

# ENVIRONMENTAL SCIENCES AND POLICY, MS/ GEOGRAPHIC INFORMATION SYSTEMS, CERTIFICATE

## MS in Environmental Sciences and Policy/ Certificate in Geographic Information Systems

The use of geographic information systems has become standard for many professionals and is one of the most powerful and versatile tools for solving today's environmental and sustainability issues. To enable students to exploit the complementary nature of the fields, we have eliminated the overlap between the MS in Environmental Sciences and Policy and the graduate certificate in GIS. This enables students to earn both the MS degree and the graduate certificate by completion of a total of 13 courses rather than the 15 courses that would be required to complete the programs separately. At least one course must satisfy the residency requirement. Interested students, including those already enrolled in either program, should apply to both the MS in ESP and the Certificate in GIS program concurrently.

**Please note that this entry is for currently enrolled students only.** The Certificate in Geographic Information Systems program is not currently accepting new students.

**Admissions Criteria for All Advanced Academic Programs (<https://e-catalogue.jhu.edu/arts-sciences/advanced-academic-programs/Admission/#admissionrequirements>)**

### PROGRAM-SPECIFIC REQUIREMENTS

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## Program Requirements

Students pursuing the MS in Environmental Sciences and Policy and Certificate in Geographic Information Systems must complete:

- Four MS in Environmental Sciences and Policy program customizable core courses
- Four MS in Environmental Sciences and Policy program electives
- Five GIS certificate courses

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Code	Title	Credits
<b>Core Courses - Customizable</b>		

At least one course must be in residence.

Select four of the following:

AS.420.601	Geological Foundations of Environmental Science
AS.420.603	Environmental Applications of GIS
AS.420.604	Hydrology & Water Resources
AS.420.608	Oceanic & Atmospheric Processes
AS.420.611	Principles & Methods of Ecology
AS.420.614	Environmental Policymaking and Policy Analysis
<b>Electives</b>	
Select any four ESP electives as listed below:	
AS.420.605	Maritime Law and the Environment
AS.420.606	Climate Justice
AS.420.610	Sustainable Business
AS.420.612	Sustainability Science: Concepts and Challenges
AS.420.613	Forest Ecosystems
AS.420.615	Environmental Restoration
AS.420.617	Managing Responsible Organizations for the Ecosystem
AS.420.619	Climate Dynamics
AS.420.622	Ecotoxicology
AS.420.623	Freshwater Ecology & Restoration of Aquatic Ecosystems
AS.420.624	Ocean Stewardship and Sustainability
AS.420.625	Ecology and Ecosystem Management in Coastal and Estuarine Systems
AS.420.628	Ecology and Management of Wetlands
AS.420.629	Drinking Water, Sanitation & Health
AS.420.632	Air Quality Management and Policy
AS.420.637	Conservation Biology
AS.420.638	Coastal Zone Processes and Policy
AS.420.639	Landscape Ecology
AS.420.641	Natural Resources Law and Policy
AS.420.642	Public Lands-Private Interests: The Struggle for Common Ground
AS.420.643	U.S. Environmental History
AS.420.644	Sustainable Cities
AS.420.646	Transportation Policy and Smart Growth
AS.420.650	International Environmental Policy
AS.420.651	Environmental Risk in Decision Making
AS.420.654	Environmental & Natural Resource Economics
AS.420.656	Environmental Impact Assessment & Decision Methods
AS.420.659	Management for Environmental Results with Performance-based Measurement
AS.420.660	Strategies in Watershed Management
AS.420.665	Climate Change on the Front Lines: The Study of Adaptation in Developing Countries
AS.420.667	Analysis of Environmental & Ecological Data
AS.420.668	Sustainable Food Systems
AS.420.669	Applied Sustainability
AS.420.670	Sustainability Leadership - Costa Rica
AS.420.671	Global Land Use Change
AS.420.672	Environmental Ethics
AS.420.673	Ecology and Evolution of the Galapagos
AS.420.674	Applied Energy Policy in the 21st Century

AS.420.675	Geology and Tropical Ecology of Hawai'i
AS.420.676	Global Scarcity in Freshwater Systems: Crisis and Solutions
AS.420.677	Spatial Statistics
AS.420.679	International Water: Issues and Policies
AS.420.687	Science Communication and Policy Engagement
AS.420.690	Environmental Health
AS.420.703	Open Source GIScience for Environmental Research
AS.420.704	Practical Engineering Approaches to Climate Adaptation
AS.420.705	Natural Resources Sustainability: Field Study in Alaska
AS.420.805	Internship and Capstone Thesis
<b>GIS Certificate</b>	
AS.430.600	Web GIS
AS.430.601	Geographic Information Systems (GIS)
AS.430.604	Spatial Analytics
AS.430.606	Programming in GIS
AS.430.629	Drones in Geospatial Decision Making