



## Arizona State University (Tempe campus)

### Computer Systems Engineering, BSE

#### Study details

**Course type:** Bachelor's degree

**Degree:** Computer Systems Engineering, BSE ESCSEBSE

**Study mode:** Full time

**Duration:** 48 Month

#### Cost of study

**Cost :** 35 430 USD

**Reg. fee :** 85 USD

**Scholarship :**

**Insurance :** 2 765 USD

#### Intake/s

Jan/May/Aug

#### Requirements

##### Academic requirements

First-year students must:

- Have a 3.00 grade point average (GPA) (a "B" or better where "A"=4.00) from a secondary school. Some ASU programs may have higher admission or English proficiency requirements and may consider a minimum ACT or SAT score.
- Must have three years of high school coursework. (If you are currently in high school, ASU needs to see 9–11 grade coursework. If you have completed high school, ASU needs to see 10–12 grade coursework.)
- Must have and present a completed high school diploma or certificate.

##### Conditional admission

ASU may offer conditional undergraduate admission to international applicants to an on-campus program who meet the academic (aptitude) requirements but who are not proficient in English. This offer of conditional admission will give you time to improve your English proficiency before you start classes at ASU. Your conditional admission offer is good for up to three semesters, during which time you must meet one of these requirements to begin your ASU experience.

##### Competency requirements

International students who completed high school outside the U.S. are required to meet the following competency requirements:

- Math: four years (algebra I, geometry, algebra II and one course requiring algebra II as a prerequisite).

- Laboratory science: three years total (one year each from any of the following areas are accepted: biology, chemistry, earth science, integrated sciences and physics).

## **Additional requirements:**

The admission standards for majors in the Ira A. Fulton Schools of Engineering, shown below, are higher than minimum university admission standards. International students must meet the same admission standards, with the possible additional requirement of a minimum English language proficiency test score. If the university requires an English proficiency test score from the applicant, then admission to engineering requires a minimum TOEFL iBT score of 79 (internet-based test, taken in a testing center), a minimum IELTS score of 6.5, a minimum PTE score of 58, a minimum Duolingo English score of 105, or a minimum Cambridge English exam score of 176.

## **First-year admission:**

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

## **Accommodation**

Provided by partner agencies

## **Speciality**

### **STEM-OPT for international students on F-1 visas**

This program may be eligible for an Optional Practical Training extension for up to 24 months. This OPT work authorization period may help international students gain skills and experience in the U.S. Those interested in an OPT extension should review ASU degrees that qualify for the STEM-OPT extension at ASU's International Students and Scholars Center website.

The OPT extension only applies to students on an F-1 visa and does not apply to students completing a degree through ASU Online.

## **Transfer admission requirements:**

### **Transfer students with fewer than 24 transferable college credit hours:**

1. minimum transfer GPA of 3.00 for fewer 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 a minimum high school cumulative GPA of 3.00 in ASU competency courses, 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 ASU Admission Services requires submission of a high school transcript)

## Secondary criteria

1. minimum transfer GPA of 2.75 for 24 or more transfer hours, and
2. minimum GPA of 2.75 in all critical courses: CSE 110 Principles of Programming, CSE 205 Object-oriented Programming and Data Structures, MAT 265 Calculus for Engineers I, and MAT 266 Calculus for Engineers II

## Additional information

### Program description

The BSE program in computer systems engineering focuses on the analysis, design, testing, integration and evaluation of hardware and software systems. The curriculum is grounded in many engineering disciplines, including the applications of science and technology to the design of:

- computer architecture
- cybersecurity
- digital circuits
- distributed and embedded systems
- networking
- operating systems

Students engage in the design of integrated hardware and software solutions for computing, communication and control applications, and they practice many aspects of engineering activities, such as the development of:

- computer networks
- embedded and ubiquitous systems
- high-performance computer systems
- individual digital components

Students become skilled in interfacing different pieces of hardware and software components, and systems with products to create new capabilities and improved quality and performance.

Accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Computer Engineering Program Criteria.

## Concurrent program options

Students pursuing concurrent degrees (also known as a “double major”) earn two distinct degrees and receive two diplomas. Working with their academic advisors, students can create their own concurrent degree combination. Some combinations are not possible due to high levels of overlap in curriculum.

## 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 plus master's degree with:

- Computer Engineering (Computer Systems), MS
- Computer Science (Big Data Systems), MCS
- Computer Science (Big Data Systems), MS
- Computer Science (Biomedical Informatics), MS
- Computer Science (Cybersecurity), MCS
- Computer Science (Cybersecurity), MS
- Computer Science (Media Arts and Sciences), MS
- Computer Science, MCS
- Computer Science, MS
- Data Science, Analytics and Engineering (Computing and Decision Analytics), MS
- Robotics and Autonomous Systems (Artificial Intelligence), MS

Acceptance to the graduate program requires a separate application. Students typically receive approval to pursue the accelerated master's during the junior year of their bachelor's degree program.

## Global opportunities

### Global experience

Students learn to thrive in a global environment through the rich educational and interpersonal experiences inherent in study abroad. A resume enhanced by the valuable study abroad experience will impress prospective employers and help the student stand out should they decide to pursue advanced study.

With over 300 Global Education program opportunities available to them, students are able to tailor their experience to their unique interests and skill sets. Whether in a foreign country, in the U.S. or online, students build communication skills, learn to adapt and persevere, and are exposed to research and internships across the world, increasing their professional network.

## Career opportunities

Computer systems engineers are employed in industry, government, education and consulting firms, where they engage in the design, development and operation of hardware and software systems of computer and networking equipment.

Computer systems engineers often focus on engineering problems or challenges of emerging computer systems, including chips, device controllers, embedded systems and high-performance computing servers. Their jobs usually involve the research, design and development of computer hardware and software for practical applications. Their work can result in innovative, state-of-the-art products that integrate computing and communication capabilities, such as those in:

- avionics and space vehicles
- digital television and photography
- intelligent highways and control systems for vehicles
- mobile devices and smart applications

- new apparatuses for health care and for the sight-impaired or others with physical disabilities
- security and defense systems