

# GEOGRAPHY (GEOG)

## **GEOG 100 | Physical Geography and the Environment | 3 cr**

Investigates the patterns and processes of Earth's physical and biological systems and their influence on human behavior and distribution.

Includes human impacts on climate, hydrologic cycle, and ecosystem development.

**Prerequisites:** None.

**Offered:** Fall, Spring, Summer.

**Meets:** Natural Science: GEOG

## **GEOG 101 | Geography of American Ethnicity and Race | 3 cr**

Examines American ethnic and racial patterns from a geographic perspective. Considers historical forces shaping the geographical patterns of race and ethnicity. Explores contemporary issues in ethnic and race relations, including immigration. Cross-listed with: ETHN 101.

**Prerequisites:** None.

**Offered:** Fall, Spring, Summer.

**Meets:** Social & Behavioral Science: GEOG, Ethnic Diversity

## **GEOG 105 | Contemporary Human Geography | 3 cr**

An overview of significant themes in human geography including population issues, cultural differences, globalization, languages, politics and foreign affairs, settlement patterns, migration, and economic organization.

**Prerequisites:** None.

**Offered:** Spring.

**Meets:** Social & Behavioral Science: GEOG

## **GEOG 108 | Culture and Environmental Sustainability | 3 cr**

Explores interrelationships of cultural and natural systems, need for sustainability, and how different cultural groups view nature. Varying perspectives on environmentalism and what going green means to different parts of society. Resolving environmental problems and building sustainable futures.

**Prerequisites:** None.

**Offered:** Fall, Spring.

**Meets:** Social & Behavioral Science: GEOG

## **GEOG 110 | Introduction to Geography: World Regions | 3 cr**

Studies the cultural and physical characteristics of major world regions. Examines how people live in different parts of the world. Emphasizes globalization, environmentalism, and geographic perspectives on current international issues.

**Prerequisites:** None.

**Offered:** Fall.

**Meets:** Social & Behavioral Science: GEOG

## **GEOG 250 | Map Use and Analysis | 3 cr**

Introduces interpretation, analysis, and function of topographic and thematic maps. Includes hands on experience using maps and GPS in both the classroom and the field. Requires fees.

**Prerequisites:** None.

**Offered:** Occasionally.

## **GEOG 290 | Special Topics in Geography | 1-4 cr**

Selected topics in geography will be examined.

**Prerequisites:** None.

**Offered:** Occasionally.

## **GEOG 291 | Special Topics in GIS: | 3 cr**

Introduces selected topics and applications in Geographic Information Systems.

**Offered:** Occasionally.

## **GEOG 306 | Natural Disasters and Society | 3 cr**

Exploration of natural disasters and their impacts on humans. Topics include earthquakes, tsunamis, volcanoes, tornadoes, hurricanes, floods, asteroid and comet impacts. Disaster planning and mitigation, GIS applications in disaster management.

**Prerequisites:** None.

**Offered:** Occasionally.

## **GEOG 308 | Conservation of Cultural and Natural Resources | 3 cr**

Examines policies and problems in the use and management of both natural and cultural resources.

**Prerequisites:** None.

**Offered:** Spring (odd years).

## **GEOG 315 | Geography of Wisconsin | 3 cr**

Describes Wisconsin's characteristics and compares the state to the rest of the United States. Explores patterns of history, population, climate, topography, economic activity, transportation, culture, and recreation. Examines current and ongoing statewide issues are examined from a geographic perspective.

**Prerequisites:** None.

**Offered:** Occasionally.

## **GEOG 323 | Climate Change | 3 cr**

Investigates characteristics, processes, distribution, classification and geographical significance of Earth's climates. Causes and consequences of climate changes, especially its impacts on human populations.

**Prerequisites:** GEOG 100.

**Offered:** Occasionally.

## **GEOG 324 | Landforms and Environmental Processes | 3 cr**

Examines the characteristics, processes, and distribution of Earth's landforms. Focuses on historical geology, tectonic events, rock formation, glaciations, river systems, soil development and consequences for humans. Includes field trip, lab applications, and aerial photo interpretation.

**Prerequisites:** GEOG 100 or GEOS 100 or consent of instructor.

**Offered:** Fall.

## **GEOG 326 | Biogeography | 3 cr**

Focuses on the distribution of biodiversity in space and time. Includes plant identification, ecological and evolutionary patterns, conservation, restoration ecology, paleodynamics, and human impacts on species distributions. Includes field trips.

**Prerequisites:** GEOG 100 or BIOS 100 or BIOS 102 or BIOS 104.

**Offered:** Occasionally.

## **GEOG 350 | Cartography and GIS | 3 cr**

Examines cartographic theory and methods as well as GIS technology. Covers the history of cartography, role of maps in society, quantitative and qualitative thematic mapping, and maps as both art and science. Explains digital cartographic design and data processing using GIS. Requires fees.

**Prerequisites:** None.

**Offered:** Fall.

## **GEOG 355 | Field Mapping | 3 cr**

Focuses on the collection and analysis of field data using sub-meter Global Navigation Satellite Systems (GNSS) and Unmanned Aerial Vehicles (UAV). Community-based learning designation. Requires fees.

**Prerequisites:** GEOG 350.

**Offered:** Occasionally.

**Meets:** Community Based Learning

**GEOG 360 | Urban Geography | 3 cr**

Focuses on characteristics of urban regions. Analysis of the factors that determine urban development as well as patterns within urban areas. Transportation and housing issues. Ethnic neighborhoods and urban government. Urban planning models and practice are introduced to study urban problems like poverty, congestion, crime and infrastructure.

**Prerequisites:** A course in geography.

**Offered:** Fall.

**GEOG 365 | Geography in Land Use Planning | 3 cr**

Examines the forces and factors shaping contemporary land use patterns in the United States. Presents concepts, theories, and tools of land use planning through selected case studies from southeastern Wisconsin and northern Illinois.

**Prerequisites:** A course in geography.

**Offered:** Spring.

**GEOG 370 | GIS and Planning | 3 cr**

Focuses on the application of GIS technology to help planners research, analyze, and to create plans encountered by city planners. Requires fees.

**Prerequisites:** GEOG 350.

**Offered:** Occasionally.

**GEOG 375 | Geography of Transportation | 3 cr**

The significance of transportation within the modern world. Geographic analysis of transportation systems with emphasis on networks, cost, new technologies, commodity flows, traffic patterns, impacts on development, the different modes, and transportation problems. Transportation planning is included.

**Prerequisites:** A course in geography.

**Offered:** Occasionally.

**GEOG 382 | Soil Ecosystems and Resources | 3 cr**

Digs into soils as both natural bodies and as managed resources. Examines physical and chemical properties of soils, plant nutrition from soils, environmental impacts of climate, geomorphology, organisms on soils, and how soils are managed. Includes lab and field experience.

**Prerequisites:** GEOG 100.

**Offered:** Occasionally.

**GEOG 384 | Landscape Ecology | 3 cr**

Examines the effects of spatial structure on ecosystem processes and biodiversity. Covers landscape scale, natural disturbances, animal movements, patch dynamics, design of nature reserves, and the wildland-urban interface. Includes labs and outside field trips. Multi-career cross-listing: MAPS 584.

**Prerequisites:** GEOG 100 or 326 or consent of instructor.

**Offered:** Fall.

**GEOG 390 | Special Topics in Geography | 3 cr**

Selected topics in geography will be examined.

**Prerequisites:** None.

**Offered:** Occasionally.

**GEOG 391 | Special Topics in Geographic Information Systems | 3 cr**

Investigates selected topics and applications in Geographic Information Systems.

**Prerequisites:** GEOG 350 or consent of instructor.

**Offered:** Occasionally.

**GEOG 396 | Field Methods in Geography | 3 cr**

Provides opportunity to apply geographic concepts, scientific inquiry, methods, and tools in a field setting. Field trip required. May be repeated for credit with a different topic for a maximum of 9 credits.

**Prerequisites:** Consent of instructor.

**Offered:** Occasionally.

**GEOG 410 | GIS and Communities | 3 cr**

Examines the ethical ways to plan and execute community engaged research using Geographic Information Systems (GIS). Explores technical methods of computer-based spatial analysis to solve real-world social problems. Community-based learning designation. Requires fees.

**Prerequisites:** GEOG 350 or GEOG 460.

**Offered:** Occasionally.

**Meets:** Community Based Learning

**GEOG 455 | Remote Sensing | 3 cr**

Overview of remote-sensing systems (airborne and satellite). Principles of photographic and electromagnetic remote sensing systems which detect, record and measure distributions of natural and cultural phenomena. Interpretation of aerial and orbital imagery for urban planning and environmental research.

**Prerequisites:** GEOG 250 or GEOG 350 or consent of instructor.

**Offered:** Occasionally.

**GEOG 460 | Introduction to Geographic Information Systems Analysis | 3 cr**

Introduces spatial analysis using GIS technology, including data acquisition, integration and editing. Explores spatial analysis of natural and cultural phenomena using both vector and raster data models. Requires field-based data collection using GPS with a focus on local community issues. Requires fees.

**Prerequisites:** None.

**Offered:** Fall.

**GEOG 465 | Advanced Geographic Information Systems Applications | 3 cr**

Delves into advanced topics in GIS concepts and applications including data collection and integration, spatial analysis, project management and terrain analysis using digital elevation models. Focus on local community issues. Requires fees.

**Prerequisites:** GEOG 460 or consent of instructor.

**Offered:** Spring.

**GEOG 490 | Special Topics in Geography | 1-3 cr**

Selected topics in geography will be examined.

**Prerequisites:** Consent of instructor.

**Offered:** Occasionally.

**GEOG 491 | Special Topics in Geographic Information Systems | 3 cr**

Examines selected topics and applications in Geographic Information Systems.

**Prerequisites:** GEOG 350 or consent of instructor.

**Offered:** Occasionally.

**GEOG 494 | Internship in Geography | 1-12 cr**

Practical applications of geographic concepts, methods, and technologies. By working in planning agencies, GIS departments, environmental organizations, or other private or public units, students gain real world experience. Enrollment dependent on availability of suitable placement.

**Prerequisites:** Junior standing, geography or related major, 2.75 GPA in geography courses; consent of instructor and department chair.

**Offered:** Fall, Spring, Summer.

**GEOG 495 | Senior Seminar | 3 cr**

Provides opportunity to apply knowledge, concepts, and methods of geography and anthropology. Includes completing an original research project and communicating the results, as well as career development activities.

**Prerequisites:** Senior standing, geography or related major.

**Offered:** Spring.

**GEOG 499 | Independent Study | 1-3 cr**

Under instructor supervision, individual investigation of a topic related to geography. Maximum of 6 credits may be applied toward the major.

**Prerequisites:** Junior standing, 2.25 overall GPA; consent of instructor and department chair.

**Offered:** Fall, Spring, Summer.

**GEOG 596 | Field Methods in Geography | 3 cr**

Extensive application of geographic concepts, scientific inquiry, methods and tools in a hands-on field setting. Focus on understanding patterns of biodiversity in natural habitats, assessing native ecosystems as influenced by human activities, and designing sampling methods to quantify vegetation dynamics. Techniques can include taxonomy keys, dendrochronology, soil sampling, and spatial statistics. May be taken for credit each time a different focus or area is studied. Fees for transportation & supplies.

**Prerequisites:** Consent of instructor.

**Offered:** Occasionally.

**GEOG 690 | Special Topics in Geography | 1-4 cr**

Advanced study on selected topics in geography. Freq: Occasionally.

**Prerequisites:** None.

**Offered:** Occasionally.