

# SUSTAINABILITY AND RENEWABLE ENERGY SYSTEMS

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## ABOUT THE SRES PROGRAM AND MAJOR

The Sustainability and Renewable Energy Systems program is designed to provide students with strong foundational knowledge in renewable as well as traditional energy systems and their economic, social and environmental impacts on society. The program provides the opportunity for UW-Platteville students to develop and deploy a comprehensive skills set in pursuit of solutions related to technical, economic, social and environmental challenges related to energy, efficiency and renewable resource management. Focal areas of study include core knowledge development in wind and solar, bioenergy, renewable products, operations, logistics and project management under a framework of sustainable utilization of resources.

Graduates from this program will enter the workforce in a variety of roles with organizations such as utilities, energy producers and auditors, building design and construction firms, as well as federal, state and local municipalities. We anticipate significant growth in this field over the next decade and beyond. Our graduates will utilize their training and pioneering spirit to lead the Midwest and the nation on a more sustainable path toward better and more efficient uses of energy.

## MAJOR

- Sustainability and Renewable Energy Program (SRES) Major, B.S. (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/sustainable-renewable-energy-systems/sustainable-renewable-energy-major/>)
  - Development and Management Emphasis (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/sustainable-renewable-energy-systems/sustainable-renewable-energy-major/#development>)
  - Energy Systems Engineering Technology Emphasis (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/sustainable-renewable-energy-systems/sustainable-renewable-energy-major/#energy-systems>)
  - Bioenergy and Sustainable Land Use Emphasis (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/sustainable-renewable-energy-systems/sustainable-renewable-energy-major/#bioenergy>)
  - Green Building and Energy Management Emphasis (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/sustainable-renewable-energy-systems/sustainable-renewable-energy-major/#green-building>)

## MINOR

- Sustainability and Renewable Energy Systems Minor (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/sustainable-renewable-energy-systems/renewable-energy-minor/>)

## MISSION STATEMENT

In consultation with the Renewable Energy Advisory Board (composed of industry professionals), broad program goals were identified and embedded into the program: a strong foundation in technical, economic, environmental and social aspects of traditional and renewable energy systems, under the umbrella of sustainability. Our goals are the following:

1. equip students with the abilities to assess the relative merits and potential impacts of different energy sources within the framework of sustainability
2. equip students with a strong foundation in business and management aspects of renewable energy projects
3. graduate students who are knowledgeable citizens prepared for the green jobs of the future
4. support business and community partners through projects, seminars, and workshops

## STUDENT LEARNING OUTCOMES

By graduation, students in our program are expected to attain the following student outcomes:

- (1) an ability to identify, formulate and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline
- (2) an ability to formulate or design a system, process, procedure or program to meet desired needs
- (3) an ability to develop and conduct experiments or test hypotheses, analyze and interpret data, and use scientific judgment to draw conclusions
- (4) an ability to communicate effectively with a range of audiences
- (5) an ability to recognize ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental and societal contexts

(6) an ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty

## BACHELOR OF SCIENCE DEGREE

Course	Title	Credits
Total for graduation		120
General Education		22
Major Studies		54-56
Emphasis		40-50
Electives as needed to reach 120 credit university requirement for graduation		0-4

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## FOUR-YEAR PLANS

- SRES Major with Development and Management Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/sustainable-renewable-energy-systems/sustainable-renewable-energy-major/dm-emphasis-four-year-plan/>)
- SRES Major with Energy Systems Engineering Technology Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/sustainable-renewable-energy-systems/sustainable-renewable-energy-major/eset-emphasis-four-year-plan/>)
- SRES Major with Bioenergy and Sustainable Land Use Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/sustainable-renewable-energy-systems/sustainable-renewable-energy-major/bslu-emphasis-four-year-plan/>)
- SRES Major with Green Building and Energy Management Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/sustainable-renewable-energy-systems/sustainable-renewable-energy-major/gbem-emphasis-four-year-plan/>)

## FACULTY AND LECTURERS

Additional information about the Faculty and Lecturers below may be found in the Faculty and Academic Staff (<https://catalog.uwplatt.edu/faculty-academic-staff/>) section of this catalog.

Samir El-Omari (Civil Engineering)

Brandon Fetterly (Electrical and Computer Engineering)

Fang Yang (Electrical and Computer Engineering)

Thomas Zolper (Mechanical Engineering)