

# Engineering (Automotive Systems), BSE

TSEGRASBSE

Engineers are creative problem-solvers who help shape the future. No profession unleashes the spirit of innovation like engineering.

## Program description

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


In the program, students apply fundamental engineering knowledge and design thinking to real projects every semester. Students in the automotive systems concentration first build a broad engineering foundation, on which they add the skills and knowledge necessary for vehicle design and testing. The curriculum focuses on automotive engineering fundamentals, including powertrain engineering and chassis system design, as well as hands-on projects that involve designing, analyzing and building actual automotive systems.

Graduates of this concentration of the Bachelor of Science in Engineering are able to provide leadership in automotive engineering settings, especially in automotive testing and hybrid propulsion systems, which are intrinsically transdisciplinary.

Accredited by the Engineering Accreditation Commission of ABET, <http://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.

## 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 plus master's degree** with:

[Clean Energy Systems, MS](#)

[Engineering, MS](#)

[Global Management, MGM](#)

[Manufacturing Engineering, MS](#)

[Robotics and Autonomous Systems \(Systems Engineering\), MS](#)

[Secondary Education \(Teacher Certification\), MEd](#)

[Technology \(Management of Technology\), MSTech](#)

Acceptance to the graduate program requires a separate application. Students typically receive approval to pursue the accelerated master's during the junior year of their bachelor's degree program. Interested students can learn about eligibility requirements and [how to apply](#).

## 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.

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

Students learn to thrive in a global environment through the rich educational and interpersonal experiences inherent in study abroad. A resume enhanced by the valuable study abroad experience will impress prospective employers and will help students stand out when they pursue advanced study.

With over 300 [Global Education program opportunities](#) available to them, 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

Engineers collaborate on transdisciplinary teams to design, manufacture and deliver innovative technological products and services. The program enables students to develop sophisticated technical skills in tandem with the professional skills of communication, teamwork, collaboration, self-motivation and adaptability that many employers seek.

Graduates of the automotive concentration are prepared for employment in companies related to the automotive industry, from large original equipment manufacturing companies and their testing grounds, to smaller specialty or aftermarket companies. The program's emphasis on open-ended design and project-based learning supports the development of entrepreneurial skills and attitudes, and some students start companies of their own.

Because of the transdisciplinary nature of the Bachelor of Science in Engineering, graduates also have opportunities to perform functions traditionally associated with mechanical, manufacturing, automation and development engineers.

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
<a href="#"><u>Automotive Engineer</u></a> 	10.0%	\$96,310
<a href="#"><u>Mechanical Engineer</u></a> 	10.0%	\$96,310
<a href="#"><u>Validation Engineer</u></a> 	11.7%	\$96,350

\* 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

[Engineering Programs](#) | SUTON 240  
[polyadvising@asu.edu](mailto:polyadvising@asu.edu) | 480-727-1874