

# Robotics and Autonomous Systems (Mechatronics and Automation), PhD

ESRASMAPHD

Master the knowledge, skills and abilities to meet the most difficult challenges of modern robotics and autonomous systems on a global scale.

## Program description

### **Degree awarded: PHD Robotics and Autonomous Systems (Mechatronics and Automation)**

The mechatronics and automation concentration of the PhD program in robotics and autonomous systems provides an opportunity for in-depth independent research in a highly focused problem domain approved by the student's advisory committee. This program is intended primarily for those who desire to develop expertise in a particular and focused problem in the field of robotics and autonomous systems, including both traditional and advanced robotics and autonomous systems technologies, systems integration and data fusion techniques, and modeling and simulation development.

## At a glance

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

## Degree requirements

84 credit hours, an oral comprehensive exam, a written comprehensive exam, a prospectus and a dissertation

### **Required Core (12 credit hours)**

**Concentration (6 credit hours)**

EGR 550 Mechatronic Systems (3)

RAS 546 Robotic Systems II (3)

**Other Requirements (6 credit hours)**

EGR 602 Principles of Independent Research (3)

RAS 545 Robotic Systems I (3)

**Electives or Additional Research (36 credit hours)****Research (12 credit hours)****Culminating Experience (12 credit hours)**

RAS 799 Dissertation

**Additional Curriculum Information**

For elective courses (depending on concentration), up to six credits of MAE, EEE, MFG, EGR, CSE, AME or RAS 590 Reading and Conference are allowed.

The classes listed under the core requirements can also be taken as electives, if not already counted toward the core requirements.

## **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 robotics and autonomous systems 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.

All applicants are required to submit:

- graduate admissions application and application fee
- official transcripts
- personal statement
- professional resume
- two letters of recommendation
- 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.

The applicant must have a master's degree in a relevant field with a GPA of 3.00 or higher. Relevant fields include mechanical engineering, aerospace engineering, computer science, computer engineering, electrical engineering, industrial engineering, automation engineering, manufacturing engineering, automotive engineering, biomedical engineering and human systems engineering.

## 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.

## Application deadlines

Fall

Spring

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## Career opportunities

Graduates with a doctorate in robotics and autonomous systems typically seek research-oriented academic appointments or industrial research and development positions. As trained researchers and scientists, graduates perform analysis, evaluation and synthesis for a wide variety of problems related to the design, implementation and efficient operation of robotics and autonomous systems. These professionals have substantial opportunities at all levels in manufacturing engineering in research and development at companies, research institutes and national laboratories (e.g., Department of Defense, Department of Energy, NASA). Relevant careers and related titles include:

- electronics engineer
- industrial engineer
- manufacturing engineer
- mechanical engineer
- mechatronics engineer
- robotics engineer

## Contact information

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[Admission deadlines](#)

