



# SUSTAINABLE ENERGY SPECIALIZATION

Enhance your degree by applying **Mechanical Engineering** principles to solve problems in **renewable and sustainable energy**.

Students interested in **sustainable energy** can select a set of thermal science, power conversion and environmental courses to fulfill their math/science electives and technical electives within the BSME degree program. There is also an option to simultaneously complete the **Certificate in Engineering Thermal Energy Systems (CETES)** or **Certificate in Engineering for Energy Sustainability**, which is a formal certificate designed for engineering students interested in problems in energy and sustainability.

## RECOMMENDED COURSES

### Math and Science Electives (3 Credits)

- ENVIR ST 102 - Climate & Climate Change (3)
- ENVIR ST 332 - Global Warming: Science & Impacts (3)
- ENVIR ST 349 - Climate Change Governance (3)
- AAE 246 - Climate Change Economics & Policy (3)
- BSE 367 - Renewable Energy Systems (3)

### Technical Electives (12 credits)

- CIV ENGR 423 - Air Pollution Effects, Measurement & Control (3)
- CIV ENGR 495 - Sustainable Building & Materials (3)
- NE 305 - Fundamentals of Nuclear Engineering (3)
- ME 461 - Thermal Systems Modeling (3)
- ME 469 - Internal Combustion Engines (3)
- ME 471 - Gas Turbine & Jet Propulsion (3)
- ME 561 - Intermediate Thermodynamics (3)
- ME 564 - Heat Transfer (3)
- ME 565 - Power Plant Technology (3)
- ME 567 - Solar Energy Technology (3)
- ME 569 - Applied Combustion (3)
- ME 601 - Special Topics: Design of PV Arrays (3)
- ME 601 - Special Topics: Energy, Sustainability and Technology (3)
- ME 601 - Special Topics: HVAC (3)



## SUGGESTED EXTRACURRICULARS

- Badgerloop
- WiscWind
- Helios
- American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)
- American Society of Mechanical Engineers (ASME)
- Undergraduate Research



## CAREER POSSIBILITIES

- Solar Energy
- Nuclear Engineering
- Renewable Energy
- Power Generation
- HVAC&R
- Renewable energy research in academia, national labs, and industry

*\*Specializations are not formal, but rather a list of recommended tech elective courses and/or experiences to specialize in a certain area. Specializations do not appear on transcripts.*



**Mechanical Engineering**  
UNIVERSITY OF WISCONSIN-MADISON