Computer Science (Cybersecurity), MS

ESCSEIAMS

Program Description

Degree Awarded: MS Computer Science (Cybersecurity)
The MS program in computer science 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. This program offers a thesis and nonthesis project portfolio option.

This concentration program provides students with the knowledge and skills needed in science and engineering for cybersecurity. This includes computer and network security, software security, data and information security, applied cryptography and computer forensics.

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.

Cybersecurity 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).

At a Glance

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

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

**Degree Requirements**

30 credit hours and a portfolio, or
30 credit hours and a thesis

**Required Core Areas (9 credit hours)**

- applications (3)
- foundations (3)
- systems (3)

**Concentration (9 credit hours)**

CSE 543 Information Assurance and Security (3)
Choose two:
CSE 539 Applied Cryptography (3)
CSE 545 Software Security (3)
CSE 548 Advanced Computer Network Security (3)

**Electives or Research (6 or 12 credit hours)**

**Culminating Experience (0 or 6 credit hours)**

CSE 599 Thesis (6) or
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.

Courses that are used to satisfy the concentration requirement on the plan of study cannot be used to satisfy the core requirement. Additionally, courses selected as part of the core or concentration may not be used as other elective coursework on the same plan of study.

Students complete a thesis or portfolio for the culminating experience. Students completing a portfolio take 12 credit hours of electives and must follow the academic unit's requirements for portfolio projects. Research credit hours may be included on the plan of study if the student is completing a thesis. Students should see the academic unit for more information.
Students complete a minimum of 30 credit hours for the program. At least 24 of these credit hours must be 500-level CSE courses at ASU. Up to six credit hours of 400-level courses may be applied to the plan of study.

Students must complete 15 credit hours of approved information assurance coursework. Students should see the School of Computing and Augmented Intelligence website for more information.

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 for 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 3.25 (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 3.25 (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. scores for the GRE
4. a statement of purpose
5. proof of English proficiency

Additional Application Information

An applicant whose native language is not English must provide proof of English proficiency regardless of current residency: [https://admission.asu.edu/international/graduate/english-proficiency](https://admission.asu.edu/international/graduate/english-proficiency).

GRE scores are not required if the student has graduated with an undergraduate degree in computer science or computer systems engineering at ASU.

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
CSE 310 Data Structures and Algorithms
CSE 330 Operating Systems
CSE 340 Principles of Programming Languages or CSE 355 Introduction to Theoretical Computer Science
The applicant's undergraduate GPA and depth of preparation in computer science and engineering are the primary factors affecting admission.

**Application Deadlines**

Fall

Spring

**Career Opportunities**

Graduates who complete the Master of Science program in computer science are able to analyze and apply key theories, algorithms and software modules used in the field of computer science. They are also able to evaluate and advance existing theories, algorithms and software modules in the field of computer science. Graduates have a competitive advantage to secure employment.

Career examples include:

- computer network architect
- computer system analyst
- computer systems engineer
- data scientist or engineer
- machine learning, AI or computer vision engineer
- software developer
- software engineer

**Contact Information**

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SCAI.Grad.Admission@asu.edu | 480-965-3199