

APPENDIX B  
UNDERGRADUATE CATALOG

## Geography-Undergraduate Catalog

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Geographers study the differences in human activities from one place to another, assess human impacts and responses to the environment, and resolve vital questions about current national and international situations.

Geographers also pursue more theoretical inquiry into the major problems of human society by examining spatial structure and processes using various techniques of mathematical and cartographic analysis of spatial phenomena, computer mapping, geographic information systems, and remote sensing.

A typical and traditional problem in geography concerns human impact on the land. Air pollution, contamination of waterways, decaying urban areas, destruction of the landscape, and the like, can only be well understood by examining the interrelations of factors such as technology, population density, legal structure, affluence, cultural traditions, and environment.

### Geography (BA or BS)

Students of geography may pursue a traditional major in geography, a geography minor, or choose the geography-pre-planning option. The bachelor of science or the bachelor of arts degree may be earned.

Requirements for a major in geography:

<a href="#">GEOG 100</a>	World Regional Geography	3
<a href="#">GEOG 200</a>	Human Geography	3
<a href="#">GEOG 221</a>	Environmental Geography I	4
<a href="#">GEOG 321</a>	Environmental Geography II	4
<a href="#">GEOG 302</a>	Cartography and Thematic Mapping	3
<a href="#">GEOG 495</a>	Capstone Seminar in Geography	2
<a href="#">GEOG 508</a>	GIS I	3

One course in human-environment interaction: ([GEOG 340](#), [460](#), [718](#), [720](#), [725](#), [760](#), [765](#), or [770](#)) 3

Geography electives (three hours must be at the 700 level: ([GEOL 520](#) may be used as a geography elective) 12  
Total credit hours required 37

Although the major requirements for the BA or BS degrees are the same, college requirements differ as described earlier in the College of Arts and Sciences section.

Students may pursue a general program in geography or choose to develop a concentration in either environmental studies or community studies. Other concentrations may be developed to reflect the particular interests of a student. For example, a student may earn a teaching certificate while working toward a degree in geography.

Another curriculum leads to the bachelor of science degree in secondary education. For information concerning this program see the College of Education section of this catalog.

#### Geography: pre-planning option (BA or BS)

Geography is an appropriate discipline for students who wish to pursue a career in a planning-related field or desire to take graduate training in planning. The geography pre-planning option provides a broad interdisciplinary background and a core curriculum in geography. Completion of the requirements will also yield a certificate in community planning from the Department of Regional and Community Planning.

The courses for the pre-planning option include all of those required for a geography major. In addition, students must take:

Select one of the following (3 hours):

<a href="#">GEOG 700</a>	Quantitative Analysis in Geography	3
<a href="#">GEOG 702</a>	Computer Mapping	3
<a href="#">GEOG 705</a>	Remote Sensing/Environment	3
<a href="#">GEOG 708</a>	Geographic Information Systems	3

Select one of the following (3 hours):

<a href="#">ECON 555</a>	Urban and Regional Economics	3
POLSC718	Urban Politics	3
SOCIS531	Urban Sociology	3

From the Department of Regional and Community Planning (15 hrs.):

<a href="#">PLAN 315</a>	Introduction to Planning	
	<b>or</b>	
<a href="#">PLAN 715</a>	Planning Principles	3
<a href="#">PLAN 752</a>	Physical Process of Planning Implementation	
	<b>or</b>	

<a href="#">PLAN 753</a>	Planning Law	3
	Three additional planning courses	9
<b>Geography minor</b>		
<a href="#">GEOG 100</a>	World Regional Geography	3
<b>or</b>		
<a href="#">GEOG 200</a>	Human Geography	3
<a href="#">GEOG 221</a>	Environmental Geography I	3
<a href="#">GEOG 302</a>	Cartographic and Thematic Mapping	3
	At least two additional geography courses at the 400 level and above	6
Total credit hours required		<b>16</b>

### **Certificate in geographic information systems**

(18 hours)

The undergraduate certification in geographic information systems, as distinct from the minor in geography, is focused on meeting the needs of students who want to acquire grounding in geospatial analytical tools (cartography, remote sensing, and GIS). The certificate helps students prepare for entry-level positions in the private sector or government.

<a href="#">GEOG 302</a>	Cartography and Thematic Mapping	3
<a href="#">GEOG 508</a>	Geographic Information Systems I	3
<a href="#">GEOG 702</a>	Computer Mapping and Geographic Visualization	3
<a href="#">GEOG 705</a>	Remote Sensing of Environment	3
<a href="#">GEOG 708</a>	Geographic Information Systems II	3
	One additional class with 50 percent or more GIS content	3

### **Geography courses**

◆GEOG 100. World Regional Geography. (3) I, II. Introduction to geography structured on a framework of major world regions and countries. With the regional approach is an explicit discussion of the essential concepts of certain systematic specialties, such as political, social, economic, and urban geography.

◆GEOG 200. Human Geography. (3) I. A geographical assessment of the way human activities shape landscapes throughout the world. The course is especially appropriate for students interested in the social and behavioral sciences.

GEOG 201. Human Geography (Honors). (3) I, in odd years. Spatial aspects of human

organization and behavior are examined through selected concepts in modern geography. The course is especially appropriate for students interested in the social and behavioral sciences. Pr.: Membership in arts and sciences honors program.

◆GEOG 221. Environmental Geography I. (4) I, II. A basic physical geography course emphasizing the geosphere and hydrosphere, including processes, patterns, and physical background for related issues such as natural hazards and human modification of physical conditions. Introduces remote sensing and the use of topographic maps in environmental study. Three hours lec. and one two-hour lab a week.

◆GEOG 300. Geography of Tourism. (3) II. The geography of tourism is concerned with the structure, form, use, and conservation of the landscape as well as with such spatial conditions as the location of tourist areas and the movements of people from place to place. This course addresses such concepts as the economic, environmental, social, and cultural impacts of tourism as well as examining the tourist geography of each of the world's regions, focusing on the major tourist areas.

GEOG 302. Cartography and Thematic Mapping. (3) I. Introduction to cartographic history, theory and principles, thematic map design, symbolization, map perception, color theory, typography, and digital cartographic research. Laboratory work will familiarize students with the latest cartographic software that will be used to produce a series of thematic maps. The course will consist of two hours of lecture and two hours of lab per week. Pr.: [STAT 330](#) (or equiv.).

◆GEOG 310. Geography of Kansas. (3) I. Perceptions of Kansas, and a regional analysis of the state including discussion of climate, landforms, soil, water, and minerals as well as patterns of settlement, population, agriculture, industry, transportation, and urban development.

◆GEOG 321. Environmental Geography II. (4) I, II. A basic physical geography course emphasizing the atmosphere, weather, climate, and the biosphere. Includes human modification of atmospheric conditions, climate change, severe storms, and the association between global climate and plant distributions. Introduces map use, including isopleth and weather maps. Three hours lecture and one two-hour lab a week. Pr.: [GEOG 221](#).

◆GEOG 340. Geography of Natural Resources. (3) I. The distribution, significance, and environmental consequences of world agriculture, fishing, forestry, and mining, emphasizing the principles which account for the spatial variation in the extraction and consumption of natural resources.

◆GEOG 399. Honors Seminar in Geography. (2-3) Selected topics. Open to nonmajors in the honors program.

GEOG 450. Geography of Economic Behavior. (3) II. The location of manufacturing industries and patterns of commercial activity. Case studies and simulations are used with emphasis on modern concepts of site selection and community development.

GEOG 460. Human Dimensions of Global Change. (3) I. An examination of the complexity of forces driving global change, with an emphasis on change related to

population growth, technological development, and sociocultural and socioeconomic institutions. Pr.: [GEOG 221](#) and either [GEOG 100](#) or [200](#).

GEOG 490. Problems in Geography. (Var.) I, II, S. Pr.: Consent of instructor.

GEOG 495. Capstone Seminar in Geography. (2) I. An integrative capstone seminar requiring geography majors to synthesize knowledge and skills acquired in prior geography courses. Students pursue independent projects in consultation with a faculty member and present their findings in written and oral reports. The course exposes students to and helps prepare them for a variety of professional and scholarly opportunities available after graduation. Required of and restricted to geography undergraduate majors. Meets for two hours once a week.

GEOG 498. Honors Tutorial in Geography. (1-3) I, II. Individual directed research and study of a topic in geography, normally as a preliminary to writing a senior honors thesis. May be repeated once to a total of 3 hours. Pr.: Sophomore standing, membership in the honors program of the College of Arts and Sciences, and permission of the instructor.

GEOG 499. Senior Honors Thesis. (2) I, II, S. Open only to seniors in the arts and sciences honor program.

◆GEOG 500. Geography of the United States. (3) I, in odd years. A regional analysis of the United States with special attention to the historical, political, economic, and social factors which contribute to a real differentiation within the area.

◆GEOG 505. South Asia Civilizations. (3) I, in even years. Interdisciplinary survey on the development of civilization in India, Pakistan, Sri Lanka, Bangladesh, Nepal, Bhutan, and Afghanistan, including geography, philosophy, social, economic, political institutions, and historical movements. Pr.: 3 hours of social science or junior standing. Same as [ECON 505](#), [HIST 505](#), [POLSC 505](#), [SOCIO 505](#), [ANTH 505](#).

GEOG 508. Geographic Information Systems I. (3) II. Examination of the major concepts, theories, and operations in geographic information systems (GIS). Topics include: the nature of geo-referenced data, data acquisition, and spatial database management, coordinate systems and maps, data structure, and the basic GIS operations that are available for spatial analysis. The course will consist of two hours of lecture and two hours of lab a week. Pr.: [GEOG 302](#) or instructor permission.

◆GEOG 510. Geography of the American West. (3) II, in even years. A broad survey of the geography of the American West with a focus on the distinctive human and environmental characteristics of the region. Historical, cultural, ethnic, resource, land use, and physical landscape patterns are examined through lectures, readings, videos, and discussions. Pr.: A previous course in geography and sophomore standing.

◆GEOG 535. Fundamentals of Climatology. (3) II. An examination of climatology on global, regional, and local scales, with emphasis on the physical processes and

environmental factors that influence and control climate. Climatic change and its impact on human activities are explored. Pr.: [GEOG 321](#).

◆GEOG 600. Mountain Geography. (3) I, in even years. A broad survey of the human and physical geography of mountains. The course utilizes lectures, discussion, videos, and photographs to examine the human-environment interactions, cultural symbolism and sacredness, recreation and tourism, and sustainable development of mountain landscapes. The regional focus is primarily on the American West, but other mountains throughout the world will also be studied. Pr.: A previous course in geography and junior standing.

GEOG 610. Geography Internship. (2-3) I, II. Faculty-supervised field experience, emphasizing the application of geographical topics and/or techniques. Student projects must be approved by both the on-site director and the faculty supervisor, and a report must be submitted at the end of the semester. Permission of the instructor and junior standing in geography is required.

◆GEOG 620. Geography of Latin America. (3) II, in even years. A broad survey of the physical and human patterns of the Latin American culture area, past and present, with emphasis on the changing landscape features in the successive patterns of human occupancy.

GEOG 640. Geography of Europe. (3) I. People and their environment, their cultures, problems, and prospects in Europe west of the Soviet Union; trends of development as affected by changing political and economic factors.

◆GEOG 650. Geography of Former Soviet Lands. (3) II, in odd years. Physical limitations, resource potentials, economic capabilities, and political and nationality issues, with particular emphasis on agriculture, manufacturing, urbanization, cultural diversity, and regional development. Pr.: Six hours of social science.

GEOG 660. Geography of East Asia/China. (3) I, in even years. An introduction to the human and physical geography of East Asia, with emphasis on China. Examines this region's physical, cultural, and socioeconomic patterns and changes, as well as interactions with other parts of the world.

GEOG 680. Seminar in Regional Geography. (1-3) Pr.: Consent of instructor.

GEOG 690. Historical Geography of the United States. (3) I, in even years. Interpretation and analysis of the American landscape and its regions from c. 1500 to c. 1950, with particular emphasis on landscape as both place and history. Also introduces and examines such current research topics as identity, contested places, landscape-as-text, and cultural politics. This is a seminar course. Pr.: [GEOG 100](#) and one course in American history.

GEOG 700. Quantitative Analysis in Geography. (3) II. Quantitative methods employed in modern geographical research. Applications of both statistical and mathematical approaches will be treated. Emphasis will be placed on interpretation and evaluation of techniques employed in spatial analysis. Pr.: One course in statistics.

GEOG 702. Computer Mapping and Geographic Visualization. (3) II. Basic cartographic principles, advanced methods for representing spatial data, and practical applications of thematic maps, animated and Internet-based maps, and geographic visualization techniques. Students will prepare a series of maps and visualization products using modern cartographic and illustration software. The course will consist of two hours of lec. and two hours of lab a week. Pr.: [GEOG 302](#) or instructor permission and junior standing.

GEOG 705. Remote Sensing of the Environment. (3) I, II. Remote sensing and its application to earth study, especially environmental problems and land use. Course employs both readings and the use of imagery. Two hours lec., two hours lab. Pr.: One course in physical science and one in biological science.

GEOG 708. Geographic Information Systems II. (3) I. Advanced principles of and applications for geographic information systems. Examines the nature and accuracy of geo-referenced data and methods of data capture, storage, retrieval, modeling, and digital map display. Students will use modern GIS software packages and digital geographic data from physical and/or cultural sources to explore software procedures and techniques of spatial analysis, decision support, and geographic visualization. The course will consist of two hours of lec. and two hours of lab a week. Pr.: [GEOG 302](#) and [508](#) (or consent of instructor).

GEOG 709. Geographic Field Research Techniques. (2-3) S. Explores methods and techniques employed in modern field research. Stresses research design, field data acquisition techniques, and data analysis. Pr.: Junior standing and at least 6 hours in geography.

GEOG 711. Topics in Remote Sensing. (3) II. Examination of a selected remote sensing topic in an area of faculty specialization. Repeatable once with change in topic. Pr.: [GEOG 705](#).

GEOG 715. World Population Patterns. (3) I, in even years. Geographical processes that govern population distributions, growth rates, and migrations. Emphasis on international comparisons and the implications for world society of continued differential growth rates. Pr.: Six hours of social science.

GEOG 718. Geography of Public Lands. (3) II. Overview of public lands systems, including distribution and uses of public lands, with an emphasis on U.S. federal lands. Historic and recent controversies regarding the public lands will be addressed. Seminar course with discussion and independent research components. Pr.: Six hours of social science and junior standing.

GEOG 720. Geography of Land Use. (3) I, in odd years. Critical factors affecting land use, scarcity, and management examined in a regional, national, and global context; land use classification systems and variation of land use patterns. Pr.: Six hours of social science and junior standing.

GEOG 725. Geography of Water Resources. (3) II, in even years. Interpretation and analysis of the physical geography of water and water as a resource. Evaluation of water, emphasizing quality, hazards, institutions, and selected domestic and global issues. Pr.: Six hours of social science and junior standing.

GEOG 730. World Agricultural Systems. (3) II, in odd years. Description and analysis of the spatial distribution of farm systems emphasizing traditional resource systems in the third world. The major objective is to analyze the interrelationships between natural and human elements in farm systems in order to gain an awareness and understanding of the complex issues involved in agricultural change and development. Pr.: Six hours of social science and junior standing.

GEOG 735. Topics in Climatology. (3) I. Examination of a selected climatology topic in an area of faculty specialization. Repeatable once with change in topic. Pr.: [GEOG 535](#).

GEOG 750. Urban Geography. (3) II. A study of geographic principles relating to the distribution, function, and structure of cities; a geographic analysis and classification of urban settlements. Pr.: Six hours of social science or planning.

GEOG 760. Human Impact on the Environment. (3) I. Assessment of human impacts on the natural environment. Surveys changing human impacts on and attitudes towards the environment, and details alteration of water systems, the atmosphere, landforms, plants, and animals. Pr.: Six hours of social science.

GEOG 765. Geography of Natural Hazards. (3) I. Examines important emergency management issues related to hazard mitigation, preparedness, disaster response, and recovery, including socio-cultural and physical components of disaster process. Assesses human vulnerability and risk to environmental calamities, such as droughts, floods, tornadoes, hurricanes, and earthquakes. Pr.: Nine hours of social science.

GEOG 770. Perception of the Environment. (3) II, in even years. An examination of the way people perceive their geographic environment and the role of perception in spatial behavior. Perceptions of neighborhoods, cities, states, nations, frontier regions, and environmental processes are explored. Pr.: Six hours of social science with one course above the introductory level, and 6 hours of natural science with one course above the introductory level.

GEOG 780. Cultural Geography. (3) II, in even years. A study of the forms of human occupancy of landscapes, with consideration of innovations in the use of the landscape, the origins and dispersals of these innovations, and human attitudes toward the natural environment. Pr.: Six hours of social science.

GEOG 790. Seminar in Geography. (1-3) Pr.: Consent of instructor.

GEOG 795. Topics in Geographic Information Science. (1-3) I, II. Selected geographic information science (GIScience) topic in an area of faculty specialization. Repeatable once with change in topic. Pr.: [GEOG 302](#) or consent of instructor.