

Computer Science (Cybersecurity), MS

ESCSEIAMS

Are you seeking to expand your knowledge of the computer science field? If you have an undergraduate degree in computing or a related area, this may be the program for you.

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.

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. For more information, students can visit the [Cybersecurity and Trusted Foundations](#) website.

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 plus 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](#)

[Software Engineering, BS](#)

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. Interested students can learn about eligibility requirements and [how to apply](#).

Degree requirements

30 credit hours and a portfolio, or

30 credit hours and a thesis, or

30 credit hours and the required applied project course (CSE 593)

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 9 or 12 credit hours)

Culminating Experience (0 or 3 or 6 credit hours)

CSE 593 Applied Project or

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, applied project or portfolio for the culminating experience. Regardless of the culminating experience chosen, all students in the program must complete six credit hours from the restricted electives list. Students completing a portfolio take 12 credit hours of electives and must follow the academic unit's requirements for portfolio projects. Students in the applied project experience must also take nine credit hours of electives. 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.

MS program students who select the project portfolio as their culminating experience event must complete a project portfolio from two courses in which the student received a "B" grade (3.0 on a 4.0 scale) or higher. Students who select the applied project as their culminating event must complete their project at the direction of an approved computer science faculty member and complete the project course with a "B" grade (3.0 on a 4.0 scale) or higher.

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.

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. GRE scores
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 their current residency.

GRE scores are not required if the student has earned an undergraduate degree in computer science or computer systems engineering from ASU. ASU does not accept the GRE® General Test at home edition.

Students assigned any deficiency coursework upon admission must complete those classes with a grade of "C" (scale is 4.00 = "A") or higher within two semesters of admission to the program. Deficiency courses commonly taken 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.

Tuition information

When it comes to paying for higher education, everyone's situation is different. Students can learn about [ASU tuition and financial aid](#) options to find out which will work best for them.

Application deadlines

Fall

Spring [expand](#)

[expand](#)

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 in securing employment.

Career examples include:

- computer network architect
- computer systems analyst
- computer systems security engineer

- data scientist or engineer
- machine learning, AI or computer vision engineer
- software developer
- software engineer

Contact information

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