Robotics and Autonomous Systems (Mechanical and Aerospace Engineering), MS

Program Description

Degree Awarded: MS Robotics and Autonomous Systems (Mechanical and Aerospace Engineering)
The mechanical and aerospace engineering concentration is one of five 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 mechanical or aerospace engineering.

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:

- Aerospace Engineering (Aeronautics), BSE
- Aerospace Engineering (Astronautics), BSE
- Aerospace Engineering (Autonomous Vehicle Systems), BSE
Mechanical Engineering, BSE

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 (MAE 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)
MAE 599 Thesis (6) or
MAE 593 Applied Project (3) or
portfolio (0)

Additional Curriculum Information
Students are required to select from one of the available concentrations and 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 poster presentation with content from courses taken in the program. Students must write a portfolio report that includes the highlights of the three projects.

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.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts
3. GRE scores
4. letter of intent or written statement
5. professional resume
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.

Application Deadlines

Fall

Spring

Career Opportunities

Robotics engineers are in high demand in various engineering specialty areas like manufacturing, mechanical, aerospace, biomedical-rehabilitation, autonomous vehicles, artificial intelligence, etc. Skills in the design and control of robotic systems, artificial intelligence, machine learning and robot perception are valuable to consumer, automotive, aerospace and defense industries.

Career examples include:

- automation engineer
- machine learning and AI engineer
- robotics engineer
- systems engineer

Contact Information