ENVIRONMENTAL PLANNING AND MANAGEMENT, MASTER OF SCIENCE

The degree and certificates offered under this program emphasize the relationship between environmental engineering, science and public policy analysis. Students will also focus on the role of economic factors in the planning and management of environmental resources using proven decision-making tools.

Admission Requirements

Applicants (degree seeking and special student) must meet the general requirements for admission to graduate study, as outlined in the Admission Requirements (https://e-catalogue.jhu.edu/engineering/engineering-professionals/admission-requirements/) section.

The applicant's prior education must include the following prerequisites:

1. successful completion of one year of college-level calculus, and
2. successful completion of college-level courses in physics, chemistry, biology, geology, and statistics is strongly recommended.

Applicants whose prior education does not include the prerequisites listed above may still enroll under provisional status, followed by full admission status once they have completed the missing prerequisites. Missing prerequisites may be completed with Johns Hopkins Engineering or at another regionally accredited institution. Admitted students typically have earned a grade point average of at least 3.0 on a 4.0 scale (B or above) in their undergraduate studies. Transcripts from all college studies must be submitted. When reviewing an application, the candidate's academic and professional background will be considered.

Program Requirements

The program requires ten courses that must be completed within five years. The curriculum consists of a minimum of five courses that must be selected from the Environmental Planning and Management program and a maximum of five electives.

Electives may be selected from any of the four environmental areas of study: Climate, Energy, and Environmental Sustainability (https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/climate-energy-environmental-sustainability/#requirementstext), Environmental Engineering (https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-master/#requirementstext), Environmental Engineering and Science (https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-science-master/#requirementstext), or Environmental Planning and Management (p. 1), subject to prerequisite restrictions. All applicable courses must have a (575.XXX) number. Except for the prerequisite restrictions, there is not any specific sequence in taking these courses. Only one C-range grade (C+, C, or C–) can count toward the master's degree.

Any deviation from this program, including transfer of courses and any other requisites specified in the student's admission letter, will not be approved by the program chair.

Courses

Code	Title	Credits
Required Course (Students with an undergraduate degree in Environmental Engineering are exempt from this requirement.)		**Credits**
EN.575.604	Principles of Environmental Engineering [1]	3
Environmental Planning and Management		**Credits**
Select a minimum of five of the following:		
EN.575.608	Optimization Methods for Public Decision Making	3
EN.575.611	Economic Foundations for Public Decision Making	3
EN.575.628	Business Law For Engineers	3
EN.575.635	Environmental Law for Engineers & Scientists	3
EN.575.637	Environmental Impact Assessment	3
EN.575.640	Geospatial Intelligence: the art and science for better understanding our world	3
EN.575.707	Environmental Compliance Management	3
EN.575.710	Financing Environmental Projects	3
EN.575.714	Water Resources Management	3
EN.575.731	Water Resources Planning	3
EN.575.735	Energy Policy and Planning Modeling	3
EN.575.737	Environmental Security with Applied Decision Analysis Tools	3
EN.575.747	Environmental Project Management	3
EN.575.751	Environmental Justice, Climate, and Health Equity	3
EN.575.752	Environmental Decision-Making: Climate, Energy, Indigenous Populations, and Accessibility	3
EN.575.753	Communication of Environmental Information and Stakeholder Engagement	3
EN.575.759	Environmental Policy Analysis	3
EN.575.801	Independent Project	3

[1] All students in the Environmental Engineering, Science, and Management Programs who do not possess an undergraduate degree in Environmental Engineering must take EN.575.604 Principles of Environmental Engineering as one of their required courses.

Electives

Code	Title	Credits
Select up to five of the following electives:		**Credits**
EN.575.601	Fluid Mechanics	3
EN.575.604	Principles of Environmental Engineering	3
EN.575.605	Principles of Water and Wastewater Treatment	3
EN.575.606	Water Supply and Wastewater Collection	3
EN.575.607	Radioactive Waste Management	3
EN.575.615	Ecology	3
EN.575.619	Principles of Toxicology, Risk Assessment & Management	3
EN.575.620	Solid Waste Engineering & Management	3
EN.575.623	Industrial Processes and Pollution Prevention	3
EN.575.626	Hydrogeology	3
EN.575.629	Modeling Contaminant Migration through Multimedia Systems	3
EN.575.643	Chemistry of Aqueous Systems	3

EN.575.645	Environmental Microbiology	3
EN.575.658	Natural Disaster Risk Modeling	3
EN.575.703	Environmental Biotechnology	3
EN.575.704	Applied Statistical Analysis and Design of Experiments for Environmental Applications	3
EN.575.706	Biological Processes for Water & Wastewater Treatment	3
EN.575.708	Open Channel Hydraulics	3
EN.575.711	Climate Change and Global Environmental Sustainability	3
EN.575.713	Field Methods in Habitat Analysis and Wetland Delineation	3
EN.575.715	Environmental Contaminant Dispersion and Transport	3
EN.575.716	Principles of Estuarine Environment: The Chesapeake Bay Science and Management	3
EN.575.717	Hydrology	3
EN.575.722	Principles of Air Quality Management	3
EN.575.723	Environmental Sustainability and Next Generation Buildings	3
EN.575.724	Air Quality and Climate Modeling	3
EN.575.727	Environmental Monitoring and Sampling	3
EN.575.728	Sediment Transport and River Mechanics	3
EN.575.730	Geomorphic and Ecologic Foundations of Stream Restoration	3
EN.575.732	Energy Technologies for Solving Environmental Challenges	3
EN.575.733	Energy and the Environment	3
EN.575.734	Smart Growth Strategies for Sustainable Cities	3
EN.575.736	Designing for Sustainability: Applying a Decision Framework	3
EN.575.738	Transportation, Innovation, and Climate Change	3
EN.575.741	Membrane Filtration Systems and Applications in Water and Wastewater Treatment	3
EN.575.742	Hazardous Waste Engineering and Management	3
EN.575.743	Atmospheric Chemistry	3
EN.575.744	Environmental Chemistry	3
EN.575.745	Physical and Chemical Processes for Water and Wastewater Treatment	3
EN.575.746	Water and Wastewater Treatment Plant Design	3
EN.575.748	Water Quality Engineering with Green Infrastructure	3
EN.575.749	Water Quality of Rivers, Lakes, and Estuaries	3
EN.575.750	Environmental Policy Needs in Developing Countries	3
EN.575.761	Measurement and Pseudo-measurement in the Environmental Arena	3
EN.575.763	Nanotechnology and the Environment: Applications and Implications	3
EN.575.771	Data Analytics in Environmental Health and Engineering	3

Please refer to the course schedule (https://ep.jhu.edu/courses/) published each term for exact dates, times, locations, fees, and instructors.