prerequisites: GEOG 600.
A critical survey of contemporary methodologies available for research in geography and planning. (004008)

GEOG 602 Seminar in Physical Geography 3.0 Fall
Prerequisites: Faculty permission.
An examination of current research in climatology, geomorphology, biogeography, or other selected topic in physical geography. You may take this course more than once for a maximum of 6.0 units. (004010)
GEOG 603 Seminar in Human Geography 3.0 Fall
Prerequisites: Faculty permission.
An examination of current research in a selected human geography topic, including cultural, economic, urban, political, social, or behavioral geography. You may take this course more than once for a maximum of 6.0 units. (004011)

GEOG 604 Planning Practice and Theory 3.0 Odd Fa
Explores planning knowledge, ethics, and practice at community, urban, and regional levels. Content includes communication, ethics, participation, sustainability, and diversity in planning. Planning theory is discussed through case studies. (020743)

GEOG 605 Seminar in Applied Geography and Planning 3.0 Even Fa
Prerequisites: Faculty permission.
An examination of current developments in a selected topic of applied geographical and planning techniques. You may take this course more than once for a maximum of 6.0 units. (004013)

GEOG 606 Seminar in Special Topics 3.0 Inquire
Prerequisites: Faculty permission.
An investigation and analysis of a special topic in areal studies or geographic education. You may take this course more than once for a maximum of 6.0 units. (004015)

GEOG 607 Environmental Planning 3.0 Inquire
Prerequisites: BIOL 334, GEOG 427, and faculty permission.
Survey of environmental planning processes using concepts and principles of conservation ecology. Coverage includes legal mandates, administrative procedures, implementation techniques, and monitoring outcomes. Emphasis is on case studies and hands-on experience. (004016)

GEOG 660 Landscape Ecology 3.0 Fall
Prerequisites: BIOL 350 or GEOG 444; MATH 314 or MATH 350 or GEOG 315.
This course emphasizes spatial patterning in the landscape, its causes, development, and importance for ecological and environmental processes. The course includes the study of ecological and anthropogenic aspects of landscape pattern and change. The laboratory includes hands-on experience with tools used in landscape ecology. 2.0 hours lecture, 3.0 hours laboratory. This course is also offered as BIOL 660. (020295)

GEOG 689 Internship 1.0–3.0 Fa/Spr
Prerequisites: Graduate Coordinator permission.
This course is an internship offered for 1.0–3.0 units. You must register directly with a supervising faculty member. Supervised work experience. You may take this course more than once for a maximum of 15.0 units. (004057)

GEOG 689T Supervised College Teaching 2.0 Fa/Spr
Weekly tutorials and supervision for those students who plan to prepare for a career in college teaching of geography. Students must identify the course and the tenure/tenure-track faculty member teaching that course during the semester offered. The faculty member must agree to mentor a student in pedagogical training with a particular course. Faculty members can be responsible for a maximum of two students in any one semester. A maximum of 2.0 units in this course is acceptable for credit toward the Master of Arts in Geography. The course may be taken twice, but a different subject course must be chosen for the second enrollment. A supervised teaching plan is to be filed with the Graduate Coordinator, and approval of the Department Chair is required for registration. You may take this course more than once for a maximum of 4.0 units. (020443)

GEOG 697 Independent Study 1.0–3.0 Fa/Spr
Prerequisites: Graduate Coordinator permission.
This course is a graduate-level independent study offered for 1.0–3.0 units. You must register directly with a supervising faculty member. You may take this course more than once for a maximum of 6.0 units. Credit/no credit grading only. (004060)

GEOG 699P Master's Project 1.0–6.0 Fa/Spr
Prerequisites: Graduate Coordinator permission and candidacy status.
This course is offered for 1.0–6.0 units. You must register directly with a supervising faculty member. You may take this course more than once for a maximum of 6.0 units. (004064)

GEOG 699T Master's Thesis 1.0–6.0 Fa/Spr
Prerequisites: Graduate Coordinator permission and candidacy status.
This course is offered for 1.0–6.0 units. You must register directly with a supervising faculty member. You may take this course more than once for a maximum of 6.0 units. (004061)