Energy Studies is a multidisciplinary academic program in Yale College. The curriculum is designed to provide selected undergraduates the broad knowledge and skills needed for advanced studies, leadership and success in energy-related fields, at a time when the world faces enormous challenges in moving its energy systems towards greener, more sustainable sources, while eliminating energy poverty and providing affordable access to modern energy for all.

Admission to the Energy Studies program is by application, normally in second term of sophomore year. Enrolled students are assigned an adviser from one of the Yale departments associated with Energy Studies. Upon successful completion of the program, students receive a letter acknowledging their fulfillment of the requirements and will be invited to attend the annual Yale Alumni in Energy Conference. In addition to their participation in the program, Energy Studies Scholars must complete the requirements of a Yale College major. Yale College does not offer a major in energy studies.

Undergraduate scholars in Energy Studies are expected to complete one course in each of the three broad tracks defining the multidisciplinary curriculum, plus three electives from a list of eligible courses (see Courses in Energy Studies, on the back). Of these six courses, three must be outside the department of the student’s major. For double majors, this requirement is modified as follows: three courses from each of the student’s two majors can be used to satisfy program requirements, provided that the courses meet the distributional requirements across the three tracks of Energy Studies.

The capstone of the program is a senior project, which may take the form of a traditional senior essay (with permission, the student’s senior essay in the major may fulfill this requirement); a group project culminating in a substantial report; or a summer job or internship in an energy-related field with a written report. Jobs and internships are coordinated through the student’s Energy Studies adviser and the Yale College Center for International and Professional Experience.

Energy Studies courses are organized into three tracks:

1. Energy Science and Technology,
2. Energy and the Environment, and

Students normally complete electives in at least two of the three tracks.
COURSES IN ENERGY STUDIES

Below are the courses offered this year in YCPS 2015-16 that are accepted for Energy Studies. Courses in brackets [...] appear in YCPS but are not being offered this academic year.] These lists are not exhaustive. See: climate.yale.edu/energy-studies-program/courses-energy-studies.

Courses in blue are recommended for students seeking introductory courses in the three tracks of Energy Studies.

Energy Science and Technology
APHY 100a, Energy Technology and Society
ARCH 163b, Environment, Energy, Building
CHEM 161a or b and CHEM 165b, General Chemistry I and II
CHEM 163a and 167a or b, Comprehensive University Chemistry I and II
CHEM 332a and 332b, Physical Chemistry with Applications in the Physical Sciences I and II
CHEM 430a, Statistical Mechanics and Thermodynamics
CENG 300a, Chemical Engineering Thermodynamics
EENG 406b, Photovoltaic Energy
EENG 412b, Energy Semiconductor Fundamentals
G&G 274a, Fossil Fuels and Energy Transitions
G&G 275b, Renewable Energy
MENG 211a, Thermodynamics for Mechanical Engineers
MENG 389b, Mechanical Engineering IV: Fluid Thermal Energy Science
PHYS 180a,b, University Physics
PHYS 200a,b, Fundamentals of Physics
PHYS 260a,b, Intensive Introductory Physics
PHYS 401a,b, Advanced Classical Physics from Newton to Einstein
PHYS 420a, Thermodynamics and Statistical Mechanics

Energy and the Environment
[G&G 010, Earth, Resources, Energy & the Environment]
G&G 140a, Atmosphere, Ocean, and Environmental Change
G&G 205b, Natural Resources and Their Sustainability
[G&G 215, Global Warming: The Carbon Cycle]
G&G 322a, Physics of Weather and Climate
[G&G 323, Climate Dynamics]
CENG 120b, Introduction to Environmental Engineering
ENVE 327a, Atmospheric Chemistry
ENVE 360b, Green Engineering and Sustainable Design
ENVE 373a, Air Pollution Control
ENVE 473b, Air Quality and Energy

Energy and Society: Economic, Political and Social Issues
ECON 330b, The Economics of Natural Resources
ECON 331a, The Economics of Energy and Climate Change
ECON 452b, Contemporary Issues in Energy Policy
EVST 120a, Introduction to Environmental History
ANTH 382a, Environmental Anthropology
ANTH 473b, Abrupt Climate Change and Societal Collapse
HIST 042a, Oil and Empire
HIST 120b, American Environmental History

SAMPLE CURRICULA

Energy Science & Technology Focus
APHY 100 · G&G 205 · ECON 331
G&G 274 · G&G 275 · PHYS 420
ENAS 101 · G&G 205 · ECON 331
G&G 275 · CENG 300 · MENG 389

Energy & Sustainability Focus
ARCH 163 · G&G 205 · ECON 330
G&G 275 · ENVE 360 · EVST 473

Energy & The Environment Focus
ARCH 163 · G&G 140 · ECON 330
G&G 274 · ENVE 360 · EVST 473

Energy Policy & Climate Change Focus
APHY 100 · G&G 140 · G&G 322
ECON 331 · ECON 452 · ANTH 473

APHY 100 · G&G 140 · G&G 215
ECON 331 · ECON 452 · ANTH 473