Lead the way in tackling today's pressing energy problems with a high-quality graduate engineering education at UND

The world’s energy problems are significant, and require the most advanced research and the top minds to solve them. As the world leader in energy-related research and education, you’ll benefit from one of the strongest doctoral programs you can find in this exciting and growing field.

Program Snapshot

Program type: Doctoral Degree
Format: On-campus or online
Est. time to complete: 3-6 years
Credit hours: 90

Why Study Energy System Engineering at UND?

Today's energy-strapped world needs leaders with the highest level of knowledge and research expertise. This UND doctoral program offers a graduate education with a focus on energy engineering fundamentals, independent research and career preparation, with the flexibility to customize according to your greatest interests.

UND is a world leader in energy-related research and education, so you’ll benefit from a strong doctoral program that will help you:

- Master fundamental topics in energy engineering and be able to apply them to research problems with practical significance.
- Be proficient at research, with the skills you need to formulate, assess and document a hypothesis.
- Be proficient at designing, conducting and managing an independent energy or energy-related research project.
- Broaden your opportunities in a variety of energy-related industries, or choose a career path in academia.

Research Opportunities

You’ll have the opportunity to perform research ranging from fundamental to applied – including technology development, demonstration, and commercialization efforts.

Research interest fall into the following broad categories:

- Stationary power generation including increasing energy efficiency from existing and new systems, renewable energy systems, clean coal technologies, carbon sequestration, and hydrogen production.
- Production of liquid and gaseous fuels (ethanol, biodiesel, hydrogen, methane for example) and specialty chemicals from biomass, fossil fuels and other resources, including infrastructure development.
- Transmission and distribution systems, including approaches to integrate distributed generation produced from renewable resources.
- Environmental cleanup and protection of air, water, and soil, focusing on energy and industrial generated sources.
- Integration of social, political, regulatory, and legal into the development and implementation of new technologies.

Application Deadlines

FALL: Aug 1
SPRING: Dec 1
SUMMER: May 1

Program Highlights

- Gain extensive expertise in a specialization (track), as well as proficiency in executing on energy-related research.
- Develop the expertise and research proficiency to invent and develop new energy technologies and future advances.
- Work with faculty from related disciplines to create the interdisciplinary and integrative research paradigms needed for comprehensive research.
- Choose research projects of interest to your company, allowing you work on your degree without leaving your current job.
- Participate in research conducted with the Institute for Energy Studies (IES) through our interdisciplinary Sustainable Energy Research, Infrastructure and Supporting Education (ND SUNRISE) research initiative, the Petroleum Research, Education and Entrepreneurship Center of Excellence.
Outcomes

**68K**  
Median salary for an energy engineer*

**10%**  
The top 10% in the field make a median salary of $91,000, not including potential bonuses, profit-sharing and commission benefits.

*U.S. Bureau of Labor Statistics

A doctoral degree in energy engineering offers you the widest range of opportunities, from top positions at global energy leaders, to government agencies, to opportunities in higher learning. Many may choose to enter the field of academia as a professor or senior researcher.

UND bearers of doctoral degrees in this growing field have gone onto careers in top regional and global energy firms. Some of the biggest companies hiring energy engineers today include:

- CLEARresult
- Trane
- Siemens
- Schneider Electric
- Noresco