

GEOSPATIAL INTELLIGENCE, MASTER OF SCIENCE

MS in Geospatial Intelligence

advanced.jhu.edu/geospatialintelligence/ (<http://www.advanced.jhu.edu/academics/graduate-degree-programs/geospatial-intelligence/>)

Geospatial intelligence informs and influences policy, military, diplomatic, environmental and disaster relief and recovery decisions, and operations by governments at every level. Increasingly, in non-governmental sectors, it is informing and influencing public health, business, infrastructure, energy, regulatory, and advocacy decisions.

The Geospatial Intelligence Program unites three fields of study: the history of geospatial intelligence; the science and mathematics of digital geography and its related databases; and the art of converting geospatial data into written, spoken, and visual intelligence. Students analyze historical intelligence examples to understand the development of the concepts and practices behind collection, analysis, reporting, and technology. They also will focus on current challenges in the profession, among them the analytics and technology needed for the volume of current and future collection, the challenges of new sensors, and the development of new non-governmental geospatial communities.

Admissions Criteria for all Advanced Academic Programs (<http://e-catalog.jhu.edu/arts-sciences/advanced-academic-programs/enrollment-services/admission/>)

PROGRAM SPECIFIC REQUIREMENTS

In addition to the materials and credentials required for all programs, the Master of Science in Geospatial Intelligence requires:

- A four-year degree in a related discipline, such as Geography, GIS, Social Sciences (Political Science, International Relations, Area Studies). For those holding degrees in other disciplines, attention will be given to overall GPA and demonstrated writing ability. The program requires proficiency in mathematical statistics and probability. Prospective students will have the opportunity to assess their level of proficiency before enrolling in the program.
- A completed geospatial writing sample, per the requirements here (<https://advanced.jhu.edu/wp-content/uploads/2018/01/msGeospatialIntelligenceWritingSample.pdf>).

PROGRAM REQUIREMENTS

Students complete 12 courses to earn their degree:

- One introductory course
- Seven core courses
- Three elective courses
- One capstone experience

Code	Title	Credits
Core Courses		
AS.472.600	Introduction to Geospatial Intelligence	3
AS.430.601	Geographic Information Systems (GIS)	4
AS.470.719	Remote Sensing: Systems and Applications	3-4
or AS.430.602		

AS.430.603	Geospatial Statistics	4
AS.430.604	Spatial Analytics	4
AS.470.748	The Art & Practice of Intelligence	3
AS.430.612	Cartographic Design and Visualization	3
AS.470.696		3
Electives		
Select three of the following:		9-12
AS.430.600	Web GIS	
AS.430.606	Programming in GIS	
AS.430.608	GIS and Spatial Decision Support Systems	
AS.430.609	Spatial Data Management: Quality and Control	
AS.430.611	Geospatial Ontologies and Semantics	
AS.430.613	Advanced Topics in Remote Sensing	
AS.430.615	Big Data Analytics: Tools and Techniques	
AS.430.618	Advanced Python Scripting for GIS	
AS.430.619	Web Application Development	
AS.430.621	GIS for Emergency Management	
AS.470.601	Climate Change and National Security	
AS.470.752	Intelligence Analysis	
AS.470.697	Intelligence and Counterterrorism	
AS.470.792	Social Science in National Security and Intelligence	
AS.472.611	Analyzing Social Media and Geospatial Information	
AS.472.612	Geospatial Analysis: Communicating with Multiple Audiences	
AS.472.613	Geospatial Law and Ethics	3
Capstone Experience		
AS.472.800	Capstone in Geospatial Intelligence ¹	4
Total Credits		43-47

¹ The Capstone is the culmination of the instruction and the learning in the program. In this experience, the student selects a mentor, identifies a geospatial issue of interest with an associated collection strategy, analytic methodology, and reporting strategy, and a written summary product and presentation.

Sequence of Study

The program commences with a required introductory course, and progresses through core courses, electives in specific areas of geospatial concentration, and a capstone exercise that provides students the opportunity to display advanced proficiency and thoughtful geospatial analysis based on the content of the program. Individual and collaborative projects are woven through the courses.

Learning Outcomes

The MS in Geospatial Intelligence weaves the history, science, mathematics, and art of geospatial analysis into a program that will enable its graduates to lead and shape this rapidly-growing intelligence discipline. The program combines recognized faculty with extensive geospatial experience and publications, an interactive and online curriculum, and the research resources, tools, and opportunities for its students to:

- Understand the history and evolution of geospatial intelligence and its enduring challenges.

- Develop the habits of mind and the conceptual framework to thrive as analysts, researchers, program leaders, and managers in the geospatial communities.
- Employ the appropriate mathematical models and scientific sensor knowledge necessary to design advanced commercial geospatial collection management for big data and small data problems, and to design geospatial databases for complex issues,
- Develop analytic processes and products as well as demonstrate the ability to communicate geospatial information and analysis accurately and persuasively in writing and briefing.
- Produce original research on the history and methodologies of geospatial intelligence.