

# GEOGRAPHY, PHD

## Related Certificates

- Certificate in Geographic Information Systems (GIS) (<http://uwm.edu/graduateschool/geographic-information-systems-certificate/>)

## Overview

The Department of Geography offers both master's and doctoral programs of study across a range of systematic, regional, and technical fields, with innovative energy in the doctoral program for studying urban environments. The department's overall strengths are aligned along a theme of "Changing Environments," with three major axes, each responsive to areas with strong demand for new professionals:

- **Urban Environments:** This area emphasizes the spatial interactions of economic systems as well as political, social, cultural, environmental, technological, and other forces that influence the people, identities, landscape, development, and dynamics of urban areas. With the world's population becoming increasingly urbanized and globalized, courses examine the continuing challenges of urban growth and change, race, ethnicity, and gender in the city, immigration and identity politics, and spatial aspects of urban planning processes and political decision-making.
- **Physical Geography and Environmental Studies:** This area addresses the interactions among natural forms and processes on the earth's surface, the impact and implications of global climate change, and human connections with those natural phenomena. Courses discuss and analyze the distribution and processes of earth surface landforms (geomorphology), soils (pedology), plants and animals (biogeography), water (hydrology), and long-term atmospheric conditions (climatology). Overlapping emphases include phenology, water resources, conservation, natural hazards, natural resource scarcity, and the mounting challenges of global environmental change.
- **Geographic Information Science (GIS):** This area emphasizes using geospatial technology to further understanding of spatial interactions among natural and social forces at multiple scales across the Earth's surface, and exploring the impacts of using such technology on social and cultural interactions. Courses examine geographic information collection (including remote sensing), data analysis and geocomputation (spatial analysis), information presentation (cartography), and societal implications. Our program emphasizes applications of GIS in urban, regional, and environmental planning, policy making, and public health.

In addition to these departmental strengths, individual faculty members apply their expertise in topics such as remote sensing, GIS, and cartography to problems of the city. Geography faculty also participate in the certificate program in Geographic Information Systems, which is jointly offered by the College of Letters and Science and the School of Architecture and Urban Planning.

While the master's program offers a more traditional structure within which students can strengthen their knowledge of the discipline and one or more of its subfields, the department's unique PhD program is designed to be especially attractive to forward-looking students interested in the urban environment who seek a flexible, versatile, 21st century graduate education with a strong emphasis on interdisciplinarity. The PhD program's urban-environmental theme is inclusive and encompassing of processes and problems associated with the

intersection of human and natural environments, strongly focused on "the city" as the entity of engagement. The program breaks with longstanding tradition in the field of geography in stressing a balance between specialized analytical research and synthetic research, between traditional academic research and community engagement, and between research and teaching. It relies heavily on Geographic Information Science (GIS) as a research tool and as an organizing framework.

## Facilities and Resources

The University of Wisconsin–Milwaukee is the repository of the venerable American Geographical Society Library, an internationally renowned research resource. The Department of Geography boasts a large instructional Map Collection, which functions as a federal government depository for maps; and a Soils and Physical Geography Laboratory, which supports research projects among several UWM departments.

Other research resources at UWM available to the Geography Department staff and students include the Cartography and GIS Center, the School of Freshwater Sciences, the Center for Economic Development, the Center for Latin American and Caribbean Studies, the Center for International Education, the Center for Urban Transportation Studies, Women's and Gender Studies, the Digital Humanities Lab, the Center for 21st Century Studies, and University Information Technology Services.

## Admission Requirements

### Application Deadlines

Application deadlines vary by program, please review the application deadline chart (<http://uwm.edu/graduateschool/program-deadlines/>) for specific programs. Other important dates and deadlines can be found by using the One Stop calendars (<https://uwm.edu/onestop/dates-and-deadlines/>).

### Admission

An applicant must meet Graduate School requirements (<http://uwm.edu/graduateschool/admission/>) to be considered for admission to the program. Students from a wide range of disciplinary backgrounds may be admitted. They must present the following credentials:

1. Master's degree.
2. Statement of interest in the program. This statement should outline the applicant's research interests and academic background, their goals for pursuing a graduate degree in geography, and other relevant professional and research experience. The statement should not exceed two-single sided pages.
3. A curriculum vitae (CV) detailing academic history and accomplishments, teaching and research experience, and other relevant professional qualifications.
4. A writing sample. The writing sample can be a paper written for a class, a professional project, or part of a longer piece of writing. It should not exceed 20 pages.
5. Substantial evidence of scholarly potential and commitment.
6. Three letters of recommendation.
7. The GRE (<http://uwm.edu/graduateschool/admission/#gre>) requirement is waived for those applying for the 2022-2023 academic year.

In some instances where the applicant's record demonstrates exceptional promise, the Department will consider applications for admission to the Ph.D. program directly from a BA/BS degree. Such admission does not constitute a waiver of any of the requirements indicated below.

The Graduate Program Committee, during the admission process, will evaluate an applicant's academic background and will assign deficiencies based on a comparison of his/her background and the proposed specific area of study as outlined in the student's statement of interest. In general, the department seeks students with:

1. Potential for planning and successfully completing an independent research project, as evidenced by a master's thesis and/or other appropriate materials;
2. Basic statistical analysis skills;
3. Interest and/or ability in evaluating problems related to the urban environment with a spatial framework; and
4. Interest in examining research questions within a multi-disciplinary (human/physical) team environment.

### Reapplication

A student who receives a master's degree from UWM must formally reapply for admission to Graduate School before continuing studies toward the Ph.D.

### Graduate Student Orientation

All new students are expected to participate in the department orientation program, offered during the week prior to the start of fall classes. If a student enters the program in the spring, they must participate in this program during the subsequent fall semester. New students will be paired with an experienced student mentor during their first year. Instructional opportunities sponsored by the Center for Instruction and Professional Development (CIPD) and the Preparing Future Faculty (PFF) initiative will be offered to all teaching assistants and other interested students enrolled in the doctoral program.

## Credits and Courses

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM with a minimum GPA of 3.0.

Under the guidance of the advisory committee, the chair of which serves as the student's major professor, the student plans a program of study leading to the development of a special interest. All programs of study contain the following four elements: core concepts and methods, thematic focus, elective courses (as needed to meet the total credit requirement), and dissertation.

### Core Concepts and Methods

Code	Title	Credits
<b>Foundation</b>		
GEOG 726	Geographic Information Science	4
GEOG 870	Contemporary Geographic Approaches:	3
Select any Geography graduate seminar		3
Select one of the following:		3-4
GEOG 704	Remote Sensing: Environmental and Land Use Analysis	
GEOG 747	Spatial Analysis	
GEOG 827	Qualitative Research	

### Thematic Focus

Select three courses 9-12

### Electives

Select courses taken from geography or cognate fields to achieve the total of 54 credits required for the Ph.D. degree<sup>1</sup>

**Total Credits** 50-58

<sup>1</sup> Students must have the approval of their advisors for the elective courses.

### Thematic Focus

Students, in consultation with their advisor, must select a minimum of three courses that together confer specialized expert knowledge in one thematic area. The courses selected do not have to come from a single list, and they may include other courses not listed.

### Local Places: Problems and Issues

Relevant courses include:

Code	Title	Credits
GEOG 441	Geography of Cities and Metropolitan Areas	3
GEOG 455	Applied Climatology	3
GEOG 464	Environmental Problems	3
GEOG 564	Urban Environmental Change and Social Justice	3
GEOG 834	GIS and Society	3
GEOG 945	The Internal Structure of the City	3
URB STD 981	Argument in Urban Studies Scholarship	3
URBPLAN 720	Urban Development Theory and Planning	3

### Global and Regional Perspectives

Relevant courses include:

Code	Title	Credits
GEOG 430	Geography of Transportation	3
GEOG 443	Cities of the World: Comparative Urban Geography	3
GEOG 540	Globalization and the City	3
GEOG 742	Urban and Regional Dimensions of Globalization	3
GEOG 744	Cities, Regions, and Globalization	3

### Monitoring and Modeling Urban Dynamics

Relevant courses include:

Code	Title	Credits
GEOG 704	Remote Sensing: Environmental and Land Use Analysis	4
GEOG 420	Methods and Principles in Land Form Geography	3
GEOG 520	Physical Geography of the City	3
GEOG 747	Spatial Analysis	4
GEOG 826	Intermediate Geographic Information Science	4
GEOG 650	Geography Field Work	3
GEOG 804	Advanced Remote Sensing	3
GEOG 827	Qualitative Research	3
GEOG 904	Remote Sensing and Urban Analysis	3

GEOG 926	Advanced Geographic Information Science: Geographic Modeling	3
GEO SCI 730	Modelling Techniques for Hydrogeology	3
URBPLAN 721	Applied Planning Methods	3

### Research Techniques (Elective Course)

Students who have not taken a research techniques course in their prior graduate program should consult with their faculty advisor regarding their enrollment in GEOG 910, an introduction to theoretical and practical aspects of geographic research, funding, presentation, and publication. Ideally, students should enroll in this course after their first full year of courses, but no later than their fourth semester, after they have completed the majority of **Core** requirements. The course is designed to assist students with the initiation of their Ph.D. dissertation research.

## Additional Requirements

### Major Advisor and Committee

Students must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. Students may not register for any courses without that advisor's prior approval.

By the time of the student's preliminary exams or dissertation proposal hearing, the committee must have at least three members, including the student's chosen major professor. At least two of the committee members must be UWM Geography graduate faculty; one external member approved by the program to possess appropriate expertise is automatically accepted by the Graduate School.

By the time the student is ready to defend their dissertation, the committee must have at least four members, including the major professor. At least three of the committee members must be UWM graduate faculty; one external member approved by the program to possess appropriate expertise is automatically accepted by the Graduate School. Students are allowed a maximum of six committee members for the defense. At least half the committee members must be UWM Geography graduate faculty.

### Foreign Language Requirement

If appropriate to the proposed area of study, the student's committee will require that s/he acquire the necessary competence in a foreign language. The major professor will supervise the completion of this requirement with input from the committee as necessary.

### Dissertation

The candidate must write an acceptable dissertation that demonstrates formulation, design, and independent execution of a significant research project. The dissertation must make an original contribution to knowledge in the field of geography. It may focus on geographical theory, methodology, data, or analysis, or it may involve collaborative approaches, interdisciplinary syntheses, and integrative solutions appropriate to the focus of the student's graduate program of study.

### Portfolio Evaluation

By the end of the first full academic year in the program, each student will undergo a formal portfolio evaluation by the members of the faculty in order to determine the student's readiness to continue in the program. This evaluation will include inspection of all written work produced in courses, commentary by relevant instructors, and any other materials the student chooses to submit. The possible outcomes of this review will be:

1. **Pass** (student continues with the normal second year of their program);

2. **Fail** (student is recommended for academic dismissal); or
3. **Probation** (student is counseled to take specific courses or other actions to achieve the necessary readiness to continue in the program). In the case of a recommendation of Probation, the student will be re-evaluated after an additional semester. If this second review does not result in a decision to PASS, the student will be recommended for academic dismissal.

### Residence

The student must meet minimum Graduate School residence requirements (<http://uwm.edu/graduateschool/doctoral-requirements/#residence>) of one continuous academic year of full-time graduate studies at UWM. This can be satisfied by completing 8 to 12 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, including summer sessions. Residence credit cannot be earned at the master's level or before the master's degree is awarded.

### Doctoral Preliminary Examination

Each student will undergo a comprehensive written and oral examination by the end of his/her sixth semester in the program. The student's committee, advisor, and proposed dissertation topic must be approved formally by the Geography departmental faculty prior to the scheduling of these exams. A Proposed Ph.D. Program/Plan of Study must be filed with the major professor prior to the preliminary examination. Successful completion of these exams leads to candidacy when work on the dissertation can commence.

The student's advisor, as chair of the advisory committee, will organize and administer the examination. The content of the examination will be determined by the area of the student's interest. The scope of the examination will be determined by the student's advisory committee. A student judged qualified by the majority of the five-member advisory committee will be admitted to candidacy. A student judged not qualified by the majority of the advisory committee will not be admitted to candidacy at the time of the examination but will be given an opportunity to retake the examination once, after a waiting period of at least one semester. At the discretion of the advisory committee, the second examination will be either a complete reexamination or a partial examination over the parts in which the student failed to qualify. A student receiving a negative vote from the advisory committee after the second examination will be recommended for academic dismissal. The student will be informed of the reasons for failure to qualify.

### Presentations

Each student must make two presentations at department colloquia. The first presentation will be scheduled early in the student's program; it is designed to give the student experience in making formal presentations. The second presentation will communicate the student's dissertation research topic and preliminary results.

### Dissertation

As mentioned above, the candidate must write an acceptable dissertation. The defense date for the dissertation must be set at least two weeks prior to the Graduate School deadline. The dissertation must be approved by the major professor and delivered to the student's advisory committee at least six weeks prior to the defense date. A student must submit the dissertation to the advisor with sufficient time to meet the committee's deadline. Exceptions to these deadlines under unusual circumstances must be approved unanimously by the student's committee.

### **Dissertation Defense**

The candidate must, as the final step toward the degree, defend the dissertation before the advisory committee. If the candidate passes the defense, the advisory committee will recommend to the Graduate School that a degree of Doctor of Philosophy be conferred.

### **Submission of Completed Dissertation**

In addition to submission of the final dissertation to the Graduate School (according to its required procedure), the candidate must present to the Geography Department a professionally hard-bound copy that meets Graduate School specifications for quality. This copy will remain on file in the department.

### **Time Limit**

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

### **Special Issues for Directly Admitted Students**

Students directly admitted to the doctoral program after completion of their bachelor's degree will not earn a master's degree during the course of their studies. Further, formal doctoral status (which affects stipend rates and the ability to fulfill the residency requirement) will not be granted until the student has completed 24 credits in the program. Lastly, no more than 12 dissertation credits can be used to satisfy the 54-credit doctoral degree requirement.