

ENERGY POLICY AND CLIMATE, MASTER OF SCIENCE

MS in Energy Policy and Climate (<https://advanced.jhu.edu/academics/graduate/ms-energy-policy-climate/>)

The Master of Science in Energy Policy and Climate program will prepare the next generation of interdisciplinary professionals to address the challenges of climate change and to understand the global transition of energy systems.

Graduates will be able to demonstrate an understanding of the science related to a changing climate, the impacts of current and future climate change on natural and human systems, the vulnerabilities of these systems to predicted changes, and a variety of possible legal, policy, and technological strategies for mitigation and adaptation. Graduates will also develop a comprehension of energy production, delivery, and consumption for both traditional systems and sustainable/renewable energy alternatives, and the implications of our energy choices for averting dangerous levels of climate change.

The program was originally designed by members of JHU's Department of Earth and Planetary Sciences in the Krieger School of Arts and Sciences and by industry and policy specialists. Courses are taught by distinguished instructors with valuable experience in the academic, public, corporate, and nonprofit sectors. The program seeks to build in students the technical and management skills needed to become highly competent and ethical professionals capable of leading societal responses to the challenges of a changing climate and the quest for a revolution in energy production. The curriculum is designed to help students develop an understanding of policy strategies employed at all levels, from the local to the international level, in response to these challenges. Graduates of the program will have an understanding of the current state of the U.S. response to climate change, as well as a familiarity with multilateral agreements and non-U.S.-based approaches to both mitigation of and adaptation to climate change. Additionally, students will develop expertise in energy production and policymaking.

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

PROGRAM-SPECIFIC REQUIREMENTS

In addition to the materials and credentials required for all programs, the MS in Energy Policy and Climate program has the following program-specific requirements:

- **Resume**
- **Two Letters of Recommendation**
- **Statement of Purpose:** A statement, up to one page in length, should be provided, describing the applicant's personal background and/or a part of their life experience that has shaped their goals. The statement may elaborate on personal challenges and opportunities that have influenced the decision to pursue a graduate degree at Johns Hopkins.

• Required Coursework:

- One semester of undergraduate calculus
- One semester of undergraduate statistics
- One semester of undergraduate chemistry

Program Requirements

Students pursuing the MS in Energy Policy and Climate degree must complete 10 courses:

- Three required core courses
- Two customizable core courses
- Five electives
 - Electives which are cross-listed with Environmental Science and Policy (ESP) are noted below

Code	Title	Credits
Core Courses - Required:		9
AS.425.601	Principles and Applications of Energy Technology	
AS.425.602	Science of Climate Change and its Impact	
AS.425.800	Capstone Projects in Energy and Environmental Sciences	
Core Courses - Customizable:		6
<i>Select two of the following:</i>		
AS.425.603	Climate Change Policy Analysis	
AS.425.604	Energy & Climate Finance	
AS.425.605	Introduction to Energy Law & Policy (Cross listed with the ESP)	
Electives		15
Total Credits		30

Electives

Code	Title	Credits
Electives		
<i>Choose five of the following:</i>		
AS.425.615	Understanding Public Attitudes for the Communication of Climate and Energy Policy (Cross listed with the ESP)	3
AS.425.666	Artificial Intelligence, Renewable Energy and Climate Change	3
AS.425.617	Energy, Eutrophication, and Inundation in Coastal Louisiana	3
AS.425.620	Climate Risk: Society and The Economy	3
AS.425.623	Transportation Policy in a Carbon-constrained World	3
AS.425.624	Wind Energy: Science, Technology and Policy (Cross listed with the ESP)	3
AS.425.625	Solar Energy: Science, Technology & Policy	3
AS.425.626	Climate Anthropology and Changing Communities	3
AS.425.628	Renewable Energy Project Development and Finance	3
AS.425.630	Cities and Climate Change	3
AS.425.634	Climate Change and Health (Cross listed with the ESP)	3
AS.425.636	Emerging Energy Technologies and Applications	3
AS.425.637	International Climate Change Policy (Cross listed with the ESP)	3

AS.425.638	Adaptation to Climate Change (Cross listed with the ESP)	3
AS.425.639	Energy Markets and Strategy from Europe to Asia	3
AS.425.645	Global Energy Policy (Cross listed with the ESP)	3
AS.425.641	Greenhouse Gas Inventory, Accounting, and Reporting (Cross listed with the ESP)	3
AS.425.646	US Offshore Energy: Policy, Science and Technology (Cross listed with the ESP)	3
AS.425.647	Energy and Water Security in South Asia	3
AS.425.651	The Electric Grid: Technology and Policy	3
AS.425.652	Nuclear Energy: Technology, Policy, and Regulations	3
AS.425.689	Extreme Weather Events and Climate Change (Cross listed with the ESP)	3
AS.420.619	Climate Dynamics	3

Learning Outcomes

Graduates will be able to:

- Analyze Energy Policy and Climate concepts and topics such as energy technology (fossil-fuel based or renewables), energy law and policy, climate change and its societal and environmental impacts (adaptation and mitigation), national and international climate change policy, and energy and climate finance through the development of technical policy assessments.
- Critically evaluate existing and proposed models, strategies, and policies from a variety of sources, both academic and non-academic.
- Demonstrate excellent oral and written communication skills that will enhance career objectives in the public sector, nonprofit and/or private organizations.
- Demonstrate proficiency in use of qualitative or quantitative research methodologies and the communication of findings for relevant academic or public policy areas.