Computer Science (Cybersecurity), MCS

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 and 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 designed for students with an undergraduate education in computing and related disciplines and students employed in industry who can best profit from further breadth and background in computer science and information assurance. Graduates 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 the scholarship programs, students should see https://globalsecurity.asu.edu/center-cybersecurity-and-digital-forensics/scholarship.

At a Glance
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 Master of Computer Science students must complete a project portfolio from three courses in which the student received a "B" grade (3.00) 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 cumulative GPA of 3.0 (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program, or applicants must have a minimum cumulative GPA of 3.0 (scale is 4.00 = "A") in an applicable master's degree program.

Applicants must submit:

1. graduate admission application and application fee
2. official transcripts
3. GRE scores (optional, but strongly recommended)
4. statement of purpose OR curriculum vitae
5. letters of recommendation (optional, but strongly recommended)
6. proof of English proficiency

Additional Application Information
An applicant whose native language is not English (regardless of their current residency) must provide proof of English proficiency.

Students assigned any deficiency coursework upon admission must complete those classes with a grade of "B" (scale is 4.00="A") 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), or CSE 355 Introduction to Theoretical Computer Science (3)

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

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.

Application Deadlines

Fall
Spring

Global Opportunities

PLuS Alliance
Global Experience
Global Degree

Career Opportunities

Contact Information