Computer Science (Cybersecurity), MCS

ESCSEIMCS

This program's name has changed effective Fall 2018. The previous name was Computer Science (Information Assurance).

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.

Program Description

Degree Awarded: MCS Computer Science (Cybersecurity)

The MCS program with a concentration in cybersecurity is designed for graduate students who want to pursue a thorough education in the area of cybersecurity, also known as information assurance. The goal of this concentration is to provide students the knowledge and skills in science and engineering for cybersecurity, including computer and network security, software security, data and information security, applied cryptography and computer forensics.

The concentration in cybersecurity is an advanced degree targeted at students with an undergraduate education in computing and related disciplines and at students employed in industry who can best profit from further breadth and background in computer science and information assurance. Students will have a competitive advantage to secure employment.

According to the National Security Agency, information assurance is defined as the set of measures intended to protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality and nonrepudiation. This includes providing restoration of information systems by incorporating protection, detection and reaction capabilities.

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). For more information on information assurance courseware at ASU, students should see http://ia.asu.edu/education.php.
At a Glance

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Tempe campus

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:

- Computer Science, BS
- Computer Science (Cybersecurity), BS
- Computer Science (Software Engineering), BS
- Computer Systems Engineering, BSE
- Computer Systems Engineering (Cybersecurity), BSE

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

Degree Requirements

30 credit hours and a portfolio

**Required Core Areas (9 credit hours)**
- applications (3)
- foundations (3)
- systems (3)

**Concentration (15 credit hours)**
- CSE 539 Applied Cryptography (3)
- CSE 543 Information Assurance and Security (3)
- CSE 545 Software Security (3)
- CSE 548 Advanced Computer Network Security (3)

Choose one:
- CSE 466 Computer Systems Security (3)
CSE 467 Data and Information Security (3)
CSE 469 Computer and Network Forensics (3)
CSE 531 Distributed and Multiprocessor Operating Systems (3)
CSE 534 Advanced Computer Networks (3)
CSE 565 Software Verification, Validation and Testing (3)

Electives or Research (6 credit hours)

Culminating Experience (0 credit hours)
portfolio (0)

Additional Curriculum Information
Students should see the academic unit for the list of courses approved for each core area in applications, foundations and systems.

Coursework selected as part of the area core may not be used as elective coursework on the same plan of study. Students should check with their academic advisor to ensure that the total credit hours of their plan of study are equal to 30.

The interactive plan of study must contain a minimum of 30 credit hours of approved graduate-level work. At least 24 of these hours must be CSE 5XX credits at ASU. A maximum of four CSE 598 courses may be allowed as elective coursework, which cannot include courses taken at the undergraduate level. All 30 credit hours must be from formal coursework (including CSE 591). CSE 590 will not be allowed as part of the MCS program.

All MCS program students must complete a project portfolio from three courses in which the student received a "B" (3.00) grade or higher.

Admission Requirements

Applicants must fulfill the requirements of both the Graduate College and the Ira A. Fulton Schools of Engineering.

Applicants are eligible to apply to the program if they have earned a bachelor's or master's degree, in computer science, computer engineering or a closely related area, from a regionally accredited institution.

Applicants must have a minimum of a 3.25 cumulative GPA (scale is 4.00 = "A") in the last 60 hours of a student's first bachelor's degree program, or applicants must have a minimum of a 3.25 cumulative GPA (scale is 4.00 = "A") in an applicable master's degree program.

All applicants must submit:
1. graduate admission application and application fee  
2. official transcripts  
3. a statement of purpose  
4. three letters of recommendation  
5. proof of English proficiency

**Additional Admission Information**  
An applicant whose native language is not English (regardless of their current residency) must provide proof of English proficiency [https://students.asu.edu/graduate/proficiency](https://students.asu.edu/graduate/proficiency).

Students assigned any deficiency coursework upon admission must complete those classes with a grade of "B" (3.00) or higher within two semesters of admission to the program. Deficiency courses include:

- CSE 230 Computer Organization and Assembly Language Programming (3)  
- CSE 310 Data Structures and Algorithms (3)  
- CSE 330 Operating Systems (3)  
- CSE 340 Principles of Programming Languages (3)  
- CSE 355 Introduction to Theoretical Computer Science (3)  
- CSE 360 Introduction to Software Engineering (3)

The applicant's undergraduate GPA and depth of preparation in computer science and engineering are the primary factors affecting admission.

Applicants should see the program website for application deadlines.

**Contact Information**

Computer Science and Engineering Program | CTRPT 105  
cidse.advising@asu.edu | 480-965-3199  
Admission Deadlines