Electrical Engineering, BSE

Program Description

The electrical engineering undergraduate program prepares students for positions as electrical engineers.

Following initial coursework in mathematics and sciences, the foundation classes build a solid base of engineering knowledge. The electrical engineering curriculum includes a number of required upper-division electrical engineering and technical elective courses in such areas as circuits; communication, signal processing and control systems; computer engineering; electromagnetics; power; and solid-state devices.

Approved technical elective courses provide students with an opportunity either to broaden their background in electrical engineering or to study in greater depth the technical subjects in which they have special interest.


At a Glance

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Tempe campus or online
- **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 (On-campus)]
- [2020 - 2021 Major Map (Online)]
- [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:

- Computer Engineering (Electrical Engineering), MS
- Electrical Engineering, MSE
- Robotics and Autonomous Systems (Electrical Engineering), MS

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

Additional Requirements:

The admission standards for majors in the Ira A. Fulton Schools of Engineering are higher than minimum university standards. International students may have an additional English-language proficiency criterion. Foreign nationals must meet the same admission requirements shown below with the possible additional requirement of a minimum TOEFL score. If the university requires a TOEFL score from the applicant, (see https://admission.asu.edu/international/undergrad-apply) then admission to engineering requires a minimum TOEFL score of 550 (paper-based), 213 (computer-based), 79 on iBT (internet-based) or a minimum IELTS score of 6.5.

Freshman Admission:

1. minimum 1210 SAT combined evidence-based reading and writing plus math score or minimum 24 ACT combined score or 3.00 minimum ABOR GPA or class ranking in top 25% of high school class, and
2. no high school math or science competency deficiencies

Transfer Admission Requirements:

Transfer students with fewer than 24 transferable college credit hours:

1. minimum transfer GPA of 3.00 for less than 24 transfer hours, and
2. no high school math or science competency deficiencies, and
3. minimum 1210 SAT combined evidence-based reading and writing plus math score (or 1140 if taken prior to March 5, 2016) or minimum 24 ACT combined score, or 3.00 minimum ABOR GPA, or class ranking in top 25% of high school class

Transfer students with 24 or more transferable college credit hours must meet EITHER the primary OR the secondary criteria (not both):

Primary Criteria

1. minimum transfer GPA of 3.00 for 24 or more transfer hours, and
2. no high school math or science competency deficiencies (if Admission Services requires submission of a high school transcript)

Secondary Criteria

1. minimum transfer GPA of 2.50 for 24 or more transfer hours, and
2. minimum GPA of 2.75 in all critical courses for Terms 1 and 2 (MAT 265, MAT 266, PHY 121 and PHY 122)

Change of Major Requirements

Admission requirements for many majors in the Ira A. Fulton Schools of Engineering are higher than university admission standards: https://engineering.asu.edu/admission-requirements.

Students should refer to https://changingmajors.asu.edu/request for information about how to change a major to this program.

Attend Online

ASU offers this program in an online format with multiple enrollment sessions throughout the year. Applicants may view the program description and request more information here.

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 in electrical engineering 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

Graduates with the bachelor's degree in electrical engineering find many exciting opportunities in industry. These include:

- communication equipment and network providers
- computer and peripheral device manufacturers and defense organizations
- consulting companies
- electric power utilities
- semiconductor chip designers and manufacturers

Graduates are also prepared for continued learning experiences, either in a formal graduate program or in continuing education 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>Occupation</td>
<td>Growth Rate</td>
<td>Salary</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>Aerospace Engineer</td>
<td>6.1%</td>
<td>$113,030</td>
</tr>
<tr>
<td>Computer Hardware Engineer</td>
<td>5.5%</td>
<td>$115,120</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>Nuclear Engineer</td>
<td>3.8%</td>
<td>$105,810</td>
</tr>
<tr>
<td>Radio Frequency Identification Device Specialist</td>
<td>3.7%</td>
<td>$102,180</td>
</tr>
<tr>
<td>Solar Energy Systems Engineer</td>
<td>6.4%</td>
<td>$97,250</td>
</tr>
<tr>
<td>Telecommunications Engineering Specialist</td>
<td>6.5%</td>
<td>$104,650</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**

**Electrical Engineering Program | GWC 209**

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