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

**Program Description**

The ABET-accredited BSE engineering program prepares graduates to collaborate across disciplines to design and build solutions to real-world problems. In the BSE program, students apply fundamental engineering knowledge and design thinking to real projects every semester.

Students in the mechanical engineering systems concentration of the Bachelor of Science in Engineering program first build a broad engineering foundation to which they add skills and knowledge necessary to contribute mechanical subject matter expertise in transdisciplinary engineering teams. This expertise includes theory and application of materials, machine design, thermal fluid systems, and energy and power from a systems perspective. The mechanical systems curriculum also provides significant hands-on experience designing and implementing mechanical systems to meet the needs of users.


This major is eligible for the Western Undergraduate Exchange (WUE) 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 percent of Arizona resident tuition plus all applicable fees. See more information and eligibility requirements on the [Western Undergraduate Exchange (WUE) program](http://www.abet.org).

**At a Glance**

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Polytechnic campus [WUE](http://www.abet.org)

- **Additional Program Fee:** Yes
• Second Language Requirement: No
• First Required Math Course: MAT 265 - Calculus for Engineers I.
• Math Intensity: Substantial

Required Courses (Major Map)

2019 - 2020 Major Map
Major Map (Archives)

Accelerated Degrees

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:

Engineering, MS
Manufacturing Engineering, MS
Secondary Education (Teacher Certification), MEd
Technology (Management of Technology), MSTech

Acceptance to the graduate program requires a separate application. During their junior year, eligible students will be advised by their academic departments to apply.

Admission Requirements

General University Admission Requirements:

All students are required to meet general university admission requirements.
Freshman | Transfer | International | Readmission

Change of Major Requirements

A current ASU student has no additional requirements for changing majors. Students should refer to https://students.asu.edu/changingmajors for information about how to change a major to this program.

Transfer Options
ASU is committed to helping you thrive by offering tools that allow you to personalize your transfer path to ASU. Students may use the Transfer Map search 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 help students save time and money in their college journey. Learn more about these programs by visiting the Admissions site.

Global Opportunities

PLuS Alliance
Global Experience

With over 250 programs in more than 65 countries ranging from one week to one year, study abroad is possible for all ASU students wishing to gain global skills and knowledge in preparation for a 21st-century career. Students earn ASU credit for completed courses, while staying on track for graduation, and may apply financial aid and scholarships toward program costs. https://mystudyabroad.asu.edu/

Global Degree

Career Opportunities

Engineers collaborate on transdisciplinary teams to design, manufacture and deliver innovative technological products and services. The BSE program enables students to develop sophisticated technical skills in tandem with the professional skills of communication, teamwork and collaboration, and self-motivation and adaptability that many employers seek. Graduates are prepared to work in large corporations, government agencies, small businesses, as well as to go on to graduate school to pursue advanced degrees. 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.

Engineers with mechanical expertise are in high demand in many different industry sectors, including transportation, agriculture, a wide variety of process industries, product development, manufacturing, and energy and defense systems. Mechanical engineers also work in close collaboration with other engineering disciplines in a wide variety of fields, including biomedical, building and construction, transportation, and aerospace. Graduates from this program have a broad base of technical knowledge and operational skills that make them invaluable members of multidisciplinary engineering teams, well-suited for employment across the whole spectrum of applications.
Career examples include but are not limited to those shown in the following list. Advanced degrees or certifications may be required for academic or clinical positions.

<table>
<thead>
<tr>
<th>Career</th>
<th>*Growth</th>
<th>*Median Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automation Engineer</td>
<td>6.4%</td>
<td>$97,250</td>
</tr>
<tr>
<td>Automotive Engineer</td>
<td>8.8%</td>
<td>$85,880</td>
</tr>
<tr>
<td>Energy Engineer</td>
<td>6.4%</td>
<td>$97,250</td>
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<tr>
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<tr>
<td>Robotics Engineer</td>
<td>6.4%</td>
<td>$97,250</td>
</tr>
<tr>
<td>Validation Engineer</td>
<td>6.4%</td>
<td>$97,250</td>
</tr>
<tr>
<td>Wind Energy Engineer</td>
<td>6.4%</td>
<td>$97,250</td>
</tr>
</tbody>
</table>

* 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  🌿 Green Occupation

**Contact Information**

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