GEOGRAPHY (GEOG)

GEOG Class Schedule (https://courses.illinois.edu/schedule/DEFAULT/DEFAULT/GEOG)

Courses

GEOG 100 Introduction to Meteorology  credit: 3 Hours.
Same as ATMS 100. See ATMS 100.
This course satisfies the General Education Criteria for:
UIUC: Physical Sciences
UIUC: Quant Reasoning II

GEOG 101 Global Development & Environment  credit: 3 Hours.
Introduces geographical perspectives on environment and development studies with case studies drawn from Africa, Asia, and Latin America.
Investigates the origins of the global South in relation to the global North, especially the historical and contemporary processes driving environmental, economic, and cultural change.
This course satisfies the General Education Criteria for:
UIUC: Non-Western Cultures
UIUC: Social Sciences

GEOG 102 Earth's Physical Systems  credit: 4 Hours.
A basic introduction to the environmental systems of the Earth's surface, including landforms, soils, and ecosystems and how these systems are affected by global change. Emphasizes the importance of human-Earth relations and a holistic view of environmental systems. Same as ESE 103.
This course satisfies the General Education Criteria for:
UIUC: Physical Sciences

GEOG 103 Social and Cultural Geography  credit: 4 Hours.
Introduces the basic concepts of social and cultural geography, and the application of these concepts to a variety of topics; mental maps, territoriality, cultural regions, cultural elements and their diffusion, population movement and migration, settlement patterns, environmental hazards, and spatial patterns of social problems.
This course satisfies the General Education Criteria for:
UIUC: Social Sciences

GEOG 106 Geographies of Globalization  credit: 3 Hours.
A survey of major world regions by systematically considering five themes: environment, population and settlement patterns, cultural coherence and diversity, geopolitical fragmentation and unity, and economic and social development. While examining the persistence of unique regions, the course will both scale up to global linkages and scale down to place-specific impacts of globalization processes. Same as ESE 106. This course can be used to fulfill either Western or Nonwestern general education categories, but not both.
This course satisfies the General Education Criteria for:
UIUC: Non-Western Cultures
UIUC: Social Sciences
UIUC: Western Comparative Cult

GEOG 108 Geography of International Conflicts  credit: 3 Hours.
Focuses on contemporary international conflicts, competition among nations for economic and mineral resources; treats territorial disputes from a cultural and geographic perspective. Case studies vary to illustrate types of contemporary conflicts. Same as GLBL 110.
This course satisfies the General Education Criteria for:
UIUC: Social Sciences

GEOG 198 Freshman Honors Seminar  credit: 3 Hours.
Through discussions and research projects, the seminar is designed to provide an in-depth understanding of topics in the field of systematic or regional geography which are selected for group study. Appropriate geographic methodology is emphasized. Prerequisite: James Scholar standing or other designation as a superior student.

GEOG 199 Undergraduate Open Seminar  credit: 1 to 5 Hours.
May be repeated.

GEOG 200 Cities of the World  credit: 3 Hours.
In-depth exploration of global urbanization. Using a comparative regional approach, discuss the recent history of global urbanization, dissect its problems, and offer possible solutions. Approximately ten major regions of the world will be examined, exploring the significant urban patterns and processes, built and natural environments, and social, economic, and cultural landscapes of each.
This course satisfies the General Education Criteria for:
UIUC: Social Sciences

GEOG 205 Business Location Decisions  credit: 3 Hours.
Analyzes location decision-making emphasizing industrial and commercial location patterns; identifies important institutional factors and their changing roles over the recent past; and focuses on plant closings, economic disruptions, and problems of structural change. Same as BADM 205. Prerequisite: ECON 102 or ECON 103, or equivalent.

GEOG 210 Contemp Social & Env Problems  credit: 3 Hours.
Geographic perspectives on contemporary national and international problems. Topics vary each term and include such themes as environmental quality, food production, urban problems, particular social and political conflicts. Same as ESE 210.
This course satisfies the General Education Criteria for:
UIUC: Social Sciences

GEOG 215 Resource Conflicts  credit: 3 Hours.
Geographic concepts of place, scale, region, and territoriality are used to explore the causes and consequences of competition for the control of natural resources. Situations that lead to violent conflict are discussed as well as mechanisms for the peaceful resolution of resource conflicts. Resources discussed include oil, water, access to land, and the impact of climate change. Same as ESE 215 and GLBL 215.
This course satisfies the General Education Criteria for:
UIUC: Social Sciences

Information listed in this catalog is current as of 12/2015
GEOG 222  Big Rivers of the World  credit: 3 Hours.
An interdisciplinary approach to the study of big rivers, encompassing
géomorphology, engineering, ecology, risk assessment and planning.
Commencing with an assessment of the nature of big rivers; their
hydrology and geomorphic setting; hazards associated with large
rivers, and issues of river impoundment and management, then
proceed to examine the geography, géomorphology, and ecology and
management of a range of the World’s greatest rivers, focusing on how
a géomorphological understanding of such large rivers can aid study of
riverine ecohabitats and inform decisions regarding water usage and
engineering management. If the weather permits, a one day field-trip will
be organized in the second half of the course to view aspects of a local
river in Illinois/Indiana. Same as ESE 222.

GEOG 224  Geog Patterns of Illinois  credit: 3 Hours.
Systematic analysis of the environmental and human processes that
have shaped the regional landscapes of rural and urban Illinois.
This course satisfies the General Education Criteria for:
UIUC: Social Sciences

GEOG 280  Intro to Social Statistics  credit: 4 Hours.
Same as SOC 280. See SOC 280.
This course satisfies the General Education Criteria for:
UIUC: Quant Reasoning I

GEOG 287  Environment and Society  credit: 3 Hours.
Same as ESE 287, NRES 287, PS 273 and SOC 287. See NRES 287.
This course satisfies the General Education Criteria for:
UIUC: Social Sciences
UIUC: Western Compart Cult

GEOG 310  Political Geography  credit: 3 Hours.
Problems and issues surrounding the geographic distribution of political
actions and outcomes in the context of globalization. Topics include war
and peace, access to natural resources, nationalism, democratization,
terrorism, and the politics of identity. Prerequisite: Junior standing or
consent of instructor.

GEOG 350  Sustainability and the City  credit: 3 Hours.
Examination of the tools, techniques, strategies, and rationales that
can be used by urbanists to produce and sustain a productive, fair, and
equitable city. Emphasis is placed on diagnosing, implementing, and
sustaining an ideal U.S. city as a complex whole that embeds an array of
interconnecting parts (neighborhoods, retail districts, downtowns, city
economies). Lectures and discussion cover the broad background of
theories, concepts, and principles that will be essential for imagining and
implementing these ideals, strategies and plans.) Same as ESE 350.

GEOG 356  Geography of South Asia  credit: 3 Hours.
Geographic survey of the region of South Asia (India, Nepal, Pakistan,
Afghanistan, Bangladesh, Sri Lanka). Geographic analysis of development
processes since the colonial period, with particular emphasis on the
interrelated processes of environment, society, and politics.

GEOG 370  Water Planet, Water Crisis  credit: 3 Hours.
Same as ESE 320 and GEOL 370. See ESE 320.

GEOG 371  Spatial Analysis  credit: 4 Hours.
Overview of the spatial analysis (nomothetic) approach to geographic
research, both physical and human; includes discussion of the scientific
method, with explanations and uses of analytic geographic concepts in
studying real world problems. Prerequisite: A course in geography.

GEOG 373  Spring Field Course  credit: 4 Hours.
Field observation and mapping of human and physical phenomena using
basic geographic technique; required ten-day field trip during spring
term break. Prerequisite: Geography majors, or non-majors with consent
of instructor.

GEOG 379  Intro to GIS Systems  credit: 4 Hours.
Investigates the fundamentals of geographic information science as
well as the basic skills in the execution of that theoretical knowledge
with industry standard software packages. Students will learn the basics
of projections and coordinate systems, how geographic information
is stored and manipulated, and the theory and practice behind
the production of thematic maps. Includes lecture and hands-on laboratory
components. Same as ESE 379.

GEOG 380  GIS II: Spatial Prob Solving  credit: 4 Hours.
Study of the analytical capabilities of geographic information systems
with an emphasis on learning to solve spatial problems in both the vector
and raster data formats. Students will develop the skills necessary
to answer questions or solve problems in their areas of interest, with
particular emphasis on problems and questions that require multiple
steps to resolve. Students will learn the fundamental theory behind
spatial problem solving, but also learn to execute these procedures with
industry-standard software packages. Thus, this class contains both
lecture/discussion elements and hands-on laboratory work. Same as
ESE 380. Prerequisite: GEOG 379
This course satisfies the General Education Criteria for:
UIUC: Quant Reasoning II

GEOG 381  Environmental Perspectives  credit: 3 Hours.
Focus on the major ideas in contemporary environmentalism, especially
on how humans do and should interact with the environment. Same as
ESE 381. Prerequisite: Junior or senior undergraduate standing.

GEOG 384  Population Geography  credit: 3 Hours.
Problems and issues surrounding the geographic distribution of
populations at the world, regional, and local levels; emphasizes problems
associated with population growth and decline, recent population
redistribution, births and deaths, and elderly and minority populations.

GEOG 390  Individual Study  credit: 2 to 4 Hours.
Supervised independent study of special topics or regions. May be
repeated once. Prerequisite: Junior standing; at least one formal course
in the topic or region of interest; consent of instructor.

GEOG 391  Honors Individual Study  credit: 2 to 4 Hours.
Individual study and research projects for students who are working
 toward the degree with distinction in geography. May be repeated to a
maximum of 8 hours. Prerequisite: Junior standing; consent of honors
adviser.

GEOG 394  Special Topics Social Geog  credit: 4 Hours.
Introduction to current research in social geography; includes such topics
as access to public facilities, geography of crime, innovation diffusion,
geography of communications, spatial assimilation of minorities, and
geography of social well-being. See Schedule for current topics. May be
repeated.

GEOG 401  Watershed Hydrology  credit: 3 Hours.
Same as NRES 401. See NRES 401.
GEOG 406  Fluvial Geomorphology  credit: 4 Hours.
Systematic overview of the forms and processes associated with rivers and drainage basins; topics include basin hydrology, drainage networks, river hydraulics, sediment transport processes, channel morphology, channel change, and human impacts on fluvial systems. Same as GEOL 406, and NRES 406. 4 undergraduate hours. 4 graduate hours. Prerequisite: PHYS 101, and GEOG 103 or GEOL 107, or consent of instructor.

GEOG 408  Watershed Analysis  credit: 4 Hours.
Systematic analysis of the geomorphological processes operating in watersheds and the impact of humans on these processes. The course will emphasize the importance of watershed geomorphology in watershed management. Class discussion and a class project will focus on a practical watershed assessment problem. 4 undergraduate hours. 4 graduate hours. Prerequisite: GEOG 103 or equivalent.

GEOG 410  Geography of Dev and Underdev  credit: 4 Hours.
Patterns and processes of Third World development geography. Lectures and discussion draw upon theoretical and case study material by development geographers working in Asia, Africa, and Latin America. 4 undergraduate hours. 4 graduate hours. Prerequisite: GEOG 101, GEOG 110, and ECON 101 are highly recommended.

GEOG 412  Geospatial Tech & Society  credit: 3 Hours.
Examines the use of geographic information systems (GIS), geophysical positioning systems (GPS), and other geospatial technologies in everyday life with emphasis on their implications for social, economic, and environmental change. Topics include critical cartography, GIS, and social theory, crime and health, environmental justice, feminism, economic development and environmental change. 3 undergraduate hours. 3 graduate hours. Prerequisite: GEOG 105 or consent of instructor.

GEOG 421  Earth Systems Modeling  credit: 4 Hours.
Same as ATMS 421, ESE 421, GEOL 481 and NRES 422. See ATMS 421.

GEOG 436  Biogeography  credit: 3 Hours.
Same as ANTH 436, ESE 439, IB 439 and NRES 441. See IB 439.

GEOG 438  Geography of Health Care  credit: 3 or 4 Hours.
Methods and perspectives of health care. Emphasizing the spatial analysis of health and health care. The organization, provision and competition of health care will be highlighted. Same as SOC 478. 3 undergraduate hours. 4 graduate hours. Prerequisite: GEOG 384 or SOC 274 or consent of instructor.

GEOG 439  Health Applications of GIS  credit: 3 Hours.
Same as CHLH 439 and PATH 439. See PATH 439.

GEOG 446  Sustainable Planning Seminar  credit: 4 Hours.
Same as NRES 446 and UP 446. See UP 446.

GEOG 455  Geog of Sub-Saharan Africa  credit: 3 Hours.
Regional geography of Africa south of the Sahara. Geographic analysis of Africa which includes topics in both physical and human geography and provides a general overview of the processes and interactions between human and environmental factors that shape Africa's physical and human geography. 3 undergraduate hours. 3 graduate hours.

GEOG 460  Aerial Photo Analysis  credit: 3 or 4 Hours.
Review of methods for extracting quantitative and qualitative information from aerial photographs using computer-based techniques and visual interpretation. The first part of the course will cover basic photogrammetry and mapping. The second part will focus on interpretation of physical, biological, and cultural features. Same as NRES 460. 3 undergraduate hours. 4 graduate hours. Prerequisite: Knowledge of trigonometry (MATH 014 or equivalent) and basic physical geography (GEOG 103 or equivalent).

GEOG 465  Transp and Sustainability  credit: 3 or 4 Hours.
Descriptors of transportation systems; transportation as an industrial activity and public good; and transportation and spatial development, including the role of transportation in urban and regional development. Emphasis on the economic, environmental, and social aspects of sustainability as they apply to transportation systems and the activities they enable at local, regional, national and global levels. Field trip required. Same as ESE 465. Additional fees may apply. See Class Schedule. 3 undergraduate hours. 4 graduate hours. This course satisfies the General Education Criteria for: UIUC: Advanced Composition

GEOG 466  Environmental Policy  credit: 3 or 4 Hours.
Examination of the geographical and political aspects of human-environmental relations; focusing on how environmental problems are defined, negotiated, and addressed through policy formulation. Specific approaches to environmental policy will be considered at different geographical scales. Same as ESE 466. 3 undergraduate hours. 4 graduate hours. Prerequisite: One course in Geography or Political Science or consent of instructor.

GEOG 468  Biological Modeling  credit: 3 or 4 Hours.
Interdisciplinary modeling course for students interested in dynamic system modeling of living processes; each student will build a model by the end of the course. No special mathematical background required. Same as ANSC 449, CPSC 448, and IB 491. 3 undergraduate hours. 4 graduate hours. Prerequisite: IB 444 or equivalent, depending on curriculum.

GEOG 470  Transp and Sustainability  credit: 3 or 4 Hours.
Demonstrates how geographic information systems (GIS) have become a major technology ubiquitously applied to solve important problems encountered in geospatial and environmental applications. 3 undergraduate hours. 4 graduate hours.

GEOG 471  Recent Trends in Geog Thought  credit: 4 Hours.
Examination of recent trends in human and physical geography. Themes include empiricism, logical positivism, regionalism, Marxism, realism, phenomenology, and post-modernism as applied to geographic research. Emerging geographic literature is explored to identify the latest conceptual developments. 4 undergraduate hours. 4 graduate hours.

GEOG 473  Digital Cartography & Map Design  credit: 4 Hours.
Instruction and practice in the basic techniques of map making followed by a consideration of problems involved in the construction of maps for presentation in a reproduced form (i.e., printed, photographed); the selection of proper source materials for the base and body of the map, the compilation and correlation of these materials, and methods of mechanical and photographic reproduction. 4 undergraduate hours. 4 graduate hours.

GEOG 476  Applied GIS to Environ Studies  credit: 3 Hours.
Demonstrates how geographic information systems (GIS) have become a major technology ubiquitously applied to solve important problems encountered in geospatial and environmental applications. 3 undergraduate hours. 3 graduate hours. Prerequisite: GEOG 103 or GEOG 104, consent of instructor.

GEOG 477  Introduction to Remote Sensing  credit: 3 Hours.
Fundamentals of energy-matter interaction mechanisms, and the manifestation of reflected and emitted radiation on photographs and images; introduces characteristics of aerial films and filters, electro-optical scanners, and digital processing; and emphasizes applications in environmental problems. Same as NRES 477. 3 undergraduate hours. 3 graduate hours. Prerequisite: GEOG 280 (beginning statistics) or equivalent, or consent of instructor.
GEOG 478  Techniques of Remote Sensing  credit: 4 Hours.
Optical and digital information processing of imagery acquired from aircraft and satellite remote sensing platforms; includes systems design, mensuration theory, photographic enhancement techniques, and automatic digital classification for all of the standard sensor systems; and laboratory focusing on the design and implementation of information processing techniques with application limited to a survey of uses. 4 undergraduate hours. 4 graduate hours. Prerequisite: GEOG 477 or equivalent.

GEOG 479  Advanced Topics in GIS  credit: 3 Hours.
Introduces advanced concepts in Geographic Information Science. Course topics may vary. 3 undergraduate hours. 3 graduate hours. May be repeated, if topics vary, in separate terms to a maximum of 9 hours, but not more than 6 hours in any one term. Prerequisite: GEOG 379 or equivalent.

GEOG 480  Principles of GIS  credit: 3 Hours.
Focuses on Geographic Information Science (GIScience) principles that underlie the development of Geographic Information Systems (GIS) software and its intelligent use. Helps students adapt to rapidly changing geospatial technologies. Knowledge gained in this course will be general and, thus, not be limited to any specific software product that may be revised in the future. 3 undergraduate hours. 3 graduate hours. Prerequisite: GEOG 379 and GEOG 380 or equivalent, or consent of instructor.

GEOG 481  Intl Environ Cooperation  credit: 3 Hours.
Examines the problems, politics and policies related to environmental issues that require international cooperation to address effectively. Transboundary, regional, and global environmental issues will be analyzed, spanning the atmosphere (acid rain, protection of the ozone layer, and climate change), the oceans (pelagic fisheries), and biodiversity (whaling, trade in endangered species). Discusses methods for increasing international environmental cooperation, such as unilateral actions, trade sanctions, financial aid, non-governmental monitoring and innovations in institutional design. Same as ESE 481. 3 undergraduate hours. 3 graduate hours. Prerequisite: One course in Geography or Political Science or consent of instructor.

GEOG 482  Challenges of Sustainability  credit: 3 Hours.
Same as ESE 482 and GEOL 483. See ESE 482.

GEOG 483  Urban Geography  credit: 3 Hours.
Broad background of theories, concepts, and methods of research for understanding how and why our cities have reached their current status. Focus on examining the internal structure of the North American city, including analysis of the commercial, industrial, and residential sectors of the urban environment. Particular emphasis is placed on the range of urban theories developed to explain both urban structure and contemporary urban ills. 3 undergraduate hours. 3 graduate hours.

GEOG 484  Cities, Crime, and Space  credit: 3 or 4 Hours.
Focusing on US cities, this theory-intensive course surveys traditional and critical perspectives on relations between crime, space, and place. We will explore this interplay within broader contexts of industrial and post-industrial urbanization, concentrating on dynamics including governance, economic processes, and social transformations. Emphasis will be placed on the extent to which these interwoven processes generate, classify, organize, and react to crime across cityscapes. 3 undergraduate hours. 4 graduate hours.

GEOG 485  Programming for GIS  credit: 4 Hours.
Introduction to programming to customize and extend the capabilities of geographic information systems. Topics include the principles of programming, advanced function and tools coding, visualization, fundamental spatial data structures, and spatial algorithms. 4 undergraduate hours. 4 graduate hours. Prerequisite: GEOG 379 and GEOG 380 or equivalents, or consent of instructor.

GEOG 489  Research in Geography  credit: 2 Hours.
Detailed examination and discussion of the methods of initiating and executing research projects in human or physical geography (taught in separate sections); requires students to write a research proposal of a quality suitable for a graduate thesis. 2 undergraduate hours. 2 graduate hours. Prerequisite: GEOG 471; either graduate standing in geography or senior standing as a geography major and consent of department.

GEOG 491  Democracy and Environment  credit: 3 or 4 Hours.
Explores the effects of local democracy on natural resource management and the ways natural resource management can leverage the establishment and consolidation of local democracy. Investigates theoretical foundations of localism and decentralization, and analyzes the policy process by which theory is inscribed in law and project documents and translated into practice. Cases of global environmental policy, such as climate adaptation, UN Reduced Emissions from Deforestation and Degradation of the World Banks’ Community Driven Development policies will be used for theoretical and empirical analysis. Draws case examples from developing countries. Same as NRES 494, SOC 493 and UP 493. 3 undergraduate hours. 4 graduate hours. Prerequisite: GEOG 210, course work in social science, or consent of instructor.

GEOG 496  Climate & Social Vulnerability  credit: 3 or 4 Hours.
Existing climate variability and likely climate change call for policies to protect vulnerable people who make their livelihoods in a changing environment. Students will explore: 1) causes of climate related stress and disaster; 2) theories of vulnerability and adaptation; 3) practices and policies designed to reduce economic loss, hunger, famine and dislocation in the face of climate trends and events. Focus on multiple policy scales affecting poor and marginal populations, who are disproportionately vulnerable when facing climate stress, drawing on case examples primarily from the developing world. Same as ATMS 446 and SOC 451. 3 undergraduate hours. 4 graduate hours. Prerequisite: GEOG 410, GEOG 466, GEOG 471, GEOG 520, or consent of instructor.

GEOG 500  Environmental Politics  credit: 3 Hours.
Examines models of regional growth and development, including export base, input-output and econometric, cohort component and spatial interaction; emphasizes socioeconomic impact analysis and forecasting subnational economic and demographic change. Same as UP 556. Prerequisite: Consent of instructor.
GEOG 557  Seminar in Regional Science  credit: 4 Hours.
Discusses advanced topics in regional science; prepares students for
dissertation and thesis research, applied study for public agency, or other
student research. Same as UP 557. Prerequisite: GEOG 556 or consent of
instructor.

GEOG 560  Spatial Epidemiology  credit: 4 Hours.
Same as PATH 560. See PATH 560.

GEOG 561  Landscapes and Human Health  credit: 3 Hours.
Same as CHLH 580 and LA 570. See LA 570.

GEOG 570  Advanced Spatial Analysis  credit: 4 Hours.
Advanced techniques of spatial analysis, including spatial
autocorrelation, trend surface analysis, grouping and regionalization
procedures, and point pattern analysis.

GEOG 575  Alluvial Boundary Layer Dynamics  credit: 3 Hours.
Examination of the structure of turbulent boundary layers in rivers and
how turbulent flow, sediment transport and channel forms interact
over a wide range of spatial and temporal scales. Explores these
interactions through critical analysis of contemporary research in fluvial
geomorphology, fluid mechanics, hydraulics and sedimentology. Same as
GEOL 575. Prerequisite: Consent of instructor.

GEOG 587  Qualitative Research Methods  credit: 4 Hours.
Same as UP 587. See UP 587.

GEOG 594  Seminar in Social Geography  credit: 4 Hours.
Advanced study of a current research topic in social geography. Topic
varies from term to term; prepares students for dissertation and thesis
research through study of advanced literature and the completion
of a research paper. Prerequisite: GEOG 471 or equivalent; graduate
coursework in social geography or in one of the social sciences.

GEOG 595  Advanced Studies in Geography  credit: 0 to 8 Hours.
Seminar and directed individual investigation of selected problems
or regions; designed to develop ability to conduct independent
investigation. Scheduled seminars are detailed in each term’s Class
Schedule. Approved for both letter and S/U grading. May be repeated.

GEOG 599  Thesis Research  credit: 0 to 16 Hours.
Approved for S/U grading only. May be repeated.