MINOR IN ENERGY STUDIES

The Energy Studies Minor complements the deep expertise obtained in any MIT major with broad, interdisciplinary training in science, technology, and the social sciences, including policy issues surrounding energy and climate change.

Students take classes in four core areas, plus 24 units of electives. The core consists of:

- Science Foundations: fundamental laws and principles that govern energy sources, conversion, and uses;
- Economics Foundations: how economic principles underlie every aspect of energy;
- Social Science Foundations: social scientific perspectives that help explain human behavior in an energy context, and;
- Energy Technology/Engineering in Context: the application of laws and principles to a specific energy context.

The elective component (generally two classes) allows students to focus on their individual areas of interest.

Developed and administered by the MIT Energy Initiative, the Energy Studies Minor sets students on the path to tackle the world’s complex climate and energy challenges. Through the minor, students build strong foundational knowledge of diverse energy topics while benefiting from hands-on learning opportunities to work with world-renowned researchers, policy analysts, and thought leaders. Students also make groundbreaking discoveries and prepare for exciting careers in industry, government, and academia.

Core Curriculum

**Science Foundations**


**Economics Foundations**

14.01 [Principles of Microeconomics](http://catalog.mit.edu/search/?P=14.01) 9-12 or 15.0111 [Economic Analysis for Business Decisions](http://catalog.mit.edu/search/?P=15.0111)

**Social Science Foundations**

Select one of the following: 12

11.142 [Geography of the Global Economy](http://catalog.mit.edu/search/?P=11.142)
15.0201 [Economics of Energy, Innovation, and Sustainability](http://catalog.mit.edu/search/?P=15.0201)

**Energy Technology/Engineering in Context**

Select one of the following: 12

2.60 [Fundamentals of Advanced Energy Conversion](http://catalog.mit.edu/search/?P=2.60)
22.081 [Introduction to Sustainable Energy](http://catalog.mit.edu/search/?P=22.081)
EC.711 [Introduction to Energy in Global Development](http://catalog.mit.edu/search/?P=EC.711)

**Electives**

Select 24 units from the following: 24

1.018 [Fundamentals of Ecology](http://catalog.mit.edu/search/?P=1.018)
1.020 [Engineering Sustainability: Analysis and Design](http://catalog.mit.edu/search/?P=1.020)
1.071[1][J]  Global Change Science 1
(http://catalog.mit.edu/search/?P=1.071)

(http://catalog.mit.edu/search/?P=1.079)

1.801[1]  Environmental Law, Policy, and Economics: Pollution Prevention and Control
(http://catalog.mit.edu/search/?P=1.801)

2.005  Thermal-Fluids Engineering I 1
(http://catalog.mit.edu/search/?P=2.005)

2.006  Thermal-Fluids Engineering II 1
(http://catalog.mit.edu/search/?P=2.006)

2.570  Nano-to-Macro Transport Processes 1
(http://catalog.mit.edu/search/?P=2.570)

2.603  Fundamentals of Smart and Resilient Grids 1
(http://catalog.mit.edu/search/?P=2.603)

2.612  Marine Power and Propulsion 1
(http://catalog.mit.edu/search/?P=2.612)

2.627  Fundamentals of Photovoltaics
(http://catalog.mit.edu/search/?P=2.627)

2.813  Energy, Materials, and Manufacturing
(http://catalog.mit.edu/search/?P=2.813)

3.003  Principles of Engineering Practice
(http://catalog.mit.edu/search/?P=3.003)

3.012  Fundamentals of Materials Science Engineering
(http://catalog.mit.edu/search/?P=3.012)

3.022  Microstructural Evolution in Materials
(http://catalog.mit.edu/search/?P=3.022)

(http://catalog.mit.edu/search/?P=3.154)

3.18  Materials Science and Engineering of Clean Energy
(http://catalog.mit.edu/search/?P=3.18)

4.401  Environmental Technologies in Buildings
(http://catalog.mit.edu/search/?P=4.401)

4.432  Modeling Urban Energy Flows for Sustainable Cities and Neighborhoods
(http://catalog.mit.edu/search/?P=4.432)

5.352  Synthesis of Coordination Compounds and Kinetics 1
(http://catalog.mit.edu/search/?P=5.352)

5.372  Chemistry of Renewable Energy
(http://catalog.mit.edu/search/?P=5.372)

5.60  Thermodynamics and Kinetics
(http://catalog.mit.edu/search/?P=5.60)

6.061  Introduction to Electric Power Systems 1
(http://catalog.mit.edu/search/?P=6.061)

6.131  Power Electronics Laboratory 1
(http://catalog.mit.edu/search/?P=6.131)

(http://catalog.mit.edu/search/?P=6.152)
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STS.032  Energy, Environment, and Society
(http://catalog.mit.edu/search/?P=STS.032)

| Total Units | 69-72 |

1 Subject has prerequisites that are outside of the program.
2 See the Energy Studies Minor website (http://energy.mit.edu/minor) for potential elective and core subject substitutions or additions.

Students who take more than the required subjects from any of the core curriculum subject lists may count the additional coursework toward the elective requirement. A minimum of three subjects (or 36 units) taken for the Energy Studies Minor cannot also count toward a student's major or other minor.

Contact Rachel Shulman (rshulman@mit.edu), academic coordinator, MIT Energy Initiative Education Office, Room E19-306C, 617-324-7236, or visit the Energy Studies Minor website (http://energy.mit.edu/minor) for more information.