

# Computer Science (Media Arts and Sciences), MS

ESAMECSMS

This program's name has changed effective Fall 2024. The previous name was Computer Science (Art, Media and Engineering).

Are you both an artist and an engineer at heart? You can develop these aspects simultaneously and become an imaginative, knowledgeable, skilled and responsible creative expert in media development ready to apply yourself in any of a variety of fields and professions.

## Program description

### **Degree awarded: MS Computer Science (Arts, Media and Engineering)**

The MS program in computer science with a concentration in media arts and sciences emphasizes research on the integration of the human physical experience with computation and digital media.

Media arts and sciences researchers produce experiential media systems and models that assist the disadvantaged, empower creativity, enhance scientific discovery, evolve human ability, facilitate learning and improve quality of life. Within these application areas, researchers explore experiential construction, interaction and feedback, knowledge creation, sensing, perception and modeling.

The purpose of the media arts and sciences concentration under the master's degree in computer science is to train hybrid engineering-arts graduates who get their inspiration from the arts and their methodology from computer science and engineering. Students specialize in transdisciplinary media development. More information about the media arts and sciences concentration can be found on the [School of Arts, Media and Engineering](#) website.

## 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 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)**

AME 511 Advanced Interactive Sound (3)

AME 515 Machine Vision and Pattern Recognition (3)

AME 520 Movement and Computing (3)

AME 532 Creating Interactive Media (3)

AME 535 Mobile Development (3)

AME 570 Programming for Social and Interactive Media (3)

### **Electives or Research (6 or 9 credit hours)**

### **Culminating Experience (3 or 6 credit hours)**

AME 599 Thesis (2) and

CSE 599 Thesis (4) or

CSE 593 Applied Project (3)

## **Additional Curriculum Information**

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

Students complete nine credit hours of media arts and sciences concentration courses selected in consultation with the student's graduate advisor. 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 an applied project for their culminating experience. Students completing the thesis must earn six credit hours of electives, and students completing the applied project must earn nine credit hours of electives. Students who select the applied project must complete their project at the direction of an approved computer science faculty member and complete the project course with a "B" (3.00 on a 4.00 scale) or higher.

Students complete a minimum of 30 credit hours for the program. At least 19 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 to the program if they have earned a bachelor's or master's degree in computer science, computer engineering or a closely related field 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 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. statement of purpose
5. curriculum vitae
6. 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.

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

The statement of purpose must address the transdisciplinary nature of the media arts and sciences program. Applicants should explain in a concise and persuasive manner how their educational, professional and personal experiences inform their research and creative interests, writing on any aspect of their background that supports candidacy to the program. For further information on how this statement can be expanded upon by students interested in a research assistantship or an integrative graduate education and research traineeship within media arts and sciences, students should visit the [School of Arts, Media and Engineering](#) website. Students should submit a curriculum vitae with the statement of purpose.

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 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

This program can provide graduates with career opportunities in the following areas:

- artificial intelligence, machine learning and statistical modeling

- big data and data mining
- computational biology
- computer design and architecture, including non-volatile memory computing
- computer system security, cybersecurity and cryptography
- cyber-physical systems and IoT
- distributed computing and consensus protocols
- networking and computer systems
- novel computing paradigms (e.g., biocomputing, quantum computation)
- social computing
- theory and algorithms
- visualization and graphics

## Contact information

[Computer Science and Engineering Program](#) | CTRPT 105

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