Software Engineering, BS

TSSERBS

Program Description

The BS program in software engineering blends engineering, computing, project leadership and software construction. Students learn how to make creative software solutions to today's problems. Software systems are complex, often including millions of lines of code. Graduates of the bachelor's degree program in software engineering possess the knowledge and skills of a defined engineering approach to complex systems analysis, planning, design and construction.

The program has a unique, project-driven curriculum, establishing a new model for software engineering education. The program is built around the concepts of engaged learning, discovery-based education and learn-by-doing. Students complete projects in every semester of the program to provide emphasis in communication, teamwork, critical thinking and professionalism. Students have flexibility in designing their course of study; they select a software engineering application area such as Web and mobile applications or embedded systems as their primary focus, and they may obtain interdisciplinary knowledge through a secondary area of their design.


The accelerated program is only allowed for the software engineering program on the Polytechnic campus.

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

- **Additional Program Fee:** Yes
- **Second Language Requirement:** No
- **First Required Math Course:** MAT 265 - Calculus for Engineers I.
Required Courses (Major Map)

2018 - 2019 Major Map (On-campus)
2018 - 2019 Major Map (Online)
Major Map (Archives)

Accelerated Degrees

This degree is also offered in an accelerated format with:
Software Engineering, MS

Acceptance to the graduate program requires a separate application. During their junior and senior years, 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 http://global.asu.edu/future/undergrad), 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 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 percent of high school class, and
2. Admission may be granted with one deficiency in no more than two competency areas. Deficiencies in both math and laboratory science are not acceptable.

Transfer Admission Requirements
Transfer students with fewer than 24 transferable college credit hours:

1. minimum transfer GPA of 2.75 for less than 24 transfer hours, and
2. satisfy the freshmen admission requirements

Transfer students with more than 24 transferable college credit hours:

1. minimum transfer GPA of 2.75 for 24 or more transfer hours, and
2. If Admission Services requires submission of a high school transcript, admission may be granted with one deficiency in no more than two competency areas. Deficiencies in both math and laboratory science are not acceptable.

Change of Major Requirements

Current ASU students should refer to https://engineering.asu.edu/admission-requirements for the major change requirements for 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 Agreements

ASU has partnered with colleges and universities in Arizona, California, Illinois and Washington to provide transfer curriculum pathways. Select where you are transferring from to see if there is a partnership agreement between your institution and ASU for this degree program. If you do not see your state or institution listed, please check back as we are always working on creating new partnerships.

Transfer from a Maricopa Community College in Arizona

Transfer from an Arizona Community College

Transfer from another state
Career Opportunities

Software engineers solve a broad set of transdisciplinary problems and apply new technologies to improve the quality of life. Graduates design and engineer innovative systems that may include mechanical and electrical components that interact with software. The bachelor's degree program in software engineering is a unique program in which students learn by solving engaging projects, commonly as a member of a development team. The program prepares graduates for advanced study in computing, an allied field, or to enter the computing profession (most commonly as an application software engineer). According to the Bureau of Labor Statistics, software engineers are highly paid, and there is significant growth in the number of employment opportunities. Some software engineering jobs may include:

- creating applications for mobile devices
- creating Web applications
- working on data, network, security or computer systems administration

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>Computer Programmer</td>
<td></td>
<td>$77,550</td>
</tr>
<tr>
<td>Computer Science Professor</td>
<td>8.7%</td>
<td>$72,010</td>
</tr>
<tr>
<td>Computer Software Quality Engineer ✨</td>
<td>3.3%</td>
<td>$83,410</td>
</tr>
<tr>
<td>Information Technology Manager (IT Manager) ✨</td>
<td>15.4%</td>
<td>$127,640</td>
</tr>
<tr>
<td>Software Developer ✨</td>
<td>13.0%</td>
<td>$102,880</td>
</tr>
<tr>
<td>Software Engineer ✨</td>
<td>18.8%</td>
<td>$95,510</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**

Software Engineering | PICH 245
cidse.undergrad@asu.edu | 480-727-3520