

GEOGRAPHY

Molinaro 275 • 262-595-2149 • Keyword: *Geography*

Degree Offered:

Bachelor of Arts.

Associate Professors:

Walasek, Ph.D.; (Chair), Wolf, Ph.D.

Assistant Professor:

Ward, Ph.D.

Lecturer/Assistant Professor:

French, Ph.D.

Student Organizations/Clubs:

Geography Club, Gamma Theta Upsilon

Career Possibilities:

Students who major in geography are prepared for careers in environmental analysis, Geographic Information Systems, community development, urban planning, and teaching. In addition, geography is a dynamic liberal arts major which combines cultural perspectives and analytical skills. Opportunities for employment are wide ranging. Possible employers include mapping firms, environmental agencies, planning commissions, site selection companies, marketing departments, school districts, emergency management agencies, and defense agencies.

Department Overview

The UW-Parkside geography curriculum is designed to reflect the needs of society and nature so that the student will gain an appreciation of the varied spatial factors which influence life in today's interconnected world. Geography is the study of the distribution, variation, and interrelation of the natural and cultural features of the Earth's surface. The Geography Department's mission is to extend geographic knowledge through exceptional educational programs, research projects, and service activities using advanced technology to train students and to solve problems. Geography's mission is important because aspects of place, area, location, and distribution are essential to resolving issues facing the region, the country and the world. Understanding global, national, and local patterns of economic activity, urban problems, cultural differences and environmental change is vital and emphasized within the department.

Students interested in geography have several options. Some students complete a general major in geography; many students include as part of their geography major one or more of the following:

- Concentration in Planning
- Concentration in Applied Environmental Geography
- Certificate in Geographic Information Systems

The department also offers a geography minor.

Opportunities for students to assist in faculty research projects permit students to learn research tools used in geography and to apply concepts learned in the classroom. For example, students might learn how to take soil samples in the field, how to analyze tree rings in the lab or to use GIS to aid decision making. In addition, students can gain service experiences through community-based learning projects.

Preparation for Graduate School

A major in geography provides excellent preparation for students seeking graduate study and degrees in geography, urban planning, environmental studies, international affairs, resource management, and other related fields.

Internships

The department is strengthened by an internship program with placement in local public or private sector locations. Students can gain valuable experience in a variety of real world settings which increases their skills and adds to their resumes.

Core Course Requirements for the Geography Major (26 or 27 credits)

All geography majors are required to complete the following courses or their equivalents:

GEOG 100	Physical Geography and the Environment	3 cr
GEOG 110	Intro to Geography-World Regions . . .	3 cr
GEOG 215	Economic Geography	3 cr
GEOG 250	Map Use and Analysis	3 cr
GEOG 300	Geographic Methods	3 cr
GEOG 350	Cartography and GIS	3 cr
GEOG 495	Senior Seminar	2 cr

Plus one of the following:

GEOG 101	Geography of American Ethnicity & Race	3 cr
GEOG 105	Contemporary Human Geography . . .	3 cr
GEOG 108	Culture and Environmental Sustainability	3 cr

Plus one of the following advanced physical geography courses:

GEOG 324	Landforms and Environmental Processes . .	4 cr
GEOG 326	Biogeography	3 cr

GEOG 382	Soil Ecosystems and Resources	4 cr
GEOG 384	Landscape Ecology	3 cr
GEOG 396	Field Methods in Geography	3 cr

General Major (38 credits minimum)

The general major is designed for students wanting a broad background in geography. Most students also seeking teacher licensure (see the following page) would be in the general major. The core courses plus 12 credits of 300-level and above courses or their equivalents are required.

Concentration in Planning (38 credits minimum)

The concentration in planning is for students interested in positions or graduate study in urban and regional planning, business planning, or in related fields. The core courses plus the following or their equivalents are required.

GEOG 360	Urban Geography	3 cr
GEOG 365	Geography in Land Use Planning	3 cr

Plus two of the following:

GEOG 330	Population Geography	3 cr
GEOG 340	Political Geography	3 cr
GEOG 375	Geography of Transportation	3 cr
GEOG 494	Internship in Geography	3 cr

Note that GEOG 494 must be with an approved agency/organization or other suitable location in order to count for this concentration.

Concentration in Applied Environmental Geography (38 credits minimum)

This concentration allows students to emphasize physical geography and environmental analysis. A career in environmental management is one example of where this concentration could be used. The core courses plus the following or their equivalent are required.

Four of the following:

GEOG 306	Natural Disasters and Society	3 cr
GEOG 308	Conservation of Natural Resources	3 cr
GEOG 323	Climate Change	3 cr
GEOG 324	Landforms and Environmental Processes	4 cr
GEOG 326	Biogeography	3 cr
GEOG 382	Soil Ecosystems and Resources	4 cr
GEOG 384	Landscape Ecology	3 cr
GEOG 396	Field Methods in Geography	3 cr
GEOG 494	Internship in Geography	3 cr

Note that GEOG 494 must be with an approved agency/organization or other suitable location in order to count for this concentration.

Requirements for the Geography Minor

The minor in geography consists of a minimum of 18 credits. The following courses or their equivalents are required:

GEOG 100	Physical Geography and the Environment	3 cr
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One of the following:

GEOG 101	Geography of American Ethnicity & Race	3 cr
GEOG 105	Contemporary Human Geography	3 cr
GEOG 108	Culture and Environmental Sustainability	3 cr
GEOG 110	Intro to Geography-World Regions	3 cr

One of the following:

GEOG 215	Economic Geography	3 cr
GEOG 250	Map Use and Analysis	3 cr

The remaining 9 credits must be selected from geography courses at the 300-level and above.

Certificate in Geographic Information Systems (10 credits minimum for non-majors; 38 credits minimum for geography majors)

Geographic Information Systems (GIS) store, display, and analyze spatially referenced data bases to help solve problems and to assist in decision making. GIS is increasingly important in a variety of applications like transportation planning, business logistics, and environmental impact analysis. This certificate can be earned by completing the following or their equivalents.

GEOG 350	Cartography and GIS	3 cr
GEOG 460	Introduction to GIS Analysis	3 cr

Plus one of the following:

GEOG 455	Remote Sensing	3 cr
GEOG 465	Advanced GIS Applications	3 cr
GEOG 490	Special Topics (on GIS topics)	3 cr

Plus one of the courses not taken above or one of the following with an approved GIS topic:

GEOG 494	Internship in Geography	1 cr min.
GEOG 499	Independent Study	1 cr min.

Geography majors must complete the core courses including both GEOG 250 and 350 and take enough additional credits at the 300-level and above to total at least 12 credits.

Non-majors may be able to test out of GEOG 250 (a prerequisite for GEO 350). The GIS certificate requires a 2.25 GPA minimum in the courses for the certificate.

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Teacher Licensure

Students seeking teacher licensure in the geography major or minor must fulfill Wisconsin Department of Public Instruction requirements; therefore course requirements may differ from those of the non-teaching major and minor. Information about the teacher education program and additional requirements for licensure can be obtained from the Geography Department or the teacher education advisor at 262-595-2100.

Courses in Geography (GEOG)

- 100 Physical Geography and the Environment**3 cr
Prereq: None. Freq: Fall, Spring, Summer.
 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.
- 101 Geography of American Ethnicity & Race**3 cr
Prereq: None. Freq: Fall, Summer.
 American ethnic and racial patterns from a distinctly geographic perspective. Historical forces shaping the geographical patterns of race and ethnicity as well as contemporary issues in ethnic and race relations including immigration .
- 105 Contemporary Human Geography**3 cr
Prereq: None. Freq: Spring.
 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.
- 108 Culture and Environmental Sustainability**3 cr
Prereq: None. Freq: Yearly
 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.
- 110 Introduction to Geography-World Regions**.....3 cr
Prereq: None. Freq: Fall, Spring, Summer.
 A study of the cultural and physical characteristics of major world regions. How people live in different parts of the world. Globalization, environmentalism, and geographic perspectives on current international issues are emphasized.
- 215 Economic Geography**.....3 cr
Prereq: None. Freq: Spring.
 Analysis of the factors which influence the spatial patterns of economic activities and economic variables. The geography of transportation systems, labor supplies, markets, trade, technology, and government regulations. Investigation of how geography affects economic processes and problems. Introductory course in geography recommended.

- 250 Map Use and Analysis**.....3 cr
Prereq: None. Freq: Fall.
 Interpretation, analysis, and function of topographic and thematic maps. Navigation and data collection using GPS. Compass use and orienteering. Map projections and coordinate systems. Measurement and pattern analysis using maps. Air photo interpretation. Hands-on experience using maps and GPS in both the classroom and the field.
- 290 Special Topics in Geography**.....1-4 cr
Prereq: None. Freq: Occasionally.
 Selected topics in geography will be examined.
- 300 Geographic Methods**.....3 cr
Prereq: Junior standing and 9 credits in geography or consent of instructor. Freq: Fall.
 Introduction to geographic concepts, methods, and procedures. Applications of selected descriptive and inferential statistical methods to geographic problems. Hypothesis testing, correlation, and regression. Analysis of point patterns.
- 306 Natural Disasters and Society**3 cr
Prereq: None. Freq: Occasionally.
 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.
- 308 Conservation of Natural Resources**3 cr
Prereq: None. Freq: Summer.
 Examination of significant environmental issues. Policies and problems in the use and management of natural resources. Energy alternatives, climate change, water resources issues, endangered species, and others. Selected topics taken from southeastern Wisconsin.
- 310 Geography of the United States and Canada**.....3 cr
Prereq: None. Freq: Occasionally.
 Covers the physical features, resources, people, settlement patterns, historical geography, land utilization and economic development of the United States and Canada. Particular emphasis on environmental issues, economic ties, and political relations
- 315 Geography of Wisconsin**3 cr
Prereq: None. Freq: Summer.
 Wisconsin's characteristics are explained and compared to those of the rest of the United States. Explores patterns of history, population, climate, topography, economic activity, transportation, culture, and recreation. Current and ongoing statewide issues are examined from a geographic perspective.
- 320 Regional Geography**.....3 cr
Prereq: None. Freq: Occasionally.
 Explores the physical and cultural features of a selected region with emphasis on past and present spatial patterns. Included geographic viewpoints on current issues and problems within the region. May be taken for credit each time a different region is studied.

- 323 Climate Change**3 cr
Prereq: GEOG 100. Freq: Occasionally.
 Investigates characteristics, processes, distribution, classification and geographical significance of Earth's climates. Causes and consequences of climate change, especially its impacts on human populations.
- 324 Landforms and Environmental Processes**4 cr
Prereq: GEOG 100 or introductory course in geology or consent of instructor. Freq: Occasionally.
 Examines Earth's landforms concerning their characteristics, processes, and distribution. 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.
- 326 Biogeography**3 cr
Prereq: GEOG 100 or introductory course in biology or consent of instructor. Freq: Fall.
 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.
- 330 Population Geography**3 cr
Prereq: A course in geography. Freq: Occasionally.
 Geographic factors that influence patterns of human settlement and existence. Examines population distributions and growth as related to environmental and resource issues. Are there too many people on Earth? How do the demographics of the United States compare to other parts of the world? Includes case studies, applications, and methods of analysis.
- 340 Political Geography**3 cr
Prereq: A course in geography. Freq: Occasionally.
 Geographical explanation of the political organization of space and territory. Issues are explored at scales ranging from global to local. Globalization, nationalism, boundary problems, regional conflict, ethnic nationalism, and the local context for planning and policy are stressed.
- 350 Cartography and GIS**3 cr
Prereq: GEOG 250 or consent of instructor. Freq: Spring.
 Cartographic theory and methods. Role of maps in society. Introduction to GIS technology. Digital cartographic design and data processing using GIS. Also emphasizes history of cartography, quantitative and qualitative thematic mapping, and maps as both art and science.
- 360 Urban Geography**3 cr
Prereq: A course in geography. Freq: Fall.
 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 practices are introduced to study urban problems like poverty, congestion, crime and infrastructure.
- 365 Geography in Land Use Planning**3 cr
Prereq: A course in geography. Freq: Spring.
 A detailed examination of the forces and factors that shape contemporary land use patterns in the United States. The study of the concepts, theories, and tools of land use planning. How planning leads to more efficient, productive, and pleasant urban and rural environments. Uses selected case studies from southeastern Wisconsin and northern Illinois.
- 375 Geography of Transportation**3 cr
Prereq: A course in geography. Freq: Occasionally.
 The significance of transportation within the modern world. Geographic analysis of transportation systems with emphasis on networks, costs, new technologies, commodity flows, traffic patterns, impacts on development, the different modes, and transportation problems. Transportation planning is included.
- 382 Soil Ecosystems and Resources**4 cr
Prereq: GEOG 100. Freq: Occasionally.
 Understanding of soils as both natural bodies and as managed resources. Students learn how soil science fits into the broader topic of physical geography by exploring 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.
- 384 Landscape Ecology**3 cr
Prereq: GEOG 100 or 326 or consent of instructor. Freq: Occasionally.
 Focuses on how spatial structure affects ecosystem processes and biodiversity at the landscape level. Concepts include landscape scale, natural disturbances, animal movements, patch dynamics, design of nature reserves, and the wildland-urban interface.
- 390 Special Topics in Geography**3 cr
Prereq: None. Freq: Occasionally.
 Selected topics in geography will be examined.
- 396 Field Methods in Geography**3 cr
Prereq: Consent of instructor. Freq: Summer.
 Application of geographic concepts, scientific inquiry, methods, and tools in a hands-on field setting. Current focus is 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, sil sampling, and spatial statistics. May be taken for credit each time a different focus or area is studied. Additional fees required.
- 455 Remote Sensing**3 cr
Prereq: GEOG 250 or 350 or consent of instructor. Freq: Occasionally.
 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.

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- 460 Introduction to GIS Analysis**3 cr
Prereq: GEOG 250 or 350 or consent of instructor. Freq: Occasionally.
 Introduction to spatial analysis using GIS technology. Data acquisition, integration, and editing. Spatial analysis of natural and cultural phenomena using both vector and raster data models. Application of GIS technologies to environmental management and urban planning. Field based data collection using GPS. Focus on local community issues. Individual and group projects.
- 465 Advanced GIS Applications**.....3 cr
Prereq: GEOG 460 or consent of instructor. Freq: Occasionally.
 Advanced topics in GIS concepts and applications. Data collection and integration, spatial analysis, and project management. Terrain analysis using Digital Elevation Models. Advanced application of GIS technology to environmental management and urban planning. Exploration of GIS related job opportunities and the future of GIS technology. Focus on local community issues. Individual and group projects.
- 490 Special Topics in Geography**.....1-3 cr
Prereq: Consent of instructor. Freq: Occasionally.
 Selected topics in geography will be examined.
- 494 Internship in Geography**.....1-12 cr
Prereq: Junior standing, geography or related major, 2.75 GPA in geography courses, and consent of instructor. Freq: Fall, Spring, Summer.
 Practical application of geographic concepts, methods, and technologies. By working in planning agencies, GIS departments, environmental organizations, other private or public units, students gain real-world experience. Enrollment dependent on availability of suitable placement. May be repeated for a maximum of 12 credits with up to 6 credits toward the major.

- 495 Senior Seminar**.....2 cr
Prereq: Senior standing, geography or related major. Freq: Fall, Spring.
 Capstone course applying knowledge, concepts, and methods of geography. Includes completing a major research project and communicating the results.
- 499 Independent Study**1-3 cr
Prereq: Junior standing, 2.25 overall GPA, and consent of instructor. Freq: Fall, Spring, Summer.
 Under instructor supervision, individual investigation of a topic related to geography. Maximum of 6 credits may be applied toward the major.

Graduate Courses

- 596 Field Methods in Geography**.....3 cr
Prereq: Consent of instructor. Freq: Summer.
 Extensive application of geographic concepts, scientific inquiry, methods, and tools in a hands-on field setting. Focus is 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. Additional fees required.
- 690 Special Topics in Geography**.....1-4 cr
Prereq: None. Freq: Occasionally.
 Advanced study on selected topics in geography.