Science, Technology & Environmental Policy

The STEP area at the Humphrey School focuses on public issues arising at the intersection of science, technology, environment and society that shape economic development, environmental sustainability, human health, and well-being.
Our Mission and Vision

• **Mission**: The mission of the STEP area is to integrate science with public policy, community action, and multi-sector governance to address society's most pressing issues such as:
  – infrastructure for future cities
  – climate change
  – sustainable energy transitions
  – governance of emerging and/or disruptive technologies
  – water and food security.

• **Vision**: We will be the premier program that transforms policy and action to address society’s grand challenges at the intersection of science, technology, environment, and society.
Required MS-STEP Curriculum

- Science Technology and Environmental Policy
- Survey of Current Issues in STEP
- Interdisciplinary & Systems Thinking: Design & Practice [or] Science to-Action: All Paths
- Policy Analysis
- Politics of Public Affairs
- Economics for Policy Analysis and Planning*
- Risk, Resilience & Decision Analysis
- Focus-area Specific Courses: Water/Energy/Urban Infrastructure/Emerging Technologies
- Empirical Analysis*
- Regression Analysis
- Multivariate Techniques or Qualitative Methods for Policy Analysis
- Thesis or Paper (this will give room for 3-9 elective credits)

* May be waived based on prior work
Curriculum Design for MS STEP (36 Credits)

Overview of the STEP Area, and, Big Picture Interdisciplinary, Multi-Sector & Systems Thinking

- **Sustainability Systems Science:** Impact of Science & Technology on Environment & Human Well-Being
- **Action Arena:** Understanding Social and Policy Processes

**Focus Areas:** Energy Policy/Urban Infrastructure/Water & Natural Resource Conservation/Emerging Technologies

- **Core Concepts**

**Foundational Methods:** Quantitative & Qualitative Methods for Analysis; Research Experiences (Thesis or Report); Working in Teams

**Other Skills:** Public Communication, Leadership (Boreas Program at IonE); International & Inter-Cultural Experiences; Research Assistantships/Internships
Sample Curriculum for Water and Natural Resource Focus (36 Credits)

Overview of the STEP Area
- **PA 5711** Science, Technology and Environmental Policy
- **PA 5742** Interdisciplinary Environmental Study
- **PA 5712** Science to Action: All Paths

Sustainability Systems Science
- **PA 5022** Material Energy Flows and Sustainability
- **PA 5741** Risk, Resilience and Decision Making

Social and Policy Processes
- **PA 5012** Politics of Public Affairs
- **PA 5002** Policy Analysis

Water and Natural Resources Domain
- **PA 5723** / **WRS 5101** Water Policy
- **FR 5114** Hydrology and Watershed Management
- **EEB 5601** Limnology

Quantitative & Qualitative Methods for Analysis
- **PA 5044** Regression Analysis: Accelerated
- **PA 5041** Qualitative Methods for Policy Analysts

Other Skills: Public Communication, Leadership (Boreas Program at IonE)
International & Inter-Cultural Experiences; Research Assistantships/Internships