

Geography (GEO)

GEO 101. Global Forces, Local Diversity. (3)

Application of human geography concepts to patterns and processes of economic, political, and cultural changes at global, regional and local scales. IIC, IIIB. PA-2A, PA-4C. CAS-C.

GEO 111. World Regional Geography: Patterns and Issues. (3)

Introduction to world geography emphasizing regional approach and comparisons; combines analysis and synthesis of characteristics distinctive to each principal culture realm; focuses upon selected topical issues involving ethnic, political, economic, social, and environmental aspects. IIC, IIIB. PA-2A, PA-4C. CAS-C.

GEO 121. Earth's Physical Environment. (4)

Study of the earth's physical environment, using systems approach to understand energy and material cycles, global circulation, and temporal dynamics. Focus on influence of physical processes on spatial patterns and on interrelationships of the atmosphere, soils, vegetation, and landforms. Credit not granted to students who have earned credit in GEO 122. IVB, LAB. PA-2B. CAS-D/LAB.

3 Lec. 1 Lab.

GEO 122. Geographic Perspectives on the Environment. (3)

An introduction to physical geography that enables class participants to understand and interpret the environmental conditions of any geographic locality on earth. Special emphasis is placed on understanding relationships between geographic patterns and processes in the atmosphere (weather and climate), biosphere (vegetation and soils), and lithosphere (landforms). With knowledge of global physical environments, it is possible to predict the suitability an area may have for human habitation, and also the influences certain human activities may have on the physical environment. Credit not granted to students who have earned credit in GEO 121. IVB. PA-2B. CAS-D.

GEO 159. Creating Global Peace. (3)

Focuses on the study of peace, as represented across disciplinary boundaries and at local-to-global scales of analyses. Combines guest lectures, scholarly readings and other media, reflective writing and discussion, and a service-learning commitment that together explore different ways of thinking about peace, and 'peace' practices at global to local scales. IIC, IIIB. PA-2A, PA-4C. CAS-C.

Cross-listed with SJS.

GEO 177. Independent Studies. (0-6; maximum 10)

GEO 201. Geography of Urban Diversity. (3)

Introduction to the processes and patterns that shape life in the American City. Students interpret urban landscapes—historical and contemporary—in relation to their environmental, economic, and cultural contexts. Students develop a geographic perspective on the social and spatial development of diverse American communities, a necessary foundation for addressing current issues in urban development and planning. IC, IIC. PA-2A, PA-4A. CAS-C.

GEO 205. Population and Migration. (3)

Examines the spatial distribution and dynamics of human fertility, mortality, and migration, primarily in the contemporary period, as well as the interaction of these trends with environmental, economic, and political issues. Special attention is given to interpreting and evaluating quantitative measures of population geography. CAS-QL.

GEO 208. The Rise of Industrialism in East Asia. (3)

Introduction to historic parameters, geographic variables, state policies, and sociocultural contexts of industrialism in East Asia (China, Japan, Korea, Taiwan, Hong Kong, and Singapore). CAS-C. Cross-listed with ITS/SOC.

GEO 211. Global Sustainable Futures. (3)

Integrates human and environmental geographic concepts and perspectives to understand global challenges and opportunities of sustainable development. This course also develops skills in research and writing for different audiences. ADVW. PA-1C. CAS-C.

GEO 221. Field Methods for Environmental Scientists. (3)

Survey and application of modern field techniques used by environmental scientists to monitor the structure and function of the Earth's atmosphere, biosphere, hydrosphere, and lithosphere, including basic and advanced techniques used across a range of environmental careers. A significant portion of this course is taught outdoors with hands on exercises to solve real world problems. CAS-D Lab.

GEO 242. Mapping a Changing World. (3)

Technology and language of maps, including aerial and satellite imagery, and impact of these technologies on society. Tools for making maps that faithfully and effectively represent geographic data. SI-03. CAS-QL.

GEO 271. Human Dimensions of Natural Resource Conservation. (3)

Ecological, socioeconomic, and policy perspectives on the use and management of natural resources.

GEO 276. Geography of the Global Economy. (3)

Focuses on the changing geography of the global economy, including production, distribution and consumption of goods and services. Covers the eras of mercantile capitalism, colonialism, industrial capitalism and today's globalization.

GEO 277. Independent Studies. (0-6; maximum 10)

GEO 301. Geography of Sub-Saharan Africa. (4)

Analysis of physical and cultural features of that area south of the Sahara Desert.

Cross-listed with CRE 301.

GEO 302. Geography and Gender. (3)

This class adopts a geographic approach to the study of gender relations. The role of space and place in shaping the diversity of gender relations throughout the world will be considered. Through case studies the importance of gender relations in understanding a variety of issues will be stressed. Overall, we will explore how geography shapes gender relations and how gender produces a variety of geographies. IC. PA-4B. CAS-C.

Cross-listed with WGS.

GEO 308. Geography of East Asia. (3)

Analysis of cultural and physical landscapes of China, Japan, and Korea.

GEO 309. Native American Women. (3)

A survey of writings and film by and about Native American women. The objective of the course is to provide students with a broad overview of Native American perspectives on a variety of topics including indigenous viewpoints on research methods, environmental activism, politics and policy, and critical analysis. IC. PA-4B. CAS-C. Cross-listed with WGS.

GEO 333. Global Perspectives on Natural Disasters. (3)

Exploration of the underlying causes, potential impacts, and mitigation measures of natural hazards including wildfire, severe weather events, and geologic hazards. Particular attention is paid to impacts on humans.

GEO 340. Internship. (0-20)**GEO 352. Geographies of Urban Change. (3)**

Examines the cultural, social and political dimensions of urban planning and development practices in the United States. Drawing on an array of source materials and using multiple methods of representing past places, students apply analytical tools to document the nature, extent, and significance of urban change and to communicate their understanding of the complex forces shaping urban America. IIC. PA-2A, SI-02, SI-04. CAS-C.

Cross-listed with AMS 352.

GEO 377. Independent Studies. (0-6; maximum 10)**GEO 378. Political Geography. (3)**

Analysis of geographic factors significant in understanding international relations and internal politico-territorial organizations; detailed studies of specific problem areas.

GEO 406/GEO 506. Indigenous Peoples and Their Sacred Lands. (3)

An in depth look at topics related to policy and land management practices that impact indigenous peoples nationally, as well as internationally. The major focus of the various case studies is on designated sacred lands of Native American tribes within the United States. The course provides students with interdisciplinary training about indigenous cultures and human rights.

Cross-listed with WGS.

GEO 408/GEO 508. Geography of the Silk Road (The Heart of Asia). (3)

Examines the geography of the Inner Asia region including Uzbekistan, Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan, Afghanistan, Pakistan, Mongolia, and Inner Asian China (Xinjiang).

GEO 410/GEO 510. Advanced Regional Geography. (1-4; maximum 12)

Specific area to be announced each time course is offered.

GEO 412. Tropical Ecosystems of Costa Rica. (5)

Introduces students to the structure and function of neotropical ecosystems, as well as to geological, biological, cultural, and economic forces affecting biodiversity in the tropics. This course is taught on-site in Costa Rica. There are additional costs beyond tuition.

Cross-listed with IES 412/IES 512.

GEO 425/GEO 525. Hydrogeography. (3)

Investigation of the hydrologic cycle focusing on the surficial component parts of precipitation, infiltration, soil moisture, evaporation, transpiration, and surface runoff, and variation of these from place to place over the earth's surface.

GEO 426/GEO 526. Watershed Management. (3)

Impacts of urban and agricultural land use on water resources; common watershed-scale tools for water quality and quantity management.

GEO 431/GEO 531. Global Plant Diversity. (3)

Research-focused seminar on floristic, ecological, and cultural influences on global patterns of plant diversity, especially in tropical regions. Comparative topics include the role of disturbances and global environmental change.

Prerequisites: BIO/MBI 115, BIO 191, or higher, GEO 121 or higher, or permission of instructor.

Cross-listed with BIO 431/BIO 531/531.

GEO 436/GEO 536. Women, Gender, and the Environment. (3)

Seminar discussing literature on the role of women in their relationships with natural resources as advocates, practitioners, and scholars. Ideas on ecofeminism will be introduced from more-developed "north" and developing "south" perspectives, and then directed toward the study of gender and development, and participatory tools in gender analysis.

Cross-listed with WGS 436/WGS 536.

GEO 441/GEO 541. Geographic Information Systems. (3)

Introduces students to the structure, concepts, capabilities, and functionality of Geographic Information Systems (GIS) and geospatial science inquiry. The course focuses on the management and processing of spatial data, emphasizing data models and structures, geographic data input, data manipulation and storage, spatial analysis and modeling techniques. Students will learn to frame and solve a sequence of problems with GIS across a wide range of topics including environmental planning, biogeography, conservation biology, sustainable development, natural resource conservation, environmental justice, political geography, and urban geography and planning.

GEO 442/GEO 542. Advanced Geographic Information Systems. (3)

Advanced-level application of GIS technology to geographic problem-solving. Follows on from topics introduced in GEO 441/GEO 541 to provide (a) in-depth understanding of the technical and substantive issues associated with the use of GIS and (b) advanced-level training in the functionality of major GIS products.

Prerequisite: GEO 441/GEO 541 or permission of instructor.

GEO 443/GEO 543. Python Programming for Geospatial Applications. (3)

Introduces the basic concepts of computer programming languages, using the Python language as an example. Emphasis on use of Python scripts specifically within the ArcGIS and QGIS software packages.

Taught on-line; available to students on any Miami campus.

Prerequisite: GEO 441/GEO 541.

GEO 444/GEO 544. GIScience Techniques in Landscape Ecology. (3)

Using geographic tools such as geographic information systems (GIS), remote sensing, global positioning system (GPS) receivers, and computer-based analysis, students will study a range of current topics in landscape ecology.

GEO 445/GEO 545. Geographic Information Systems for Criminal Justice. (3)

Collect, organize, analyze and display spatial data used in criminal justice and emergency management. Part of the course will be a GIS Crime Analysis Product. Taught on Regional Campuses.

Cross-listed with CJS 445.

GEO 448/GEO 548. Techniques and Applications of Remote Sensing. (3)

Description of nonphotographic remote sensing such as radar, thermal infrared, and multispectral scanning. Experience with machine-based interpretation of multispectral imagery.

GEO 451/GEO 551. Urban and Regional Planning. (3)

Introduction to the purposes and possibilities of urban and regional planning. Topics include historical development and theoretical rationale of planning, analytical techniques, and policy and design strategies for addressing urban problems. Surveys contemporary urban issues and areas of planning specialization. Prepares students with fundamental concepts and skills for careers in urban planning and development. ADVW. PA-1C. CAS-C.
Prerequisite: GEO 201.

GEO 454/GEO 554. Urban Geography. (3)

Geographic principles related to the distribution, function, structure, and regional settings of urban centers.
Prerequisite: some other urban course in social sciences or permission of instructor.

GEO 455. Race, Urban Change, and Conflict in America. (3)

Since the 1960s, changes at both global and local levels have affected the American city. Traditional study of the city has not focused on race and the effect of such changes on race. Conflicts with racial undertones occur on a daily basis in most American cities. More often these are conflicts over production, distribution, and consumption of public and private goods and are manifest in the housing market, job market, and access to education and social services amongst others. This seminar focuses on race in urban America within the context of conflict and change. CAS-C.

GEO 459/GEO 559. Advanced Urban and Regional Planning. (3)

Application of planning tools and techniques to significant urban and regional land use problems. Evaluation of major planning tools for redevelopment of central cities and declining regions in the U.S. Innovative techniques for solving American urban spatial problems at local to national levels.
Prerequisite: GEO 451/GEO 551 or permission of instructor.

GEO 460/GEO 560. Advanced Systematic Geography. (1-4; maximum 12)

Specific topical field announced each time course is offered.

GEO 462/GEO 562. Citizenship and the City. (3)

A seminar that explores issues relating to citizenship and the city. This includes both a conceptual and historical introduction to the topic, as well as more in-depth analysis of different aspects relating to politics and public and private space, cultural diversity and exclusion, and urban design.

GEO 467/GEO 567. Land Use, Law and the State: Geographic Perspectives. (3)

Explores the legal basis for urban and regional planning in the United States through analysis of relevant case law, statutes, and secondary texts. The course offers both practical knowledge of land use law and deeper understanding of its wider geographic context and significance.

GEO 475/GEO 575. Global Periphery's Urbanization. (3)

Countries of the Third World have experienced an unprecedented rate of urban growth and expansion since the middle of this century. As Third World countries continue to industrialize, urbanization and related problems will increasingly become important and will continue to be on the agendas of national governments, international agencies, planners, and academics well into the next century. Explores Third World (Africa, Asia, and Latin America) urbanization literature from an interdisciplinary perspective.

GEO 476/GEO 576. Global Poverty. (3)

Increasing attention has been placed on poverty around the globe by academics, practitioners and activists. With increasing globalization, global poverty has become entrenched. This course examines what poverty is, how it is measured, what causes poverty and how poverty can be alleviated in the global periphery and semi-periphery.

GEO 477. Independent Studies. (0-6; maximum 10)**GEO 480. Departmental Honors. (1-6; maximum 6)**

Departmental honors may be taken in one or more semesters of a student's senior year.

GEO 491. Geography and Sustainable Development Research Seminar. (4)

Students in this advanced research seminar explore an in-depth topic related to geography and/or sustainable development building research, writing, and oral presentation skills. Each student must select and work with at least one faculty advisor, not necessarily from the geography department, with appropriate expertise. Required for geography and sustainable development majors. SC.
Prerequisite: Senior standing.

GEO 493. Urban Field Experience. (3)

Development of modern urban design and planning principles, emphasizing the central role of Chicago as a laboratory for the processes. Study of Chicago as an illustrative case study for understanding contemporary issues in urban design and planning. Importance of direct field observation methods in the study of urban design and planning patterns. Requires two long-weekend field trips to Chicago and field work in Chicago. SC.

GEO 601. Seminar in Research Techniques. (3)

Survey of basic tools of graduate research in geography, including bibliographic resources, published data sources, and introduction to computer methods in geography.

GEO 602. History of Geographic Thought. (4)

Selected readings in Geography. Emphasis is on contemporary geographic thought.

GEO 604. Research Project Development. (3)

Research hypotheses in geography; organizing and defining a research project; proposal development.

GEO 610. Research in Geography. (1-4; maximum 12)

Advanced work on selected topics undertaken by individual students. May be taken for no more than four semesters.

GEO 640. Internship. (0-12; maximum 6)**GEO 677. Independent Studies. (0-6; maximum 10)****GEO 700. Research for Master's Thesis. (1-12; maximum 12)****GEO 704. Non-Thesis Project. (0-12; maximum 12)****GEO 710. Special Problems in Geography. (1-4; maximum 12)**