

# MASTER OF SCIENCE IN THE FIELD OF GEOGRAPHY AND ENVIRONMENT (STEM)

GW's master of science (MS) in geography and environment is designed for those aiming to advance their expertise in geographic and environmental studies. This STEM-designated program offers a robust curriculum that includes specialized courses in human geography, geographic information systems (GIS), and environmental sustainability. The program facilitates practical engagement through funded hands-on research and fieldwork opportunities. It is offered for both full- and part-time students to accommodate participants' work schedules. At no cost, this program can be completed in tandem with the graduate certificate in GIS, for students interested in geospatial data analysis. The MS in geography and environment enables students to specialize either in advanced, data-driven geospatial tools or to engage deeply with qualitative research methods, both of which are essential for informed decision-making in today's complex world. Program graduates are well-prepared to enter competitive roles as analysts, consultants, and planners in government agencies, private sector firms, and international organizations. They are equipped with the skills to thrive in today's data-driven, research intensive, and environmentally conscious world.

By integrating intensive coursework with real-world applications, the program ensures that graduates are not only well-versed in theory but also proficient in applying their knowledge to solve real-world challenges. The diverse student body includes recent graduates as well as seasoned professionals from across the globe, enriching the learning experience with a variety of perspectives and expertise.

This STEM-designated program allows international students in the U.S. to apply for a 24-month extension of their Optional Practical Training (OPT), giving them up to three years of work experience in their field of study post-graduation.

Visit the Department of Geography and Environment website (<https://geography.columbian.gwu.edu/>) for additional information.

## ADMISSIONS

Admission deadlines:

Fall - April 1 (February 1 for priority fellowship consideration)

Spring - October 1

Applications received after the above dates will be considered on a case-by-case basis.

Standardized GRE General test is optional (institutional code 5246). test scores:

The Test of English as a Foreign Language (TOEFL), the academic International English Language Testing System (IELTS), or the PTE Academic is required of all applicants except those who hold a bachelor's, master's, or doctoral degree from a college or university in the United States or from an institution located in a country in which English is the official language, provided English was the language of instruction.

- Minimum scores for the program are:
- Academic IELTS: an overall band score of 7.0 with no individual score below 6.0; or
  - TOEFL: 600 on paper-based or 100 on Internet-based; or
  - PTE Academic: 68

**Recommend:** Two (2) academic letters of recommendation; **required:** maximum three letters total. Letters should address the quality of your performance on items required for graduate study such as critical thinking skills, writing skills, organizational aptitude, interest in the field, eagerness, and the ability to carry tasks through to completion. While the Department will accept letters from employers, recommendations from professors who are familiar with applicants' academic abilities are strongly preferred.

**Prior academic records:** Transcripts are required from all colleges and universities attended, whether or not credit was earned, the program was completed, or the credit appears as transfer credit on another transcript. Unofficial transcripts from all colleges and universities attended must be uploaded to your online application. Official transcripts are required only of applicants who are offered admission.

If transcripts are in a language other than English, English language translations must be provided. The English translation alone should be uploaded into your application.

**Statement of purpose:** In an essay of 250 – 500 words, state your purpose in undertaking graduate study in your chosen field. Include your academic objectives, research interests, and career plans. Also discuss your related qualifications, including collegiate, professional, and community activities, and any other substantial accomplishments not already mentioned on the application. If you are applying for an assistantship or fellowship, you should also describe any teaching experience you have had.

International applicants only: Please follow this link - <https://columbian.gwu.edu/international-graduate-applicants> (<https://columbian.gwu.edu/international-graduate-applicants/>) - to review the International Applicant Information carefully for details on required documents, earlier deadlines for applicants requiring an I-20 or DS-2019 from GW, and English language requirements.

## REQUIREMENTS

The following requirements must be fulfilled:

The general requirements stated under Columbian College of Arts and Sciences, Graduate Programs.

Thesis option—30 credits, including 9 credits in required courses, 9 credits in selected group courses, 6 credits in thesis research, and 6 credits in elective courses.

Non-thesis option—30 credits, including 9 credits in required courses, 9 credits in selected group courses, one 3-credit research or capstone internship course, and 9 credits in elective courses.

The student's program of study is developed in consultation with the advisor and the graduate committee.

Code	Title	Credits
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### Required

GEOG 6201	Geographic Thought
GEOG 6304	Geographical Information Systems I
GEOG 6292	Qualitative Methods in Geography
or GEOG 6305	Geospatial Statistics

For thesis option only:

GEOG 6999	Thesis Research (taken for a total of 6 credits)
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For non-thesis option only:

GEOG 6295	Research (taken for a total 3 credits)
or GEOG 6300	Geography Capstone Internship

### Selected group courses

One course selected from each of the following three groups: \*

Environmental group—one course from the following:

GEOG 6218	Arctic Systems
GEOG 6233	Social-Ecological Systems
GEOG 6220	Seminar: Climatic Change

GEOG 6230	Seminar: Environmental Issues in Development
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Human geography group—one course from the following:

GEOG 6232	Migration and Development
GEOG 6243	Seminar: Urban Geography
GEOG 6244	Urban Sustainability
GEOG 6261	Geographical Perspectives on Latin America
GEOG 6262	Geographical Perspectives on the Middle East

GIS group—one course from the following:

GEOG 6265	Geography of Russia and Its Neighbors
GEOG 6303	Introduction to Remote Sensing
GEOG 6305	Geospatial Statistics
GEOG 6306	Geographical Information Systems II
GEOG 6307	Digital Image Processing
GEOG 6308	Programming for Geospatial Applications I
GEOG 6309	GIS for Emergency Management
GEOG 6310	Geovisualization and Cartography
GEOG 6311	Open Source Solutions for Geospatial Project Management

### Electives

6 to 9 credits in elective courses. Electives can be any 6000-level Geography and Environment (GEOG) course not taken to meet one of the requirements above, PPPA 6101, PPPA 6102, or another graduate course approved by the advisor

\*Topics offered under GEOG 6293 Special Topics vary. The course can count as a selected group course depending on the topic and with the advisor's approval.

## COMBINED PROGRAM

### Combined program

- Dual Master of Science in the field of geography and environment (STEM) and Graduate Certificate in geographical information systems (STEM) (<http://bulletin.gwu.edu/arts-sciences/geography/dual-geography-environment-ms-stem-gc-geographic-information-systems/>)