

Engineering, BSE

TSEGRBSE

Engineers are creative problem-solvers who help shape the future. Few professions unleash the spirit of innovation like engineering.

Program description

The BSE program in engineering prepares graduates to collaborate across disciplines in order to design and build solutions to real-world problems.


In the Bachelor of Science in Engineering program, students apply engineering fundamental knowledge and design thinking to real projects every semester. They choose a disciplinary concentration that enables them to develop in-depth knowledge in a specific area, and they choose a secondary focus area. This flexibility allows students to tailor their degree in a way that will help them to achieve their individual career and life goals. The program enables students to develop sophisticated technical skills in tandem with the professional skills of communication, teamwork, collaboration, self-motivation and adaptability, and the program's emphasis on open-ended design and project-based learning supports the development of entrepreneurial skills and attitudes.

Students can choose from the following concentrations: automotive systems, electrical systems, mechanical engineering systems and robotics.

Accredited by the Engineering Accreditation Commission of ABET; <https://www.abet.org>, under the General Criteria and the Engineering, General Engineering, Engineering Physics, and Engineering Science Program Criteria.

This major is eligible for the Western Undergraduate Exchange program at the following location: Polytechnic campus. Students from Western states who select this major and campus may be eligible for reduced nonresident tuition at a rate of 150% of Arizona resident tuition plus all applicable fees. Students should click the link for more information and eligibility requirements of [the WUE program](#).

At a glance

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

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

A current ASU student must have a minimum cumulative ASU GPA of 2.00 (scale is 4.00 = "A").

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.

Program learning outcomes

Program learning outcomes identify what a student will learn or be able to do upon completion of their program. This program has the following program outcomes:

- Design engineering systems including components, and processes to meet needs within realistic constraints including social, political, economic, ethical, health and safety, manufacturing and/or sustainability.
- Communicate engineering findings to colleagues, clients, other stakeholders and the public in written, oral and graphical form.
- Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. (ABET)

Global opportunities

Global experience

Study abroad enables students to gain valuable, resume-building experience. Participation in a [Global Education program](#) provides students with the heightened cultural competency, and leadership and critical thinking skills that will help them stand out in a competitive industry.

Whether in a foreign country, in the U.S. or online, students build communication skills, are challenged to adapt and persevere, are exposed to research and internships across the world, and increase their professional network.

Career opportunities

Engineers on transdisciplinary teams collaborate to design, manufacture and deliver innovative technological products and services.

Graduates are prepared to work in large corporations, government agencies and small businesses, and to go on to graduate school to pursue advanced degrees. Some graduates start companies of their own.

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

<u>Automation Engineer</u>	3.3%	\$104,600
<u>Automotive Engineer</u> ☀	10.0%	\$96,310
<u>Electrical Engineer</u>	4.2%	\$103,320
<u>Energy Engineer</u>	3.3%	\$104,600
<u>Fuel Cell Engineer</u> ☀	10.0%	\$96,310
<u>Mechanical Engineer</u> ☀	10.0%	\$96,310
<u>Microsystem Engineer</u>	3.3%	\$104,600
<u>Robotics Engineer</u>	3.3%	\$104,600
<u>Solar Energy Systems Engineer</u>	3.3%	\$104,600
<u>Wind Energy Engineer</u>	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).

☀ Bright Outlook

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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