

Requirements for a Concentration in Energy Technologies and Environmental Engineering

The concentration in Energy Technologies and Environmental Engineering is designed to easily allow engineering students to acquire a basic understanding of the environmental impacts of various energy generation and utilization technologies and design environmentally sustainable engineering systems.

The concentration in Energy Technologies and Environmental Engineering can be earned by any student within the College of Engineering by fulfilling the following requirements:

1. A sequence of four courses (16 cr) consisting of two required (8 cr) and two elective (8 cr) courses. The two elective courses can consist as either one CAS course and one ENG course or two ENG courses selected from the list of elective courses below.

Required Courses:

ENG EK 335 – Introduction to Environmental Engineering – 4 cr (Spring semester)

ENG EK 408 – Introduction to Clean Energy and Storage Technologies – 4 cr (Fall semester)

Elective Courses: (Choose two, but no more than one CAS course)

CAS GE 250* – The Fate of Nations: Climate, Resources and Institutions – 4 cr

CAS GE 304* – Environmentally Sustainable Development – 4 cr

CAS GE 309* - Intermediate Environmental Analysis and Policy – 4 cr

CAS GE 420* - Methods of Environmental Policy – 4 cr

ENG ME/MS 545 – Electrochemistry of Fuel Cells and batteries – 4 cr

ENG ME 430 – Energy Conversion – 4 cr

ENG EC/ME/SE 543 - Sustainable Power Systems – 4 cr

ENG EK 546 - Assessment of Sustainable Energy Technologies – 4 cr

ENG EC 573 – Solar Energy Systems – 4 cr

2. **Project Requirement:** Completion of a well-defined project in the “energy” or “environmental” area. A senior design project, laboratory research, industrial internship or a directed study can satisfy this requirement. This requirement must be approved by submitting the Project Approval form to the Undergraduate Records Office. After completion of the proposed project, a written summary of the project must also be submitted for approval (see Project Approval form for more information).
3. As an introduction to the concentration, one of the EK 131/132 Clean Energy modules is recommended but not required.
4. Students must have a declared major on record in order to apply for the concentration in Energy Technologies and Environmental Engineering.
5. Students planning to declare the concentration in Energy Technologies and Environmental Engineering must do so no later than October 1st of the first semester of the senior year.

* These courses can also be counted towards the Social Science requirement.