

Robotics and Autonomous Systems, BS

ESRASBS

Are you interested in constructing our future with robots? Learn to meet the most difficult challenges of modern robotics and autonomous systems on a global scale. You'll find rewarding careers in every industrial sector, including aerospace, space, defense, medical and industrial manufacturing.

Program description

Autonomous systems are those that can work for an extended period without human control or intervention --- such as driverless cars or autonomous mobile robots.

The BS program in robotics and autonomous systems provides students with a well-rounded education in robotics, controls, autonomous systems and automation. It is intended primarily for those who desire to develop general expertise in robotics and autonomous systems, including both theory and application of robotics and autonomous systems technologies, systems integration and data fusion techniques, and modeling and simulation development.

Students learn to perform analysis, evaluation and synthesis for a wide variety of problems related to the design, implementation and efficient operation of robotics and autonomous systems.

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](#)
- **Second language requirement:** No
- **First required math course:** MAT 265 - Calculus for Engineers I
- **Math intensity:** Substantial 

Required courses (Major Map)

[2024 - 2025 Major Map](#)

[Major Map \(Archives\)](#)

Concurrent program options

Students pursuing concurrent degrees (also known as a "double major") earn two distinct degrees and receive two diplomas. Working with their academic advisors, students can create their own concurrent degree combination. Some combinations are not possible due to high levels of overlap in curriculum.

Admission requirements

General university admission requirements:

All students are required to meet general university admission requirements.

[First-year](#) | [Transfer](#) | [International](#) | [Readmission](#)

Additional requirements:

The admission standards for majors in the Ira A. Fulton Schools of Engineering are higher than the minimum university admission standards. International students may have an additional [English language proficiency](#) criterion. International students must meet the same admission requirements shown below with the possible additional requirement of a minimum English proficiency test score. If the university requires an English proficiency test score from the applicant, then admission to engineering requires a minimum TOEFL iBT score of 79 (internet-based test, taken in a testing center), a minimum IELTS score of 6.5, a minimum PTE score of 58, a minimum Duolingo English score of 105, or a minimum Cambridge English exam score of 176.

First-year admission:

1. minimum 1210 SAT combined evidence-based reading and writing plus math score or minimum 24 ACT combined score **or** a minimum high school GPA of 3.00 in ASU competency courses **or** class ranking in top 25% of high school class, **and**
2. no high school math or science competency deficiencies

Transfer admission requirements:

Transfer students with fewer than 24 transferable college credit hours:

1. minimum transfer GPA of 3.00 for less than 24 transfer hours, **and**
2. no high school math or science competency deficiencies, **and**
3. minimum 1210 SAT combined evidence-based reading and writing plus math score (or 1140 if taken prior to March 5, 2016) or minimum 24 ACT combined score, **or** a minimum high school GPA of 3.00 in ASU competency courses, **or** class ranking in top 25% of high school class

Transfer students with 24 or more transferable college credit hours must meet EITHER the primary or the secondary criteria (not both):

Primary Criteria

1. minimum transfer GPA of 3.00 for 24 or more transfer hours, **and**
2. no high school math or science competency deficiencies (if Admission Services requires submission of a high school transcript)

Secondary Criteria

1. minimum transfer GPA of 2.75 for 24 or more transfer credit hours, **and**
2. minimum GPA of 2.75 in all critical courses: RAS 110 Principles of Programming for Engineers, RAS 205 Design and Analysis of Data Structures and Algorithms, and EGR 101 and 102 Foundations of Engineering Design Project I and II

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.

Change of Major Requirements

[Admission requirements](#) for many majors in the Ira A. Fulton Schools of Engineering are higher than university admission standards.

Students should visit the [Change of Major form](#) for information about how to change a major to this program.

Transfer options

ASU is committed to helping students thrive by offering tools that allow personalization of the transfer path to ASU. Students may use [MyPath2ASU®](#) to outline a list of recommended courses to take prior to transfer.

ASU has [transfer partnerships](#) in Arizona and across the country to create a simplified transfer experience for students. These pathway programs include exclusive benefits, tools and resources, and they help students save time and money in their college journey.

Global opportunities

Global experience

With more than 300 [Global Education program opportunities](#) available to them, robotics and autonomous systems students are able to tailor their experience to their unique interests and skill sets. Whether in a foreign country, in the U.S. or online, students build communication skills, learn to adapt and persevere, and are exposed to research and internships across the world, increasing their professional network.

Career opportunities

Professionals with a degree in robotics and autonomous systems have substantial opportunities at all levels in manufacturing engineering and 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:

- engineer
- manufacturing engineer
- mechanical engineer
- mechatronics engineer
- researcher and scientist

Example job titles and salaries listed below are not necessarily entry level, and students should take into consideration how years of experience and geographical location may affect pay scales. Some jobs also may require advanced degrees, certifications or state-specific licensure.

Career	*Growth	*Median salary
Aerospace Engineer 🌟	6.1%	\$126,880
Automation Engineer	3.3%	\$104,600
Electronics Engineer 🌟	7.2%	\$108,170
Industrial Engineer 🌟	11.7%	\$96,350
Materials Engineer 🌟	5.1%	\$100,140
Mechanical Engineer 🌟	10.0%	\$96,310
Robotics Engineer	3.3%	\$104,600

* Data obtained from the Occupational Information Network (O*NET) under sponsorship of the U.S. Department of Labor/Employment and Training Administration (USDOL/ETA).

Professional licensure

ASU programs that may lead to professional licensure or certification are intended to prepare students for potential licensure or certification in Arizona. Completion of an ASU program may not meet educational requirements for licensure or certification in another state. For more information, students should visit the [ASU professional licensure](#) webpage.

Students should note that not all programs within the Ira A. Fulton Schools of Engineering lead to professional licensure.

Contact information

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