Geospatial Data Science, P.S.M.

COLLEGE OF LIBERAL ARTS

Learn more about the Professional Science Master's in Geospatial Data Science.

About the Program

Geospatial analysis is a growing expertise with applications for a wide variety of fields and industries, including climate adaptation, retail and business location, spatial epidemiology, urban and environmental planning, and any other discipline in which spatially referenced data informs prediction and decision making. The Department of Geography and Urban Studies offers graduate work leading to the Professional Science Master's (P.S.M.) degree in Geospatial Data Science. The program combines advanced training in data science and GIS core skills with professional development and business ethics to prepare students to enter the workforce. Our courses introduce students to statistical and computer programming and a variety of cutting-edge spatial analysis technology.

The Department of Geography and Urban Studies faculty have expertise in a range of GIS applications, including business, environment, geovisualization, health, location analysis, remote sensing, and urban. The program curriculum is informed by an advisory board of industry professionals and incorporates real-world experiences through project-based learning and an internship capstone requirement. The program is designed to attract professional data analysts seeking to deepen their understanding of the challenges of working with big geospatial data, as well as GIS specialists seeking to develop a more rigorous understanding of programming and statistics. Graduates are well prepared to pursue certification as a GIS professional (GISP).

Time Limit for Degree Completion: 3 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis. Full-time students can complete the program in one calendar year. Part-time students are expected to complete the program in 3 years.

Affiliation(s): The program is an affiliated Professional Science Master's program.

Areas of Specialization: The program specializes in Geospatial Data Science and Geographic Information Systems and offers coursework in big data, geospatial programming, geovisualization, machine learning, and statistics. The Department offers students the opportunity to learn in research laboratory settings equipped with the latest technologies.

Job Prospects: The P.S.M. degree provides students with advanced technical knowledge and professional development for jobs in technology-based companies, government agencies, and nonprofits. The program trains a workforce that is highly competent to meet the challenges faced by public, regulated, and private sector industries and also adaptable to the future needs of industries. It provides access to a professional career, requiring both technical skills and professional development training in areas related to business, ethics, and policy. Students seek careers as data consultants, data scientists, geospatial engineers, and information officers.

Non-Matriculated Student Policy: Non-matriculated students may take up to 9 credits prior to matriculation. If accepted into the program, these credits may be applied toward the degree. A special exception can be made for students pursuing the Graduate Certificate in Geospatial Data Science. For more information, please email psmgis@temple.edu.

Financing Opportunities: Typically, the Department does not provide financial assistance to students at the master's level. Teaching and Research Assistantships are reserved for Ph.D. students.

Admission Requirements and Deadlines

Application Deadline:

Fall:

- March 1 – Application Deadline
- July 1 – Late Application Deadline

Spring:

- November 1 – Application Deadline
- December 7 – Late Application Deadline

Summer:

- April 15 – Application Deadline

Applications are processed as they are received. Late applications may be considered for admission.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from college/university faculty members or professional references familiar with the applicant's academic competence. The recommendations may be submitted on the "Reference Report for Graduate Study" or as a traditional letter of recommendation. Letters must be signed and forwarded as a PDF on official letterhead.

Coursework Required for Admission Consideration: Applicants should have completed GUS 5031 GIS Programming or an equivalent college-level course in programming and GUS 5161 Statistics for Urban Spatial Analysis or an equivalent college-level introductory statistics course. Professional experience in programming and/or statistics is also acceptable. Students who do not meet these coursework requirements or lack professional experience in programming and/or statistics are required, upon admission, to take GUS 5031 and/or GUS 5161 as electives.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in any field is appropriate. An undergraduate GPA of 3.0 or an undergraduate GPA of 2.5 with 2 to 4 years of relevant professional experience is preferred.

Statement of Goals: Approximately 500 to 1,000 words include why you are interested in this program; your research and academic goals; your future career goals; your academic and research achievements; and any other information that you believe will be helpful in evaluating your application.

Standardized Test Scores:
Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master’s degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 88
- IELTS Academic: 6.5
- PTE Academic: 60

Resume: Current resume required.

Transfer Credit: Applicable graduate coursework may be transferred from outside the University, provided that the credits were obtained no more than five years prior to the student's matriculation at Temple and the grades are "B" or better. The credits must be equivalent to coursework offered at Temple. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

Code	Title	Credit Hours
Core Courses		
GUS 5073	Geovisualization	3
GUS 5162	Advanced Statistics for Urban Applications	3
GUS 8061	Big GeoSpatial Data	3
GUS 8066	Application Development for Geographic Information Systems	3
GUS 8069	GIS Ethics and Professional Practice	3
Electives		
Select four from the following: [1]		12
GUS 5031	GIS Programming [2]	
GUS 5032	Geosimulation	
GUS 5062	Fundamentals of Geographical Information Systems [2]	
GUS 5063	Remote Sensing	
GUS 5065	Urban Geographical Information Systems	
GUS 5066	Environmental Applications of GIS	
GUS 5067	GIS and Location Analysis	

GUS 5068	Census Analysis with Geographical Information Systems	
GUS 5069	GIS for Health Data Analysis	
GUS 5072	Advanced Remote Sensing	
GUS 5161	Statistics for Urban Spatial Analysis [2]	
Capstone Course		
GUS 9187	GIS Capstone	3
Total Credit Hours		**30**

[1] Alternately, students may select any course within the range of GUS 5030-5040 and GUS 8060-8070 as an elective toward the degree.

[2] If, as determined by the faculty advisor, the student has not completed equivalent coursework or lacks equivalent professional experience, s/he must take GUS 5031, GUS 5062, and/or GUS 5161 as electives.

Culminating Event:

Capstone in Geospatial Data Science:

GUS 9187, the capstone course, provides an experiential and industry-relevant learning experience for students matriculated in the Professional Science Master's program in Geospatial Data Science at Temple. With the guidance of P.S.M. faculty and prospective employers, students engage in a structured 140-hour internship experience for one term. The student completes a geospatial data science project during the internship that draws on the technical and professional skills developed through the P.S.M. curriculum.

Contacts

Program Web Address:

https://www.temple.edu/academics/degree-programs/geospatial-data-science-psm-la-gsds-psm

Department Information:

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215-204-7692

Submission Address for Application Materials:

https://apply.temple.edu/CLA/

Department Contacts:

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