Robotics and Autonomous Systems (Electrical Engineering), MS

ESRAEEMS

Program Description

Degree Awarded: MS Robotics and Autonomous Systems (Electrical Engineering)

This advanced degree program emphasizes competency in the rapidly growing fields of robotics and autonomous systems. This concentration is appropriate for students who wish to focus on applications in electrical engineering.

The electrical engineering concentration is one of four concentrations in the multidisciplinary MS program in robotics and autonomous systems, which emphasizes robotics, controls, autonomous systems, artificial intelligence and related fields.

Students receive a solid theoretical and practical background in a variety of topics that include theory, design and implementation of control systems; signal processing; real-time and embedded systems; computer vision; and machine learning. Students in this concentration are exposed to state-of-the-art and emerging theories and implementations related to sensing, data processing, adaptive control, automated mobility, autonomous systems, human-machine interaction and robotic applications in various domains including public safety, manufacturing, health care, automotive and assistive technologies.

At a Glance

- College/School: Ira A. Fulton Schools of Engineering
- Location: Tempe campus

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 and master's degree with:
Acceptance to the graduate program requires a separate application. During their junior year, eligible students are advised by their academic departments to apply.

**Degree Requirements**

30 credit hours and a portfolio, or  
30 credit hours and a thesis, or  
30 credit hours and a written comprehensive exam

**Required Core (6 credit hours)**
MAE 501 Linear Algebra in Engineering (3)  
MAE 547 Modeling and Control of Robots (3)

**Concentration (6 credit hours)**

**Electives or Research (12-18 credit hours)**

**Culminating Experience (0-6 credit hours)**
EEE 599 Thesis (6) or  
written comprehensive exam (0) or  
portfolio (0)

**Additional Curriculum Information**

Students are required to select one of the approved culminating experiences for the concentration.  

Students should refer to the academic unit for the approved concentration coursework as well as the available elective and research courses. Elective or research coursework must be selected from among the courses listed for the other three concentrations. Additional electives must be graduate courses in science, engineering, mathematics or others approved by the Graduate Program Committee. Three credit hours of internship may be included among the electives.

A defense is required for the thesis option.

The portfolio includes a poster presentation with content from courses taken in the program. Students must write a portfolio report that includes the highlights of the three projects.

A written comprehensive exam is required of students who select the comprehensive exam as the culminating experience. Students should see the academic unit for additional information.

**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 engineering, science, mathematics 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 applicants must have 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 admission application and application fee
2. official transcripts
3. letter of intent or written statement
4. professional resume
5. GRE scores (required if undergraduate program is not ABET-accredited)*
6. proof of English proficiency

*International and domestic applicants are exempt from taking the GRE if they have earned a degree from an ABET-accredited program ([https://www.abet.org/](https://www.abet.org/)) from a U.S. or overseas institution and if they meet the minimum GPA required for admission. Students who do not meet these requirements are required to provide GRE scores.

Additional Application Information
An applicant whose native language is not English must provide proof of English proficiency regardless of current residency.

Career Opportunities
After completing the electrical engineering concentration of the Master of Science program in robotics and autonomous systems, students are prepared for doctoral study or for industrial positions in numerous industries ranging from manufacturing and transportation to aerospace, defense, health care and beyond.

Contact Information

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