

# MASTER OF SCIENCE IN THE FIELD OF DATA SCIENCE (STEM)

Data science is an emerging field that aims to draw actionable conclusions from data. It uses techniques and theories from the broader areas of statistics, computer science, and mathematics. Its applications are in many fields, including business, engineering, natural sciences, social sciences, humanities, and healthcare.

The explosion of data in today's world is rapidly shaping the landscape of our lives. This has led to an urgent need to process massive amount of information and obtain meaningful insights. Data scientists are trained to meet such challenges. Through a structured curriculum that provides foundational knowledge as well as application skills, students in GW's MS in data science program learn how to confront the most complex problems faced by both government and private industry using data-driven decisions.

The program provides a deep foundation in statistical analysis and programming. It also offers knowledge of the application domain, in addition to project management skills. Program graduates apply data science techniques to the solution of real world problems, communicate findings, and effectively present results using data visualization tools.

Developed through a collaborative effort between the Departments of Statistics, Mathematics, Physics, Economics, Geography and Political Science, the MS in data science gives students cutting-edge tools for analyzing big data and teaches them how to extract the insights that are changing the way we live, work, and communicate.

This is a STEM designated program.

Visit the program website (<https://datasci.columbian.gwu.edu/>) for additional information.

## ADMISSIONS

Admission deadlines: Fall – April 1 (February 1 for assistantship/fellowship consideration)

Spring – October 1

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

Standardized GRE is not required.

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 6.0 with no individual score below 5.0; or

- TOEFL: 550 on paper-based or 80 on Internet-based; or

- PTE Academic: 53

Applicants to the M.S. who do not meet minimum English language requirements may be eligible for our full-time Applied English Language program.

Recommendations: (2) academic letters of 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.

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.

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.

Supporting documents not submitted online should be mailed to:

Columbian College of Arts and Sciences, Office of Graduate Studies  
The George Washington University  
801 22nd Street NW, Phillips Hall 107  
Washington DC 20052

For additional information about the admissions process visit the Columbian College of Arts and Sciences Frequently Asked Questions (<https://columbian.gwu.edu/graduate-admissions-faq/>) page.

Contact:

[askccas@gwu.edu](mailto:askccas@gwu.edu)  
202-994-6210 (phone)

Hours: 9:00 am to 5:00 pm, Monday through Friday

## REQUIREMENTS

The following requirements must be fulfilled:

The general requirements stated under Columbian College of Arts and Sciences, Graduate Programs (<http://bulletin.gwu.edu/arts-sciences/#degreeregulationstext>).

30 credits, including 18 credits in required courses and 12 credits in elective courses.

Code	Title	Credits
<b>Required</b>		
DATS 6101	Introduction to Data Science	
DATS 6102	Data Warehousing	
DATS 6103	Introduction to Data Mining	
DATS 6501	Data Science Capstone	
DATS 6202	Machine Learning I: Algorithm Analysis	
DATS 6401	Visualization of Complex Data	
<b>Electives</b>		

12 credits in elective courses in DATS numbered 6000 or above.

## COMBINED PROGRAM

### Combined program

- Dual Master of Science in the field of data science and Graduate Certificate in geographic information systems (<http://bulletin.gwu.edu/arts-sciences/data-science/ms-cert-gis/>)