

# Clean Energy Systems, MS

ESCESMS

Are you interested in tackling contemporary technical and environmental issues? You will use your problem-solving skills in hands-on laboratories and project-based courses to design clean energy applications. You will develop applied analytical expertise across disciplinary boundaries, directly applying advanced design principles to energy system engineering design, management and control.

## Program description

### **Degree awarded: MS Clean Energy Systems**

In the MS program in clean energy systems, students not only develop sophisticated engineering technical skills in clean energy systems; they also exercise the professional competencies of collaboration, communication, teamwork and adaptability. Students study a variety of energy sources, including fuel cells, power electronics, batteries, automotive systems and renewable energy systems. The applied courses within the program provide exposure to different disciplines, including electrical and electronics engineering, mechanical engineering, chemical engineering, chemistry and physics.

### **GI Bill® benefits**

This new program is not yet approved for use with GI Bill® benefits.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs. More information about education benefits offered by VA is available at the official U.S. government website at <https://www.benefits.va.gov/gibill/>.

## At a glance

- **College/School:** [Ira A. Fulton Schools of Engineering](#)
- **Location:** [Polytechnic](#)

## Accelerated program options

This program allows students to obtain both a bachelor's and master's degree in as little as five years. It is offered as an **accelerated bachelor's plus master's degree** with:

[Engineering \(Automotive Systems\), BSE](#)

[Engineering \(Electrical Systems\), BSE](#)

[Engineering \(Mechanical Engineering Systems\), BSE](#)

[Engineering \(Robotics\), BSE](#)

Acceptance to the graduate program requires a separate application. Students typically receive approval to pursue the accelerated master's during the junior year of their bachelor's degree program. Interested students can learn about eligibility requirements and [how to apply](#).

## Degree requirements

30 credit hours and a portfolio, or

30 credit hours and a thesis, or

30 credit hours including the required applied project course (EGR 593)

### **Required Core (9 credit hours)**

EGR 520 Engineering Analysis I (3)

EGR 522 Statistics for Quality Control in Manufacturing (3)

EGR 530 Principles of Systems Engineering (3)

### **Electives (15--21 credit hours)**

### **Culminating Experience (0--6 credit hours)**

EGR 593 Applied Project (3)

EGR 599 Thesis (6)

portfolio (0)

### **Additional Curriculum Information**

Students can complete six credit hours of a thesis, three credit hours of an applied project or a portfolio.

The portfolio option is a collection of accomplishments and reflective learning over time. The portfolio is a place to record, explore and reflect on the academic-professional journey, and it can serve many different audiences.

Elective coursework credit hours will vary depending on the student's culminating experience. Students should contact the department for an approved list of elective coursework.

## Admission requirements

Applicants must fulfill the requirements of both the Graduate College and the Ira A. Fulton Schools of Engineering.

Applicants are eligible to apply to the program if they have earned a bachelor's or master's degree in clean energy systems, engineering or a related field from a regionally accredited institution.

Applicants must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program, or a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in an applicable master's degree program.

Applicants are required to submit:

1. graduate admissions application and application fee
2. official transcripts
3. professional resume
4. two letters of recommendation
5. written statement
6. proof of English proficiency

### **Additional Application Information:**

An applicant whose native language is not English must provide [proof of English proficiency](#) regardless of their current residency.

In the written statement, the applicant must include an introduction, share goals and explain why they decided to pursue graduate education.

Letters of recommendation should come from professors, managers, supervisors or professional associates.

## Tuition information

When it comes to paying for higher education, everyone's situation is different. Students can learn about [ASU tuition and financial aid](#) options to find out which will work best for them.

## Career opportunities

Graduates are prepared for opportunities in the diverse industries of alternative and renewable energy systems, power electronics and automotive technologies. They can work in large corporations and small businesses, research at government agencies such as Oak Ridge National Laboratory or the National Renewable Energy Laboratory, or go on to graduate school to pursue advanced degrees.

Graduates are prepared to go into the fields of:

- battery and fuel cell system design and integration

- electric and autonomous vehicle design
- renewable systems engineering --- design, integration
- renewable systems or technologies engineering --- validation, operation and maintenance, evaluation, quality, testing
- solar microinverter manufacturing engineering

With the emphasis on design and project-based learning of various clean energy systems, the program supports an entrepreneurial spirit, and some graduates start companies of their own.

## Contact information

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