SCIENCE, TECHNOLOGY, ETHICS AND POLICY MINOR (ENGR)

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https://spp.umd.edu/science-technology-ethics-and-policy-step-minor (https://spp.umd.edu/science-technology-ethics-and-policy-step-minor/)

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The STEP minor is organized into two tracks based on which capstone course students want to pursue (Track One -ENES440: Socio-political Dimensions of Science and Technology Development and Track Two – ENES401: Sustainability, Social Responsibility, and Design). Electives are grouped in four concentrations (see below). Students can go deep in one concentration or choose across groupings. The end product of the program is a capstone research project of the student's own choosing, which is developed under faculty mentorship.

Minor concentration areas:

Social, ethical and policy implications: This concentration explores the contemporary societal implications of science and technology. These courses ask students to think about the role science and technology have played in creating local and global social and environmental crises and what science and technology can do to help solve them.

Science and technology development: This concentration focuses on cultural, legal,organizational, and institutional forces that have shaped science and technology. It asks students to think about what causes knowledge production and technical practices to change over time and how these changes can improve implementation going forward.

Information economy: This concentration focuses on how the information economy has shaped scientific and technological practices. Students are asked to think about society's evolving relationships with information as a driving force in the private and public sector.

Sustainability, social responsibility, and design: This interdisciplinary concentration within the STEP Minor is designed for all majors to receive a hands-on design experience that incorporates sustainability and social responsibility into learning about the development of new technology. The end products of this concentration are tangible deliverables that go out into the public domain. This can include physical builds and implementations, process or curriculum plans, or packages that can be taken to potential licensors or funders.

Student Learning Outcomes

1. Articulate and explore the social, ethical, and policy implications of how scientific ideas emerge and technologies are designed, developed, and used.
2. Identify political and legal contexts governing science and technology.
3. Recognize lessons from the historical contingency and legacy of scientific knowledge and technological development.
4. Synthesize broad implications of the "information economy" for science, technology, and society.
5. Interpret the rules, customs, and cultural practices that are the foundation for scientific and technological institutions.
6. Express a policy intervention through a public engagement method or design of a product.

REQUIREMENTS

Track 1: Socio-political Dimensions of Science and Technology Development

Course	Title	Credits
Required Courses (2 classes)		**6**
ENES240	Ethical, Policy and Social Implications of Science and Technology [1]	3
ENES440	Science, Technology, Ethics, and Policy: Minor Program Capstone [1]	3
Electives (3 classes)		**9**
For a comprehensive list of electives see website. [2]		
Total Credits		**15**

Track 2: Sustainability, Social Responsibility, and Design

Course	Title	Credits
Required Courses (2 classes)		**6**
ENES240	Ethical, Policy and Social Implications of Science and Technology [1]	3
ENES401	Entrepreneurial Design Realization for Projects of Impact [1]	3
Electives (3 classes)		**9**
For a comprehensive list of electives see website. [2]		
Total Credits		**15**

[1] Students must earn a minimum grade of B- in ENES240 in order to register for ENES440 or ENES401.
[2] Six credits must be at the 300-400- level.

http://spp.umd.edu/your-education/undergraduate/minors/science-technology-ethics-and-policy-step-minor/