GEOGRAPHY AND REGIONAL STUDIES

http://www.as.miami.edu/geography

Dept. Code: GEG

Introduction

Geography is the science of place and space. Geographers ask where things are located on the surface of the earth, why they are located where they are, how places differ from one another, and how people interact with the environment. There are two main branches of geography: human geography and physical geography. Human geography is concerned with the spatial aspects of human existence. Physical geographers study patterns of climates, land forms, vegetation, soils, and water. Thus, Geography links the social sciences and natural sciences.

Geographers use many tools and techniques in their work, and geographic technologies are increasingly among the most important emerging fields for understanding our complex world. They include Geographic Information Systems (GIS), Remote Sensing, Global Positioning Systems (GPS), online mapping such as Google Earth, statistics, and others.

Geographers work in many different areas, such as environmental management, education, disaster response, city and county planning, community development, and more. Geography is an interdisciplinary field that offers diverse career opportunities.

The relevance and prestige of Geography as a discipline was helped enormously during the past 20 years by four key developments:

1. the emergence of "globalization" as a phenomenon requiring analysis and explanation;
2. the increasing recognition of space and place in cognate social and physical sciences;
3. deepening concern for nature-society interactions and issues of environmental sustainability and development; and,
4. the development of geographic information systems (GIS and GIScience) and remote sensing technologies and their widespread adoption by organizations in both the public and private sectors.

In recognition of the importance of these developments, UM Geography emphasizes three major orientations in its M.A. program:

1. environmental analysis,
2. globalization and urban change, and
3. developmental studies

This program provides students with an understanding of the main streams of geographical thought and familiarizes them with research design issues, including quantitative and qualitative research methodologies, survey research, remote sensing, and computer mapping and GIScience. Students also are provided with a range of Geography courses at the 500 and 600 levels, and are able to take two courses, if they so choose, in cognate disciplines outside Geography.

Educational Objectives

The MA Program in Geography offers specializations in areas such as:

- Geographic Information Systems and Remote Sensing
- Global Health and Medical Geography
- Urban Geography and International urbanization
- Environmental Studies
- International and Regional Development

Geography offers courses on the Middle East, Africa, South America and other areas

Geography offers courses that provide training in indispensable skills for everyone entering the present-day labor market:

- Research Methodology
- Statistics
- Computer Cartography
- Geographic Information Systems (GIS)
- Remote Sensing of the Environment

Degree Programs

The Department of Geography offers a Master’s program and a Graduate Certificate in Geospatial Technology. For more information on the M.A. program, please contact Dr. Richard Grant at rgrant@miami.edu or visit the Geography Department’s web page at www.as.miami.edu/geography. For more information on the Certificate Program, please contact terghazar@miami.edu.

Other

Internship Credit Hour

Students are encouraged to find a suitable internship experience with the Career Planning and Placement Center. Upon approval, 3 to 4 credit hours may be earned with an internship. These credit hours will be included in the fulfillment of major requirements (GEG 535).

Certificates

Certificate in Geography and Regional Studies

- Graduate Certificate in Geospatial Technology (http://bulletin.miami.edu/graduate-academic-programs/arts-sciences/geography-regional-studies/geospatial-technology-graduate-certificate)

Courses

GEG 602. Place, Region, Nature. 3 Credit Hours.
Seminar for Graduate and senior undergraduate students about geographic thought and geographical traditions.

Components: LEC.
Grading: GRD.

Typically Offered: Offered by Announcement Only.
GEG 603. Advanced Research Design in Geography. 3 Credit Hours.
Designing and proposing geographic research projects based upon a critical reading of the geographical literature. Students will prepare a master’s thesis (master’s students) or dissertation (doctoral students) project proposal.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

GEG 610. Survey Research in Geography. 3 Credit Hours.
The use of survey research including the choice of a survey mechanism, sampling, questionnaire design, survey logistics, survey analysis, and reporting of results.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 613. Advanced Cartography. 3 Credit Hours.
Cartographic research techniques, cognitive mapping, distortion, transformations and cartograms. Prerequisite: GEG 280 or equivalent.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 615. Human Dimensions of Global Environmental Change. 3 Credit Hours.
Explores the human dimensions of global environmental change using an interdisciplinary approach. The course is reading and writing intensive. Special attention is given to the central role that land-use/cover change plays in the larger realm of global environmental change.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

GEG 619. Immigration to the United States. 3 Credit Hours.
A description and analysis of current immigration patterns in the United States.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

GEG 622. Urbanization in the Developing World. 3 Credit Hours.
Patterns and processes in large cities in the developing world are examined.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

GEG 623. Seminar in Urban Management. 3 Credit Hours.
Identification of and responses to urban problems in large cities in European and Latin American metropolitan areas. Emphasis is on demographic, cultural/ethnic, service-provision, environmental, transportation, and land-use problems. Approach is via case studies, theory applications, and planning practicalities.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

GEG 625. Advanced independent study in geography I. 1-6 Credit Hours.
Advanced independent study for Two-Paper Option for first paper.
Components: THI.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

GEG 635. Internship in Geography. 1-4 Credit Hours.
Students are assigned to work for a local public or private agency.
Components: THI.
Grading: GRD.
Typically Offered: Fall & Spring.

GEG 637. Development Studies. 3 Credit Hours.
Advanced seminar on issues in contemporary development studies.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 645. Advanced Independent Study in Geography II. 1-6 Credit Hours.
Advanced independent study for Two-Paper Option for second paper.
Components: THI.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

GEG 652. Seminar on the Geography of South Florida. 3 Credit Hours.
Human and physical geography of South Florida.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 655. Field Methods and Geospatial Analysis. 3 Credit Hours.
With a focus on geo-spatial applications, this methods course introduces students to field research addressing complex socio-environmental issues. The course includes exercises with GPS data collection; geotagged photography; ground truthing; spatial survey design; and distributed GIS. Various research areas and cognate filed methods including environmental demography, community surveying, cultural mapping, and multi-sited ethnography.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

GEG 661. Advanced Urban Geography. 3 Credit Hours.
Analysis of the spatial structure of urban centers, the development of and interaction between functional zones, and the movement of goods and people in urban areas.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 663. URBAN GEOGRAPHY. 3 Credit Hours.
Components: LSN.
Grading: GRD.
Typically Offered: Fall.

GEG 680. Introductory Quantitative Methods for Geographical Analysis.. 3 Credit Hours.
Basic quantitative methods for geographic analysis.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

GEG 681. Advanced Spatial Statistics. 3 Credit Hours.
Social and environmental science applications of spatial statistical analysis illustrated with data and numerical (simulation experiments) examples employing interactive software. This course’s focus is on spatial auto correlation.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.
GEG 685. Advanced Cartography. 3 Credit Hours.
An understanding of cartography; a high degree of fluency in the art and science of map-making. The theory, principles, concepts and techniques required to present geographically-referenced data in order to effectively communicate spatial relationships, patterns, and the results of spatial analyses. Extensive experience in creating a wide variety of aesthetically-pleasing, professional-looking maps using ArcGIS.

Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

GEG 691. Introduction to GIS (Geographic Information Systems) for graduate students. 3.00 Credit Hours.
Overview of basic concepts in GIS (Geographic Information Systems) for students wishing to get graduate credit. This class involves a student project using GIS.

Components: LAB.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 692. Advanced Environmental Remote Sensing. 3 Credit Hours.
A foundation in remote sensing and digital image processing. Special emphasis will be paid to land applications, use of satellite imagery, and the use of optical imagery in land-cover mapping. Introductory concepts of electromagnetic energy and radiative transfer; a basis for understanding remote sensing applications typically found in geography including multispectral image processing and classification.

Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

GEG 693. Intermediate GIS. 3.00 Credit Hours.
The objective of this course is to provide an introduction to analysis of spatial data in geographic information systems (GIS). The course will provide students with instruction on manipulation of raster and vector data as well as cartographic modeling using raster-based GIS software. Students also will receive exposure to introductory concepts of remote sensing and visualization, which are rapidly growing sub-fields of GIS.

Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

GEG 695. Web Gis. 3 Credit Hours.
Map serving technologies and internet map design, focusing on the programming concepts needed to construct and implement high-quality web mapping applications. Lab exercises will make use of both the commonly used open source GIS and related programming tools for customizing web-based mapping applications, as well as the leading proprietary web mapping capabilities provided in ESRI’s ArcGIS Server. Students build their own on-line interactive, customizable maps and will learn the basics of client/server architecture and processing, JavaScript programming, and XML/HTML basics.

Components: LEC.
Grading: GRD.

GEG 810. Master’s Thesis. 1-6 Credit Hours.
The student working on his/her master’s thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.
Grading: SUS.
Typically Offered: Fall, Spring, & Summer.

GEG 820. Research in Residence. 1 Credit Hour.
Used to establish research in residence for the thesis for the master’s degree after the student has enrolled for the permissible cumulative total in GEG 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

GEG 825. Continuous Registration--Master’s Study. 0 Credit Hours.
To establish residence for non-thesis master’s students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.