# Sustainable Energy Science

## College of Arts and Sciences

Creighton UNIVERSITY
College of Arts and Sciences

**PROGRAMS AVAILABLE:** Bachelor of Science | Minor

## Dive into the growing energy sector and make the world more sustainable.

If you are interested in creating a sustainable future, Creighton University's energy technology program is for you. A Bachelor of Science (BS) in sustainable energy science will engage your mind and your hands while introducing you to the growing energy sector.

At Creighton, you will address energy issues from an interdisciplinary perspective and enjoy a nontraditional curriculum. You'll get to use an atomic force microscope, study weather forecasting, apply physics and math theory to real-world situations and work in a hands-on environment.

Our energy technology program is a direct reflection of the University's Jesuit values, providing both an intellectual and practical education that will make a difference in the world. If you enjoy math, science, designing and building, and want to make the world more sustainable, consider majoring in sustainable energy science at Creighton.

### WHAT YOU'LL LEARN

- Understand the significant energy challenges facing our global society
- Develop innovative, holistic solutions to energy problems
- Hone your critical thinking and problem-solving skills
- Learn physics and math theory

### EXPERIENTIAL LEARNING OPPORTUNITIES

Internships are crucial for exploring careers and strengthening student resumes. Creighton's sustainable energy science program helps you find meaningful internships each year, including paid internships in building management systems, renewable energy technology and public administration.

### ENERGY TECHNOLOGY PROGRAMS

The energy technology department offers two tracks.

**Major**
- Bachelor of Science in Sustainable Energy Technology

**Minor**
- Sustainable Energy

**For more details on the full curriculum, visit:**
*catalog.creighton.edu/undergraduate/arts-sciences/energy-technology*

### CAREER OUTLOOK

Energy science graduates find employment in sustainable design, building systems and renewable energy. Creighton's energy science program also prepares you for graduate school in engineering. Additionally, jobs in the energy science sector have been increasing 26 percent per year.

### CAREER OUTCOMES

#### Employment Opportunities

Many of our graduates are employed within a few months of graduation. Creighton faculty and alumni go the extra mile to help graduates find optimal job placements for companies such as:

- Tenaska
- Lockheed Martin
- Kiewit
- Verdis Group
- M&E Group
- Blue Stem Energy

#### Graduate Studies

Many of our students have gone on to prestigious graduate programs and schools, such as:

- Iowa State
- Minnesota University
- Kansas State University
- U.C. Berkeley

# Sustainable Energy Science

## College of Arts and Sciences

Creighton UNIVERSITY
College of Arts and Sciences

### BACHELOR OF SCIENCE COURSES

**Introductory Energy courses (choose one):** **2**
ERG 157 Contemporary Composition: Energy and Society
PHY 157 Sustainable Energy

**Applied Science and Design courses (choose 4 credits from the following):** **4**
ERG 131 Installation and Maintenance of Photovoltaic Systems
ERG 213 Three Dimensional Design
PHY 195 Selected Topics in Physics

**Mathamatics and Physics Foundations courses (choose OPTION 1 or 2):** **6–9**
**OPTION 1**
MTH 349 Modeling the Physical World II
PHY 222 Advanced General Physics II: Modeling the Physical World

**OPTION 2**
MTH 347 Calculus III
***Plus one of the following:***
MTH 445 Advanced Differential Equations
CHM 532 Mathematical Concepts in Chemistry
PHY 551 Mathematical Physics
***Plus one of the following:***
PHY 202 General Physics for the Life Sciences II
PHY 214 General Physics for the Physical Sciences II

**Statistics courses (choose one):** **3**
ANT/SOC 314 Statistics for the Social Sciences
ERG 301 Modeling Electrical Load and Yield
MTH 562 Mathematical Statistics II
HAP/PLS 520 Statistical Methods for Public Administration and Policy Analysis

**Communication and Organizational Skills courses:** **4**
ERG/PHY 591 Seminar in Engineering
***In addition, choose one of the following:***
COM 320 Leadership: Theories, Styles, and Skills
ENG 154 Contemporary composition: Writing About Energy
ENG 315 Technical and Professional Writing
SOC 316 Qualitative Methods in the Social Sciences

**Energy Transfer courses (choose 3 credits from the following):** **3**
CHM 445 Chemical Thermodynamics
ERG 241 Introduction to Energy Transfer
PHY 541 Thermodynamics and Statistical Mechanics

**Economic, Political and Legal Considerations courses (choose one):** **3**
BUS 201 Legal Environment of Business
ERG 351 Energy Policy
EVS 353 Environmental Economics
EVS/PLS 333 Environmental Politics and Policy

**Sustainability courses (choose 6 credits from the following):** **6**
ANT 112 Introduction to Anthropology: Energy, Culture and Sustainability
THL 301 Divine Providence, Catholic Social Teachings and the Problem of Climate Change
ANT/EVS/SOC 355 Environmental and Society: Sociological Perspectives
ANT 424 Sustainability in Rural America
PHL 275 Philosophical Ethics: Energy and Environment

**Electives:** **12**
See catalog for full list

**Total Credits** **56–59**

*A full list of all courses can be found in the department listing of the Creighton University Catalog.*

### STUDENT ORGANIZATIONS AND ACTIVITIES

#### Environmental Science Club

Electric cars, flexible solar cells, underwater wave turbines—all new ways of looking at ways we produce and use energy. The world's energy consumption is constantly changing. Renewables are becoming cheaper and more efficient, climate change is altering our living conditions, and the need for more energy is consistently growing. For these reasons and more, diversification and research of alternative energy production is vital for human survival on this planet.

This club will work with students who are interested in learning more about progression in the energy sector; whether it is research, technology, or national strategies. The interests of members will drive and direct the discussions to focus on topics that are relevant and innovative.

By working with local organizations, the energy club will organize events for student immersion in the community through conferences, workshops, and more. A critical point of this organization is to help students locate professional opportunities in the energy field, locally or abroad. Through personal experience and connections, this club will work to foster relationships that each student can take beyond his/her undergraduate studies.