Engineering (Electrical Systems), BSE

TSEGRESBSE

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

Program Description

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

Students in the electrical 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 electrical subject matter expertise in transdisciplinary engineering teams. This expertise includes theory and application of sensors, actuators, microcontrollers and microprocessors, as well as the integration of these components into electrical and mechatronic systems. The electrical systems curriculum also provides significant hands-on experience designing and implementing electrical and mechatronic systems to meet the needs of users.

Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

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.

At a Glance

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

- **Additional Program Fee:** Yes
- **Second Language Requirement:** No
- **First Required Math Course:** MAT 265 - Calculus for Engineers I
- **Math Intensity:** Substantial
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
- Solar Energy Engineering and Commercialization, PSM
- 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 Agreements

ASU has partnered with colleges and universities in Arizona, California, Illinois and Washington to provide transfer curriculum pathways. Students should select their current institution to see if there is a partnership
agreement between the institution and ASU for this degree program. Students who do not see their state or institution listed should check back as ASU is always working on creating new partnerships.

**Transfer from a Maricopa Community College in Arizona**

Select a college

- Chandler-Gilbert Community College
- Estrella Mountain Community College
- GateWay Community College
- Glendale Community College
- Mesa Community College
- Paradise Valley Community College
- Phoenix College
- Rio Salado College
- Scottsdale Community College
- South Mountain Community College

**Transfer from an Arizona Community College**

Select a college

- Arizona Western College
- Central Arizona College
- Cochise College
- Coconino Community College
- Dine College
- Eastern Arizona College
- Gila Community College
- Mohave Community College
- Northland Pioneer College
- Pima Community College
- Tohono O’odham Community College
- Yavapai College

**Transfer from another state**

Select a state

- California
- Illinois
- Washington
- Another state

---

**Global Opportunities**

**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/](https://mystudyabroad.asu.edu/)
Career Opportunities

Engineers collaborate on transdisciplinary teams to design, manufacture and deliver innovative technological products and services. The Bachelor of Science in Engineering 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 electrical expertise are in high demand in many industry sectors, especially manufacturing, utilities, and communications and defense systems. Electrical systems also pervade the service sectors such as health care, finance, education and entertainment. Graduates from this program have the broad base of technical knowledge and operational skills that make them invaluable members of multidisciplinary engineering teams, well-suited for employment across a broad spectrum of engineering endeavors.

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>Electrical Engineer</td>
<td>8.6%</td>
<td>$95,060</td>
</tr>
<tr>
<td>Electronics Engineer</td>
<td>3.7%</td>
<td>$102,180</td>
</tr>
<tr>
<td>Energy Engineer</td>
<td>6.4%</td>
<td>$97,250</td>
</tr>
<tr>
<td>Fuel Cell Engineer</td>
<td>8.8%</td>
<td>$85,880</td>
</tr>
<tr>
<td>Microsystem Engineer</td>
<td>6.4%</td>
<td>$97,280</td>
</tr>
<tr>
<td>Robotics Engineer</td>
<td>6.4%</td>
<td>$97,250</td>
</tr>
<tr>
<td>Solar Energy Systems 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

Engineering Programs | WANER 201
polyadvising@asu.edu | 480-727-1874