GEOGRAPHY

Courses

GEOG 510 - Special Topics in Geographic Research (3 Credits)
Selected topics of special interest in geography. May be repeated as content varies by title.

GEOG 512 - Migration and Globalization (3 Credits)
A survey of the political, economic, and social causes and consequences of migration. Topics include immigration policy, border control, settlement patterns, transnationalism, multiculturalism, and integration. Selected contemporary and historical cases.

GEOG 515 - Political Geography (3 Credits)
Concepts of space and power and their relationship to polities, elections, geopolitics, identities, law, economics, populations, and civil society.

GEOG 516 - Coastal Zone Management (3 Credits)
Analysis of the competing demands for limited resources in the coastal zone with emphasis on the role of management in the resolution of conflicts over resource use.
Graduation with Leadership Distinction: GLD: Professional and Civic Engagement Internships

GEOG 517 - Socionatural Coastlines in Global Perspective (3 Credits)
A discussion-based seminar course that examines nature-society relations in coastal regions globally. The course will use social theory to understand how uneven development processes shaped – and continue shaping – current coastlines. We will explore key topics including coastal capitalism, delta ecologies, and climate justice via several global case studies.
Cross-listed course: ENVR 517

GEOG 521 - Landscapes of South Carolina (3 Credits)
An examination of the factors responsible for creating the contemporary South Carolina cultural landscape.

GEOG 525 - Geographical Analysis of Transportation (3 Credits)
Analysis of transportation systems and the application of geographic tools to transportation planning.

GEOG 530 - Environmental Hazards (3 Credits)
Human and environmental contributions to the generation and management of hazards originating from extreme natural events to technological failures. Contemporary public policy issues at the national and international level.

GEOG 531 - Quantitative Methods in Geographic Research (3 Credits)
A survey of basic quantitative approaches for handling and interpreting geographically related data; univariate and bivariate procedures applicable to a variety of problems.

GEOG 535 - Hazards Analysis and Planning (3 Credits)
Examination of the geo-spatial aspects of hazards analysis and planning with specific reference to disaster preparedness, recover, mitigation, and resilience.
Prerequisites: GEOG 363 and GEOG 530, or equivalents.

GEOG 538 - Global Food Politics (3 Credits)
Political, social, and cultural landscapes of food and farming around the world; issues of agricultural production, trade, consumption, and food security.
Cross-listed course: ENVR 538

GEOG 541 - Advanced Cartography (3 Credits)
Planning, compiling, constructing, and evaluating thematic maps. Theory and practice in scribing, separation and screening, color proofing, and map reproduction. Discussions of the process of map communication and the ways the cartographer can improve that communication.
Prerequisites: GEOG 341.

GEOG 542 - Dynamic Cartography (3 Credits)
Theories and principles of interactive and animated cartographic design.
Prerequisites: GEOG 341.

GEOG 544 - Geography of the City (3 Credits)
The influence of political boundaries, historical forces, settlement patterns, and transportation processes on urban life.

GEOG 545 - Weather Analysis and Forecasting (4 Credits)
Principles and controls of weather and climate as they occur at the regional/synoptic scale. Background on the critical tools and concepts used for daily weather forecasting by the National Weather Service and prominent government agencies, and used by broadcast meteorologists.
Prerequisites: C or better in GEOG 202.

GEOG 546 - Applied Climatology (4 Credits)
Analysis of climate applications in natural and human-modified environments. Content may include water resources, solar energy, urban planning, air quality, agriculture, and tourism. Course work includes lab and field experimentation.

GEOG 547 - Fluvial Geomorphology (3 Credits)
Introduction to landforms and processes associated with flowing water at the earth's surface. Hydrology, sedimentology, and theories of channel formation and drainage basin evolution.

GEOG 548 - Landscape Ecology (3 Credits)
Analysis of emergent patterns in landscape structure and its linkage to ecological processes; application of relevant principles, methodologies, and geospatial technologies to solving real-world challenges focused on species and ecosystem conservation.

GEOG 549 - Water and Watersheds (3 Credits)
Spatial variation of hydrology, water quality, and water-related hazards, including runoff generation, soil erosion, sedimentation, and flood hazards. Emphasizes a watershed perspective using geographic data and methods.
Prerequisites: GEOG 347, GEOL 371, or ECIV 360.

GEOG 551 - Remote Sensing of the Environment (3 Credits)
Computer-assisted digital image analysis; Image correction; Spatial/spectral transformation; image classification and change detection; Use of remote sensing for solving real-world environmental problems.

GEOG 552 - LiDARgrammetric and Photogrammetric Digital Surface Mapping (3 Credits)
Introduction to fundamental concepts used to map topographic and planimetric Earth surface features using digital LiDAR (LiDARgrammetric) and digital soft-copy photogrammetry (Photogrammetric).
Prerequisites: GEOG 363 or GEOG 341 or GEOG 345 or GEOG 551 or GEOG 563.

GEOG 554 - Spatial Programming (3 Credits)
Computer programming of spatial problems; spatial statistical analysis, interactive graphics, and computer maps.

GEOG 556 - WebGIS (3 Credits)
Web-based Geographic Information Systems (WebGIS), including concepts and principles of WebGIS, web programming fundamentals, web-based mapping techniques, and developing WebGIS applications.
Prerequisites: GEOG 363.

GEOG 561 - Contemporary Issues in Geography Education (3 Credits)
Key concepts of geography and current approaches to teaching geography with specific attention to classroom materials, curriculum reform, cross-curricular integration, learning theory, and the use of geospatial/instructional technology.

GEOG 562 - Satellite Mapping and the Global Positioning System (3 Credits)
Technology and use of Global Positioning Systems (GPS). GPS space segment, receiver technologies, range observables, and positioning accuracy. Applications to large/medium scale mapping, remote sensing, and aerial photography.
Prerequisites: GEOG 345 or GEOG 363 or GEOG 551.

GEOG 563 - Advanced Geographic Information Systems (3 Credits)
Theory and application of geographic information systems including discussions of automated input, storage, analysis, integration, and display of spatial data. Use of an operational geographic information system.

GEOG 564 - GIS-Based Modeling (3 Credits)
Geographical information systems for modeling physical/human processes in space and time using raster and vector data. Cartographic modeling concepts, embedded models, and GIS-model coupling.

GEOG 565 - Geographic Information System (GIS) Databases and Their Use (3 Credits)
Representation, construction, maintenance, and analysis of spatial data in a geographic information system (GIS) database.
Prerequisites: GEOG 363 or GEOG 341 or GEOG 551 or GEOG 563.

GEOG 566 - Climate Adaptation and Community Resilience Planning (3 Credits)
The processes of climate adaptation planning and management from central concepts in adaptation to issues such as projecting impacts, vulnerability assessment, coping with uncertainty, and decision making.

GEOG 567 - Long-Term Environmental Change (3 Credits)
Climatic changes of the past and their impact on the physical landscape, with an emphasis on the Quaternary period.
Prerequisites: C or better in a 200-level course in physical geography or geology or equivalent.

Cross-listed course: GEOL 567

GEOG 568 - Human Dimensions of Global Environmental Change (3 Credits)
Consequences of increasing anthropogenic changes on environmental systems including the sources of change, regional impacts, and social and policy responses.
Prerequisites: GEOG 343.

GEOG 569 - International Development and the Environment (3 Credits)
Intersections of international development and environmental change; study of general theoretical perspectives balanced with case studies from the Global South.
Cross-listed course: ANTH 569
Graduation with Leadership Distinction: GLD: Diversity and Social Advocacy, GLD: Global Learning

GEOG 570 - Geography of Public Land and Water Policy (3 Credits)
Geography of public land, water, and related public trust resources (wildlife, timber, minerals, fuels, recreation, wetlands, coastal zones, wilderness); historical geography of policy; spatial aspects of current research and management.

GEOG 571 - Microclimatology (4 Credits)
Field techniques and processes in the atmospheric boundary layer including radiation, soil heat fluxes, turbulence, momentum, latent and sensible heat fluxes, moisture, and evaporation.
Prerequisites: GEOG 202.

GEOG 573 - Climatic Change and Variability (3 Credits)
Observations and theories of climatic change and variability as they occur at different space and time scales. Projections of future climates. Techniques used in climatic change research and impact analysis.
Prerequisites: GEOG 202 or equivalent.

GEOG 581 - Globalization and Cultural Questions (3 Credits)
This course examines cultural understandings of and responses to globalization, examining topics such as its history and theories, migration, economic integration and inequality, identity, social movements, and the environment.
Cross-listed course: ANTH 581
Graduation with Leadership Distinction: GLD: Global Learning

GEOG 590 - Beach-Dune Interactions (3 Credits)
Influence of wind on coastal systems, with emphasis on nearshore currents, sediment transport and bedforms, aeolian transport, and dunes. Minimum Junior standing required.
Cross-listed course: MSCI 590

GEOG 595 - Internship in Geography (1-6 Credits)
Internship in government agencies, private-sector businesses, and non-profit organizations under the joint supervision of sponsor and departmental. A maximum of three credits may be applied to undergraduate Geography major or to Geography master's degree. May be repeated to a maximum of six credits.
Graduation with Leadership Distinction: GLD: Professional and Civic Engagement Internships
Experiential Learning: Experiential Learning Opportunity

GEOG 701 - History of Geographic Thought (3 Credits)
A survey of the development of geographic philosophy and an analysis of geographic methodology.

GEOG 705 - Directed Individual Studies in Geography (1-3 Credits)
Directed research topics individually assigned and supervised by graduate faculty. May be repeated for credit.

GEOG 706 - Selected Topics in Cartography and Remote Sensing (1-3 Credits)
Special topics are offered in the form of short courses, seminars, and workshops. Students may take these offerings, by permission of the instructor, for variable credit. The course may be taken more than once.

GEOG 709 - Women Explorers and Travelers (3 Credits)
Examines in geographical and historical contexts the activities of various women travelers and explorers.
Cross-listed course: WGST 709

GEOG 710 - Seminar in Geography Education (3 Credits)
Review of recent literature on geography education with an emphasis on the national geography standards, spatial thinking and the use of geospatial technology in pedagogic contexts.

GEOG 711 - Seminar in Regional Geography (3 Credits)
An analysis of the total geographic complex of selected major world regions.

GEOG 712 - Urban Geography (3 Credits)
An investigation into the concepts of the urban field and the urban region.

GEOG 713 - Advanced Economic Geography (3 Credits)
Investigation into the locational aspects and the spatial systems of selected economic activities, from both regional and systematic viewpoints.

GEOG 720 - World Regional Geography for Teachers (3 Credits)
The physical and human geography of major world regions with emphasis on basic principles of regional geography. Cannot be used in M.A., M.S., or Ph.D. programs in geography.

GEOG 721 - Seminar in Systematic Geography (3 Credits)
Studies of the characteristics, processes, and distributions over the world of the different cultural and physical environmental elements, such as economic, political, or social activities, climate and landforms.

GEOG 730 - Seminar in Environmental Geography (3 Credits)
Review of recent geographic literature on nature-society interactions with an emphasis on identifying research themes and methodologies employed by contemporary geographers.
Prerequisites: B or better in GEOG 530, GEOG 568, or equivalents.

GEOG 731 - Seminar in Quantitative Analysis in Geography (3 Credits)
Advanced quantitative approaches for handling and interpreting geographically related data. Multivariate procedures applicable to a variety of problems will be presented. For each topic the students will analyze data relating to their individual interests.
Prerequisites: GEOG 531 or equivalent.

GEOG 734 - Field Seminar in Third World Development Projects (6 Credits)
The student works in a developing country for two to four months on projects designed by instructor and funded by the host country.

GEOG 735 - Seminar in Political Geography (3 Credits)
Intensive discussion of classic and contemporary works in the field of political geography.

GEOG 737 - Seminar in Spatial Cognition (3 Credits)
Selected topics in spatial cognition.

GEOG 740 - Research Trends in Geography (1 Credit)
Seminar on research trends and writing research proposals in geography.

GEOG 741 - Seminar in Cartography (3 Credits)
A seminar to familiarize students with current experimental techniques, literature, and research topics in cartography.

GEOG 746 - Seminar in Climatology (3 Credits)
Major theories, measures of climatic change and variability, climate models, statistical analysis, and climate impacts.

GEOG 747 - Seminar in Physical Geography (3 Credits)
Investigation of physical systems and processes at the earth's surface. Topics vary; landforms, hydrology, pedology, biogeography, quaternary science, human impacts on physical systems.

GEOG 751 - Digital Techniques of Remote Sensing (3 Credits)
Introduction to the fundamental principles and methods of digital image processing of remotely sensed data. Algorithms are discussed for preprocessing, enhancement, and classification mapping of digital data for agricultural, urban, geological, and environmental problems.
Prerequisites: GEOG 551 and course in computer programming.

GEOG 755 - Remote Sensing Modeling and Analysis (3 Credits)
Satellite-based information extraction; programming skills for digital image processing; self-developed modeling approaches; quantitative analysis of remote sensing data.
Prerequisites: GEOG 575 or equivalent.

GEOG 763 - Seminar in Geographic Information Systems (3 Credits)
Theory and application of modern automated approaches to handling geographic data. Includes computer oriented procedures for the input, analysis and display of spatial data.
Prerequisites: B or better in GEOG 563 or equivalent.

GEOG 799 - Thesis Preparation (1-9 Credits)

GEOG 801 - Historical and Contemporary Geographic Thought (3 Credits)
A survey of (1) the philosophical and intellectual foundations of Geography as a discipline, and (2) contemporary ideas and debates in major subfields of geographic research.

GEOG 805 - Advanced Directed Individual Studies in Geography (1-3 Credits)
Advanced directed research by a PhD student on geographical topics to be individually supervised by graduate faculty. This course may be taken for 1-3 credit hours of independent study by a student working closely with a faculty member on a specific research project to be defined and agreed upon between the student and a supervising faculty member.

GEOG 810 - Advanced Seminar in Human Geography (3 Credits)
Reading intensive seminar focused on conceptual frontiers and methodological debates in contemporary human geography with a secondary emphasis on intradisciplinary and cross-disciplinary affinities.
Prerequisites: any 700-level GEOG seminar course.

GEOG 811 - Advanced Seminar in Regional Geography (3 Credits)
Advanced reading and discussion of the physical, economic, social and/or cultural geography of major selected world regions.

GEOG 830 - Advanced Seminar in Environmental Geography (3 Credits)
A research seminar where students critically evaluate relevant literature, develop a research proposal, and complete a related research project in environmental geography.
Prerequisites: GEOG 730.

GEOG 841 - Advanced Seminar in Cartography (3 Credits)
A topic central to cartography will be studied. Students will critically evaluate pertinent literature, develop a research proposal, and complete a related research project.

GEOG 847 - Advanced Seminar in Physical Geography (3 Credits)
Research and discussion on various topics in physical geography. Literature varies with seminar topic but will include prevailing theories, data types, and modeling strategies in climatology, meteorology, hydrology, biogeography, soils, or geomorphology.
Prerequisites: GEOG 547 or GEOG 746.

GEOG 851 - Advanced Seminar in Remote Sensing (3 Credits)
Advanced reading and discussion in the following areas - 1) the theoretical bases of remote sensing; 2) remote sensing of biophysical variables such as plant and soil temperatures and moisture content; 3) advanced principles of optical and digital image processing; and 4) economic aspects of remote sensing of the environment.

GEOG 863 - Advanced Seminar in Geographic Information Systems (3 Credits)
A research seminar in which students conduct a detailed analysis of specific aspects of geographical data handling. This will include the design, implementation, and management of an operational geographical information system.

GEOG 899 - Dissertation Preparation (1-12 Credits)