Computing Studies, MCST

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Program Description

Degree Awarded: MCSt Computing Studies

The computing faculty of engineering programs offers the MCSt graduate program. The computing studies program is designed for students with the equivalent of a bachelor's degree in computing and requires 33 credit hours of graduate instruction, including a two-semester culminating experience. The program prepares students with the technical and professional knowledge necessary for career advancement and positions of leadership in computing.

As a discipline, computing is evolving rapidly; the body of knowledge in computer science and software engineering is constantly changing, and the impact computing has on society is growing at an astonishing pace. The program uses project-based, laboratory-rich curriculum to prepare graduates for careers that contribute to computing's disciplinary context.

Master of Computing Studies students learn essential skills and obtain experience necessary for success after graduation, including:

- a strong technical foundation
- familiarity with the tools, languages and methods of the profession
- understanding of the concepts and practices underlying software design and construction
- practiced communication and teaming skills
- significant background in at least one computing application area
- practiced communication and teaming skills

Graduates of the program may pursue advanced research degrees in computing, employment or leadership in computing, or pursue careers in computing application areas. The computing faculty are especially strong in enterprise systems, software engineering, visual analytics, computer gaming, embedded systems and mobile computing. In addition to academic credentials, departmental faculty have extensive industry experience.
At a Glance

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

Degree Requirements

33 credit hours and a thesis, or
33 credit hours including the required applied project course (CST 593), or
33 credit hours including the required capstone course (CST 517 or CST 518)

The plan of study must contain approved graduate-level coursework. The program offers a set of courses that comprise the foundations of advanced study in computing: software development, communications and teaming, computing research methods, data structures, algorithms and computing language concepts. A student's program of study must include the following core courses that provide the graduate computing foundation:

- CST 500 Research Methods (3)
- CST 501 Advanced Data Structures and Algorithm Analysis (3)
- CST 502 Emerging Language and Programming Paradigms (3)
- CST 515 Software Enterprise: Inception and Elaboration (3)
- CST 516 Software Enterprise: Project and Process Management (3)

CST 500, CST 501 and CST 515 should be taken in the first semester or as early in the student's program as possible.

Students are encouraged to identify four graduate CST computing courses (12 credit hours) of specialization coursework that contributes to their individual educational objectives. Of the four, two courses (six credit hours) may be entry-level graduate courses. Entry-level courses are typically offered as CST 598. Program faculty offer graduate-level courses (5xx-level, formal courses excluding 598) that provide specialized treatment in areas representing faculty research interests.

Students also select one of three culminating experiences (six credit hours): thesis, applied project or software capstone.

**Thesis**

Students who select the thesis option develop a project and thesis paper that reflects innovation in a specialization area. The thesis is developed over two successive semesters by registering for three credits of CST 599 Thesis each semester. Before registering for CST 599, the student identifies a faculty committee consisting of a chair in the specialization area and two other members. The committee directs the development of the thesis and gauges its merit at completion.
Applied Project
Students who select the applied project option develop a project and paper that reflects advanced application knowledge in a specialization area. The project is developed over two successive semesters by registering for three credits of CST 593 Project in the first semester and registering for another three credits of CST 593 Project in the second semester. Before registering for the project in the first semester, the student identifies a faculty committee consisting of a chair in the specialization area and two other members. The committee directs the development of the applied project and gauges its merit at completion.

Software Factory (Capstone)
Students who select software capstone formulate an advanced analysis of the software enterprise and participate in a team-based, two-semester software factory experience. Students develop a portfolio demonstrating achievement of learning outcomes. A committee of three faculty members provide mentorship and assess student achievement of outcomes. Students take the software capstone in two successive semesters by registering for CST 517 in one semester and registering for CST 518 in the following semester.

Admission Requirements
Applicants must fulfill the requirements of both the Graduate College and the Ira A. Fulton Schools of Engineering.

Applicants must submit all the items below to complete an application file. Incomplete files will not be reviewed or considered.

1. graduate admission application and application fee
2. official transcript from each college or university attended
3. official GRE general exam scores
4. (optional) statement of purpose
5. (optional) two letters of recommendation
6. proof of English proficiency

Additional Admission Information
An applicant whose native language is not English must provide proof of English proficiency.

International applicants can find complete information on the English proficiency exams and other required documents on the Graduate College website: https://students.asu.edu/graduate/international.

For best consideration, the deadline is Feb. 1 for fall applications and Oct. 1 for spring applications. Late applications may still be considered for the same application term or for the next term of admission, however, the department reserves the right to deny or not review a late application.
Admission to the graduate degree program presupposes an adequate technical preparation in a selected technology at the undergraduate level. It is recommended that applicants have completed a bachelor's in computing. Excellent applicants with a partial computing background may be admitted with undergraduate computing deficiencies.

Undergraduate deficiency courses must be completed within the first year of the graduate program while concurrently enrolled in graduate-level coursework.

**Contact Information**

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