GEOGRAPHY AND SUSTAINABLE DEVELOPMENT

geography.as.miami.edu

Dept. Code: GEG

Geographers have an instinctual love of maps, of places, and pay attention to the tangible worlds while posing a strong innate curiosity about the world.

Introduction

The Department of Geography and Sustainable Development has a long and distinguished history of excellent scholarship, is proud to continue its mission of education, research, and service to the community and the world about the importance of geographic knowledge. Our vibrant and diverse department is organized around three major core areas of specialization: Urbanization, Cities and Sustainability; Space, Conservation and Environment; and Public Health, Illness, and Disease. The program builds upon our strengths in urban geography, environmental studies, and medical geography along with gaining skills in methodology, including GIS, remote sensing, and statistics. For the past five years, the Department of Geography and Sustainable Development's urban studies program has consistently ranked as one of the nation's top 5% urban programs for its quality of research and instruction, based on data from Academic Analytics.

Degree Programs

The Department of Geography and Sustainable Development at UM is home to one Geography graduate program: Master's (MA), and a Graduate Certificate in Geospatial Technology. Each graduate student selects one of the department's core program areas as a concentration for research and fieldwork, and works closely with a particular faculty adviser.

Areas of Specialization

Urbanization, Cities and Sustainability

This program examines the dramatic growth in the size, number, and population of global cities. Areas of emphasis include: Smart Cities; Global Urbanization and Infrastructure; Sustainable Development; African Urbanism; Urban Spatial Restructuring, Development Geography, Urban Health and Well-Being; Social Justice, and Ethnicity.

Conservation and Environment

This program builds upon the foundations of human geography as an integrated social science to examine the interplay of socio-spatial processes involved in shaping the complex interrelationships between societies and nature and the built environment. Areas of emphasis include: Climate Change, Biogeography, and Systematic Conservation Planning.

Public Health, Illness, and Disease

This program examines and responds to both challenges and opportunities to improve population health within and across populations and cities and metropolitan areas. Areas of emphasis include Health Disparities, Spatial Epidemiology, Community and Culturally Responsive Research and Mathematical Modeling for Disease Transmission.

Application Procedure & Financial Assistance

Applicants must submit a completed application form, at least two letters of reference, official transcripts from each undergraduate and/or graduate school attended, and an official GRE (Verbal/Quantitative/ Analytical) record. The Graduate Admissions Committee evaluates the student's academic accomplishments and promise as well as the match between the applicant's professional goals and core faculty expertise. For information about the department in general, as well as the professional activities of individual faculty members, see the Department website. The application procedure may be found on the Applications page.

Transfer of Credit

The university has specific and stringent requirements concerning the transfer of credit. Please see the Graduate College website for Transfer of Credit requirements.

Financial Assistance

Please visit the Financial Support page for details.

Admission requirements and deadlines can be found on the Geography Department's web page at http://www.as.miami.edu/geography/graduate/ and for the Certificate Program at the Certificate Program webpage at http://www.as.miami.edu/gisc/.

Questions may be directed to the email below or by mail at:

Graduate Admissions

University of Miami

Department of Geography and Sustainable Development

1300 Campo Sano Ave, Rm 115

Coral Gables, FL 33124

moise@miami.edu

Certificate Program Admissions

University of Miami

Department of Geography and Sustainable Development

1300 Campo Sano Ave, Rm 115

Coral Gables, FL 33124

terghazar@miami.edu

Major

- MA in Geography (http://bulletin.miami.edu/graduate-academic-programs/arts-sciences/geography-regional-studies/geography-ma/)
- M.P.S. in Urban Sustainability and Resilience

Certificate in Geospatial Technology

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

GEG 602. Geographic Thought and Analysis. 3 Credit Hours.
Seminar for Graduate and senior undergraduate students about geographic thought and geographical traditions.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

GEG 603. 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: Fall.

GEG 610. Survey Research Methods. 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 612. Health Applications of Geographic Information Systems. 3 Credit Hours.
Ideas from a broad range of geospatial health subjects, and hands-on exercises to help students to better process spatial data and use them for specific analyses that address issues related to health.
Components: SEM.
Grading: GRD.
Typically Offered: Spring Odd Years.

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 616. Urban Analytics & Geovisualization. 3 Credit Hours.
Cities produce vast amounts of data due to growing digitization in society and the built environment. This course demonstrates how urban data can be collected from diverse sources, analyzed, and communicated through computation and visualization tools. You will be exposed to cutting-edge datasets typically encountered by professional analysts and gain hands-on experience exploring complex data using web-based mapping, dashboard design, and story mapping techniques. We will use multiple software platforms, including Tableau, CartoDB, ArcGIS, Datawrapper, and Flourish through a series of mini-projects, individually and in small groups. We will further explore applications of these tools through our guest speakers from local governments who will demonstrate how data and analytics are being used to advance more sustainable and smarter cities. The course will prepare you to communicate data with confidence and engage the broader public with your insights. You will not only design visualization but also learn to evaluate what makes users more engaged while using visual interfaces. The course will encourage students to engage with ethical considerations associated with data production, usage, and governance. Overall, you will gain a critical appreciation of the potential for urban analytics and geovisualizations to inform community solutions and policymaking.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

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 620. Sustainable Cities. 3 Credit Hours.
The emerging field of urban sustainability from an interdisciplinary perspective, by providing major theories and methodologies in sustainable urbanism, especially in terms of urban resilience, economic inequality, urban ecology, and environmental justice.
Components: SEM.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

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: Offered by Announcement Only.

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: Offered by Announcement Only.

GEG 630. Practicum in Sustainability. 1-9 Credit Hours.
A practicum offering a concentration in experiential learning. It serves students specializing in the Sustainability track in the MPS in Urban Sustainability and Resilience Program by engaging them in a real-world project experience. The course consists of working with non-profits and/or government organizations identified by UM faculty experts. Students will be advised by the course facilitator but will work directly with the client organization. There will be some assigned reading/lecture content and invited speakers. The speaker topics covered will include project management, critical reflections, and team collaboration. The goal is to provide a hands-on learning experience and immersion in a professional working environment that pertains to sustainability.
Components: PRA.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

GEG 632. Seminar in Environmental Geography and Planetary Health. 3 Credit Hours.
Advanced topics in Environmental Geography from a systems approach.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 635. Internship in Geography. 1-9 Credit Hours.
Students are assigned to work for a local public or private agency.
Components: THI.
Grading: SUS.
Typically Offered: Fall, Spring, & Summer.

GEG 636. Sustainable Food Systems. 3 Credit Hours.
The intricacies of global geographies of major food systems, how these systems have come to be and where major food types produced, why and where the major demand centers are. It also examines what the future implication for food is through exploration and evaluation of a range of visions for a safe, sustainable food system.
Components: SEM.
Grading: GRD.
Typically Offered: Fall Even Years.

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 643. Population, Sustainability and the Media. 3 Credit Hours.
Explores opposing views of population growth and environmental sustainability through the media and cinema: contrasts "Doomsters" who believe population growth and resource consumption threaten human survival, and pro-growth "Boomsters" who believe human ingenuity and technology will continue to allow humankind to prosper.
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 646. Immigrant & Refugee Health. 3 Credit Hours.
A theoretical background essential for understanding the complex interaction of migration and health. Emphasis is placed on the health issues experienced by displaced populations including refugees, migrants, and internally displaced persons.
Components: SEM.
Grading: GRD.
Typically Offered: Spring.

GEG 648. Climate Change and Public Health. 3 Credit Hours.
The mechanisms by which climate change adversely affects human health and the policy options for mitigating our exposure.
Components: SEM.
Grading: GRD.
Typically Offered: Fall Odd Years.

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 geospatial applications, this methods course introduces students to field research addressing complex socio-environmental issues. The course includes exercises with GPS data collection; geo-tagged photography; ground truthing; spatial survey design; and distributed GIS. Various research areas and cognate field methods including environmental demography, community surveying, cultural mapping, and multi-sited ethnography.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 656. Interdisciplinary Issues in Latin American and Caribbean Studies. 3 Credit Hours.
Political, economic, social, and cultural issues of Latin American and Caribbean area Studies.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 657. Economics of Sustainable Development. 3 Credit Hours.
Economics of sustainable development studies the economic aspects of how society sustainably manages natural resources and the environment while improving human well-being. The first half of the class will begin with sustainable development principles and practices in various settings, focusing on institutions, governance, and economic policies. Critical issues cover sustainable development of land and water, risk and economic security, and disaster management. The second half of the class will discuss the evolution of smart growth in urban planning globally over the past three decades, mapping the trajectory from its original principles to its position as an important paradigm in sustainable urban planning today. Specifically, we will learn about the economic aspects of smart growth, how these aspects have been embedded in government policies for sustainable development, and to what extent these policies have achieved their goals. Throughout the course, we will work on various case studies focusing on recent topics worldwide.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

GEG 658. Seminar in Comparative Politics I. 3 Credit Hours.
Comparative political analysis within and across nations. Debates on state formation, democracy and development, democratization, and the role of ideas, interests, and institutions.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 659. Resilience Economics. 3 Credit Hours.
Resilience economics studies the economic aspects of how society adapts to climate change and natural disasters. The first half of the course will explore the economic tools and methods we use to analyze climate adaptation. Essential elements we will cover include discounting, risk and uncertainty, distributional impacts, monetary and non-monetary evaluations, and the cost-benefit analysis. The second half of the course will explore how the interactions between humans and the environment determine the causes, consequences, and distribution of climate change and natural disasters. Particularly, we will discuss the difficulties society faces relating to adaptative strategies from the economic perspective. Critical issues we will cover include agriculture, energy, health, and extreme events. Throughout the course, we will work on various case studies based on recent events worldwide.
Components: LEC.
Grading: GRD.
Typically Offered: Spring.

GEG 661. Urban Geography I. 3 Credit Hours.
An introduction to the essential elements about the growth and development of cities. Review of the challenges of urbanization and urban sustainability in the contemporary period.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

GEG 663. Urban Geography II. 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 665. Land Use Planning. 3 Credit Hours.
Sustainable management of cities requires careful and intelligent use of land, a scarce and finite resource. Land use planning exercised by state, regional, and local governments determines where development occurs on the urban landscape. Such development should meet the needs of growing populations for housing, community services, and connectivity while ensuring environmental protection from the adverse impacts of development. This course provides an overview of land use planning concepts, frameworks, governance, physical design processes, and implementation tools for sustainable land use management. Three phases are introduced: land use concepts, land use analysis, and land use planning.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

GEG 680. Spatial Data Analysis I. 3 Credit Hours.
The use of basic methods or quantitative analysis for spatial data, including basic descriptive and inferential statistics and special techniques for spatial data.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

GEG 681. Spatial Data Analysis II. 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: Spring Odd Years.

GEG 685. Digital Cartography. 3 Credit Hours.
Introduction to cartographic methods, interpretation, and history. Basic principles of visual representation, how to map qualitative and quantitative data, and how to prepare maps for publication and the web.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 691. Geographic Information Systems I. 3 Credit Hours.
An introduction to fundamental concepts in Geographic Information Systems (GIS) and related geographic technologies. Students are exposed to leading GIS software tools used in the industry.
Components: LEC.
Grading: GRD.
Typically Offered: Fall & Spring.

GEG 692. Remote Sensing of the Environment. 3 Credit Hours.
Theory and techniques of environmental remote sensing and imagery interpretation for earth resources monitoring and management.
Components: LEC.
Grading: GRD.
Typically Offered: Fall.

GEG 693. Geographic Information Systems II. 3 Credit Hours.
An introduction to spatial analysis, which consists of techniques for analyzing patterns of and interrelationships between spatial data. Topics include vector polygon editing and topology, integration of raster and vector data, surface analysis and 30 analysis, suitability mapping, spatial modeling and multi-criteria evaluations.
Components: LEC.
Grading: GRD.
Typically Offered: 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.
Components: LEC.
Grading: GRD.
Typically Offered: Offered by Announcement Only.

GEG 758. Seminar in Comparative Politics II. 3 Credit Hours.
Theoretical approaches and methodological debates in Comparative Politics.
Components: LEC.
Grading: GRD.
Typically Offered: Fall, Spring, & Summer.

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.