Computer Systems Engineering (Cybersecurity), BSE

ESCSEIBSE

Program Description

The BSE program in computer systems engineering with a concentration in cybersecurity provides students with the knowledge and skills needed to build dependable and secure information systems and networks and to ensure the integrity and quality of the information being stored, processed and transmitted.

ASU has been certified as a National Center of Academic Excellence in Information Assurance Education and a National Center of Academic Excellence in Information Assurance - Research by the National Security Agency and the Department of Homeland Security. Information assurance courseware at ASU has been certified by the Information Assurance Courseware Evaluation Program to satisfy the standards for Information Systems Security Professionals (NSTISSI 4011) and Senior Systems Managers (CNSSI 4012).

Domestic students enrolled in the cybersecurity concentration are eligible for federal fellowships such as the Department of Defense Information Assurance Scholarship Program and the Federal Cyber Service Scholarship for Service Program.


At a Glance

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Tempe
- **Additional Program Fee:** Yes
- **Second Language Requirement:** No
• **First Required Math Course:** MAT 265 - Calculus for Engineers I
• **Math Intensity:** Substantial

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**Required Courses (Major Map)**

- [2022 - 2023 Major Map](#)
- [Major Map (Archives)](#)

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**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.

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**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 Science (Art, Media and Engineering), 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, MCS
- Computer Science, MS

Acceptance to the graduate program requires a separate application. During their junior year, eligible students are advised by their academic departments to apply.

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**Admission Requirements**

**General University Admission Requirements:**
All students are required to meet general university admission requirements.

- [First-year](#) | [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 (students should check [https://admission.asu.edu/international/undergrad-student](https://admission.asu.edu/international/undergrad-student)), 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 SAT score of 1210 for Evidence-based Reading and Writing and Math or minimum ACT composite score of 24 or minimum ABOR GPA of 3.00 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 SAT score of 1210 for Evidence-based Reading and Writing and Math (or 1140 if taken prior to March 5, 2016) or minimum ACT composite score of 24 or minimum ABOR GPA of 3.00 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 2.75 for 24 or more transfer hours, and
2. minimum GPA of 2.75 in all critical courses for Terms 1 and 2 (see major map for critical courses)

**Change of Major Requirements**

Admission requirements for many majors in the Ira A. Fulton Schools of Engineering are higher than university admission standards. Students should review the following Engineering website for more information: [https://engineering.asu.edu/admission-requirements/](https://engineering.asu.edu/admission-requirements/).
Students should refer to [https://changemajor.apps.asu.edu](https://changemajor.apps.asu.edu) 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 [MyPath2ASU™](https://mypath2asu.asu.edu) 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 they 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/MyPath2ASU](https://admission.asu.edu/transfer/MyPath2ASU).

**Global Opportunities**

**Global Experience**

Students gain valuable experience when studying abroad, experience which enhances their resumes. With over 250 programs available, study abroad allows students to tailor their experience to their unique interests and skill sets. Students in computer systems engineering are able to gain hands-on experience in programs ranging from a summer in Colombia to a semester in Hong Kong. In a competitive field, students stand out with the heightened cultural competency and the leadership and critical thinking skills they achieved when studying abroad. [https://goglobal.asu.edu](https://goglobal.asu.edu/)

**Career Opportunities**

Graduates with a degree in computer systems engineering with a concentration in cybersecurity find employment in a variety of capacities including computer systems and software development and research on information assurance technologies. Some related jobs may include:

- analyzing computer forensic data
- designing secure information systems and networks
- information security consulting
- information systems security engineering
- network security engineering

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>Job Title</th>
<th>Growth Rate</th>
<th>Average Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Hardware Engineer</td>
<td>1.6%</td>
<td>$119,560</td>
</tr>
<tr>
<td>Computer Network Administrator</td>
<td>4.3%</td>
<td>$84,810</td>
</tr>
<tr>
<td>Computer Network Analyst</td>
<td>5.0%</td>
<td>$116,780</td>
</tr>
<tr>
<td>Computer Scientist</td>
<td>15.4%</td>
<td>$126,830</td>
</tr>
<tr>
<td>Computer Software Quality Engineer</td>
<td></td>
<td>not available</td>
</tr>
<tr>
<td>Computer Systems Architect</td>
<td>5.7%</td>
<td>$92,870</td>
</tr>
<tr>
<td>Database Administrator (DBA)</td>
<td></td>
<td>not available</td>
</tr>
<tr>
<td>Engineering Manager</td>
<td>2.6%</td>
<td>$149,530</td>
</tr>
<tr>
<td>Information Security Analyst</td>
<td>31.2%</td>
<td>$103,590</td>
</tr>
<tr>
<td>Software Developer</td>
<td></td>
<td>not available</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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