Engineering Science (Software Engineering), MSE

Program Description

Degree Awarded: MSE Engineering Science (Software Engineering)

The MSE in engineering science with a software engineering concentration offers specialized courses founded on the fundamentals and principles of software engineering. The program provides the knowledge and skills needed to work as a software engineer or software task leader on large and small projects using either agile methodologies or formal capability maturity model integration approaches. The program addresses major software development methodologies, techniques, tools and processes for developing and managing software projects. The curriculum is based on the Software Engineering Body of Knowledge under the leadership of the IEEE Computer Society. Each course places an emphasis on applied assignments and projects that are relative to the student's workplace.

At a Glance

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

Degree Requirements

30 credit hours and a portfolio, or
30 credit hours including the required applied project course (CSE 593)

**Required Core (6 credit hours)**
CSE 565 Software Verification, Validation and Testing (3)
CSE 566 Software Project, Process and Quality Management (3)
Concentration (3 credit hours)
CSE 591 Topic: Software Engineering Principles and Concepts (3)

Restricted Electives (18-21 credit hours)

Culminating Experience (0-3 credit hours)
CSE 593 Applied Project (3)
Portfolio (0)

Additional Curriculum Information
For an approved list of restricted electives, students should see the academic unit.

Students select five or six elective courses: five for the applied project option or six for the portfolio option.

Two faculty member-approved 400-level courses may also be selected as electives for the restricted electives.

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 engineering, software engineering or a related field from a regionally accredited institution.

Applicants must have a minimum GPA of 3.00 (scale is 4.00 = "A") in the last 60 credit hours of their first bachelor's degree program, or applicants must have a minimum of a 3.00 cumulative GPA (scale is 4.00 = "A") in the last 12 units of the postbaccalaureate transcript.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts
3. proof of English proficiency

Additional Application Information

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

Applicants must provide evidence of demonstrated expertise in the area of object-oriented programming, advanced data structures, algorithm design and algorithm analysis; maturity in high-level programming (required); and successful completion of Calculus I (a minimum requirement).
GRE scores are not required.

Graduates of non-U.S. institutions must satisfy admission requirements established by the ASU Graduate College.

**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.

**Global Opportunities**

PLuS Alliance  
Global Experience  
Global Degree

**Career Opportunities**

**Contact Information**

Dean, Ira A. Fulton Schools of Engineering | CAVC 375  
student-fseonline@asu.edu | 480-965-0637