

# GRADUATE CERTIFICATE IN GEOGRAPHICAL INFORMATION SYSTEMS

Geographical Information Systems (GIS) allow us to capture, manage, query, analyze and model geospatially referenced data. GIS ties the idea of location to information, making it possible to visualize it all in map form. Using geospatial techniques we combine and overlay data to show complex scenarios from a geographic perspective. GIS also allows us to integrate data from diverse sources, helping identify relationships, trends, and patterns of distribution.

Our certificate program provides students with a solid grounding in geospatial theory and techniques, combined with the practical skills to apply these techniques to real world problems. Students are exposed to a combination of industry standard software and open source programs in classes that encourage an extensive hands-on approach. We feature service learning components in our courses that increasingly incorporate the growing field of open source GIS.

The demand for geospatial science skills is exploding in today's job market, and GIS is increasingly popular in many different disciplines and industries, such as; scientific investigation, resource management, marketing, archaeology, environmental research, urban planning, demography, development, policy, public health, emergency management, and logistics.

Certificate students have an opportunity to pick from a broad range of electives that match their interests. Our state-of-the-art Spatial Analysis Lab is available for student research and our faculty members have expertise in GIS, remote sensing and spatial analysis.

The certificate requires the completion of 12 graduate credit hours. Students take three required courses and one elective class. All students are expected to complete the program in two years (four semesters).

This is a STEM-designated degree program.

Visit the program website (<https://geography.columbian.gwu.edu/graduate-certificate-geographical-information-systems/>) for additional information.

## ADMISSIONS

Admission deadlines: Fall - April 1

Spring - October 1

Applications received outside of these deadlines will be considered on an individual basis.

Recommendation: One (1) recommendation required.

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.

Prerequisite: A bachelor of arts (BA) degree or bachelor of science (BS) degree with a GPA of at least 3.0. Applicants with a GPA below 3.0 may be considered if they submit a letter of recommendation from a professor in a related field.

Statement of purpose: Not required.

International applicants: 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 and English language requirements. Please note: international students who require a student visa from GW are not eligible to apply for admission to the program.

**For more information on the admission process**, please visit the Columbian College of Arts and Sciences Frequently Asked Questions (<http://columbian.gwu.edu/graduate/admissions/faqs/>) page.

### Supporting documents not submitted online should be mailed to:

Columbian College of Arts and Sciences - Graduate Admissions Office  
The George Washington University  
801 22nd Street NW, Phillips Hall 215  
Washington DC 20052

### Contact for questions:

[askccas@gwu.edu](mailto:askccas@gwu.edu) ~ 202-994-6210 (phone) ~ 202-994-6213 (fax)  
8:30 am - 5:30 pm, Monday through Friday

## REQUIREMENTS

The following requirements must be fulfilled: 12 credits, including 6 credits in required courses and 6 credits in elective courses.

| Code                  | Title   | Credits |
|-----------------------|---|---------|
| <b>Required</b>       |   |         |
| GEOG 6304             | Geographical Information Systems I                      |         |
| GEOG 6305             | Geospatial Statistics                                   |         |
| <b>Electives</b>      |   |         |
| Two of the following: |   |         |
| GEOG 6303             | Introduction to Remote Sensing                          |         |
| GEOG 6306             | Geographical Information Systems II                     |         |
| GEOG 6307             | Digital Image Processing                                |         |
| GEOG 6308             | Programming for Geospatial Applications                 |         |
| GEOG 6309             | GIS for Emergency Management                            |         |
| GEOG 6310             | Geovisualization and Cartography                        |         |
| GEOG 6311             | Open Source Solutions for Geospatial Project Management |         |

## COMBINED PROGRAM

- Dual Master of Science in the field of data science and certificate in geographic information systems (<http://bulletin.gwu.edu/arts-sciences/data-science/ms-cert-gis/>)
- Dual Master of Science in the field of geography and Graduate Certificate in geographical information systems (<http://bulletin.gwu.edu/arts-sciences/geography/ms/certificate-geographical-information-systems/>)
- Dual Master of Arts in the field of environmental resource policy and Graduate Certificate in geographical information systems (<http://bulletin.gwu.edu/arts-sciences/public-policy-administration/enrp-ma-gc-gis/>)