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 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.

Accredited by the Engineering Accreditation Commission of ABET; [http://www.abet.org](http://www.abet.org).

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](http://www.abet.org).

**At a Glance**

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

2020 - 2021 Major Map
Major Map (Archives)

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 and master's degree with:

- 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. 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://changingmajors.asu.edu/request 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 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. Students may learn more about these programs by visiting the admission site: https://admission.asu.edu/transfer/pathway-programs.

**Global Opportunities**

**Global Experience**

Students enhance their resumes and gain valuable experience through studying abroad. With over 250 programs available, study abroad allows students to tailor their experience to their unique interests and skillsets. Students focusing on mechanical engineering systems are able to gain hands-on experience in countries ranging from Germany to Colombia. In a competitive field, students stand out with heightened cultural competency, leadership and critical thinking skills achieved from studying abroad. https://mystudyabroad.asu.edu/

**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 the self-motivation and adaptability that many employers seek. Graduates are prepared to work in large corporations, government agencies and 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>
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<tr>
<td>Robotics Engineer</td>
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<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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