Robotics and Autonomous Systems (Systems Engineering), MS

ESRASSEMS

Program Description

Degree Awarded: MS Robotics and Autonomous Systems (Systems Engineering)
This is an advanced degree emphasizing system-level competency in the rapidly growing fields of robotics and autonomous systems.

The systems 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.

This concentration is appropriate for students who wish to focus on applications in systems engineering.

At a Glance

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

- Engineering (Automotive Systems), BSE
- Engineering (Electrical Systems), BSE
- Engineering (Mechanical Engineering Systems), BSE
- Engineering (Robotics), BSE
Manufacturing Engineering, BS

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 including the required applied project course (EGR 593)

Required Core (6 credit hours)
MAE 501 Linear Algebra in Engineering (3)
MAE 547 Modeling and Control of Robots (3) or EGR 545 Robotic Systems I (3)

Concentration (6 credit hours)

Electives or Research (12-18 credit hours)

Culminating Experience (0-6 credit hours)
EGR 599 Thesis (6) or
EGR 593 Applied Project (3) or
portfolio (0)

Additional Curriculum Information

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

Students should see 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 applied project requires a written report and an oral presentation.

The portfolio includes a summary of the graduate program and a report highlighting three projects from the program.

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 US bachelor's or master's degree from a regionally accredited institution, or the equivalent of a US bachelor's degree from an international institution that is officially recognized by that country in engineering, physical sciences, mathematics or a similar field.

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 from each college or university attended
3. personal statement
4. professional resume
5. official GRE scores
6. proof of English proficiency

Additional Application Information
An applicant whose native language is not English must provide proof of English proficiency regardless of current residency. Applicants should see the Graduate Admission Services website at https://admission.asu.edu/international/graduate/english-proficiency.

Global Launch at ASU offers an online alternative to standardized testing for international students who are seeking admission to ASU but need proof of English proficiency: https://learnenglish.asu.edu/online/admission.

If the applicant does not meet the minimum GPA requirements, the application may still be considered. In certain cases, demonstrated aptitude through professional experience or additional postbaccalaureate education will be considered.

A GRE waiver may be requested if the applicant received a bachelor's degree in a related field from the United States with a cumulative GPA of 3.00 or better. Engineering programs must have a bachelor's degree from an ABET-accredited program. Applicants should email polygrad@asu.edu to request a waiver. Applicants can also submit a GRE waiver request form if they have five years of full-time applicable professional experience. An approved waiver does not guarantee admission.

Career Opportunities
Graduates are prepared for industry careers in positions such as:

- automation engineer
- controls engineer
- machine learning engineer
- robotics engineer
- systems engineer