

Program Overview

Meeting the world's energy demands in an environmentally responsible fashion is arguably the greatest challenge of the 21st century. In order to prepare a new generation of leaders to address this challenge, a new energy studies minor is being offered to all undergraduates at the University of Notre Dame beginning in fall 2011. This minor will prepare students from all disciplines to become successful leaders who understand the complexity of the energy challenge and can offer meaningful solutions.

There are three components to the minor:

- 1) two required courses, 2) three elective courses, and 3) a capstone project. The minor is administered through the Sustainable Energy Initiative (SEI).

Learning Objectives:

- 1) Quantify energy resources and usage and recognize the fundamental laws of thermodynamics that govern energy conversion.
- 2) Develop a functional knowledge of the historical and economic frameworks that guide decision-making in industry.
- 3) Develop skills to convey critical information about energy to the non-expert.
- 4) Understand the environmental consequences of today's energy technologies.
- 5) Understand the linkages between ethics and energy utilization.
- 6) Critically assess the prospective impact of alternative energy technologies.

The Sustainable Energy Initiative (SEI) is a multi-disciplinary Strategic Research Investment targeted toward advancements in research, education, and literacy to achieve a more sustainable energy future. Key focus areas of the SEI are cleaner use of fossil fuels, transformative solar technologies, and safer use of nuclear energy. In addition, research groups across the University study many aspects of energy technology and policy, including energy efficiency, improved wind technology, biofuels, and social, political, and ethical policy development.

For more information on the SEI, please visit <http://energy.nd.edu>

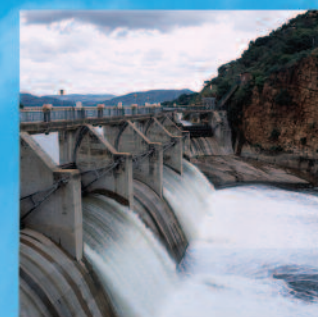


For more information on the program or coursework options, Contact: The SEI Research, Education, and Outreach Program Manager

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<http://energystudiesminor.nd.edu>

University of Notre Dame



ENERGY STUDIES MINOR

A minor for ALL undergraduate students at the University of Notre Dame

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ENERGY STUDIES MINOR

Required Courses

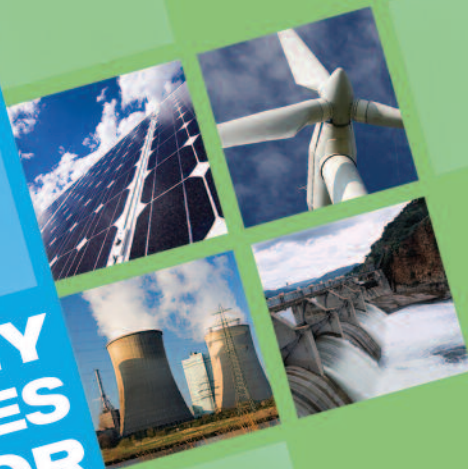
In order to provide a solid foundation in energy studies, two required courses have been selected. The first course focuses on technical topics and the second provides an overview of energy issues from a variety of academic disciplines. The required courses are:

ENER20101

This course, taught by the Department of Physics, covers the fundamental technical skills needed to understand energy systems. It is designed to provide sufficient background for students of any major to successfully complete either of the elective tracks and be literate in the technical aspects of energy production and use.

ENER20202

This course, organized through the Mendoza College of Business, presents a survey of energy resources, global climate change, basics of energy business and finance, energy economics, national and global energy policy, the psychology and ethics of energy consumption and behavior, and new urbanism.



Elective Courses

After completing the required courses, students have the opportunity to pursue either a non-technical or technical track. In each case, three related elective courses must be selected by the student and approved by the energy studies minor administrator.

A complete listing of courses in each track can be found on the Web site (<http://energystudiesminor.nd.edu>).

Capstone Project

In addition to the required coursework and in order to obtain hands-on experience with energy issues in a real-world setting, each student must complete a capstone project for one credit hour as part of the program.

Proposed by the student, each capstone project must be approved by the energy studies minor administrator. Projects will vary among students, and it is expected that the projects will allow the



Sample elective course combinations are described here to illustrate options that could be of interest to students from different majors.

Business Major Pursuing a Technical Track:

- 1) Thermodynamics (GBE20256)
- 2) Energy, Technology, & Policy (AME40401)
- 3) Alternative Energy Devices/Materials (EE47010)

Engineering Major Pursuing a Non-technical Track:

- 1) Sustainable Energy (STV40304)
- 2) Environmental Justice (HESB43537)
- 3) Environmental Philosophy (PHIL20609)

students to pursue topics of particular interest to them in much more depth than a single course might allow.

Examples of suitable projects include: a semester of undergraduate research in energy, completing and reporting on a summer internship at an energy company, or completing the Energy Policy: Environment and Social Change course (CSC33985). This course examines the role of energy in society and involves a weeklong immersion in Washington, D.C., meeting with law- and policymakers and industry leaders.