

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 Science 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 Graduate Certificate in GIS program concurrently.

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

PROGRAM-SPECIFIC REQUIREMENTS

- One semester of undergraduate level calculus, statistics, and chemistry.

Program Requirements

Code	Title	Credits
Core Courses - Customizable		
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	
Electives		
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.420.616	Environmental Consequences of Conventional Energy Generation
AS.420.617	Managing Responsible Organizations for the Ecosystem
AS.420.618	Terrestrial and Marine Conservation Biology
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.420.627	Great Lakes Ecology and Management
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.420.666	Community Development and Sustainability 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
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.420.681	Climate Change Adaptation and Development in Nepal
AS.420.687	Science Communication and Policy Engagement
AS.420.690	Environmental Health

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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.420.738 Newfoundland and Labrador: A Journey Through Time

AS.420.800 Independent Research Project in Environmental Sciences and Policy

AS.420.805 Internship and Capstone Thesis

GIS Certificate (any 5 of the following)

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