Computer Science (Big Data Systems), MCS

Program Description

Degree Awarded: MCS Computer Science (Big Data Systems)

The big data systems concentration under the MCS degree is designed for graduate students who want to pursue a thorough education in the area of big data systems.

The goal of this concentration is to provide students the knowledge, skills and expertise in designing scalable systems (parallel, distributed and real time) for acquiring, storing, processing and accessing large-scale heterogeneous multisource data and in using analytical tools to mine information from the data.

Graduates will be able to choose and deploy the appropriate data management processing and analysis systems with a suitable structured or unstructured data model that a particular task and domain application needs. This program will provide a competitive advantage to secure employment as there is a growing need for data scientists and engineers who can architect, implement and manage large data systems.

At a Glance

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

Accelerated Degrees

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:

- Computer Science, BS
- Computer Science (Cybersecurity), BS
- Computer Science (Software Engineering), BS
Acceptance to the graduate program requires a separate application. During their junior year, eligible students will be advised by their academic departments to apply.

**Degree Requirements**

30 credit hours and a portfolio

**Required Core Areas (9 credit hours)**
- applications (3)
- foundations (3)
- systems (3)

**Concentration (9 credit hours)**
- CSE 510 Database Management System Implementation (3)
- CSE 512 Distributed Database Systems (3)
- CSE 572 Data Mining (3) or IEE 520 Statistical Learning for Data Mining (3)

**Restricted Electives (6 credit hours)**

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

**Culminating Experience (0 credit hours)**
- portfolio (0)

**Additional Curriculum Information**

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

Coursework selected as part of the area core may not be used as elective coursework on the same plan of study. Students should check with their academic advisor to ensure that the total credit hours of their plan of study are equal to 30.

At least 24 of these hours must be CSE 5XX credits at ASU. A maximum of four CSE 598 courses may be allowed as elective coursework, which cannot include courses taken at the undergraduate level. All 30 credit hours must be from formal coursework (including CSE 591). CSE 590 will not be allowed as part of the MCS program plan of study.

All MCS program students must complete a project portfolio from three courses in which the student received a "B" (3.00) grade or higher.
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 from a regionally accredited institution.

Applicants must have a minimum of a 3.25 cumulative GPA (scale is 4.00 = "A") in the last 60 hours of a student's first bachelor's degree program, or applicants must have a minimum of a 3.25 cumulative GPA (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. three letters of recommendation
4. statement of purpose
5. proof of English proficiency

Additional Admission Information

An applicant whose native language is not English (regardless of current residency) must provide proof of English proficiency. Official TOEFL scores should be submitted from tests that have been taken within the last two years (only required for those who did not graduate with a baccalaureate degree from an accredited U.S. institution). The TOEFL score must be valid on the first day of class for the term the student is applying for. The School of Computing, Informatics and Decision Systems Engineering requires that TOEFL scores must be above 575 (paper) or 90 (iBT), or that the minimum IELTS is an overall band score of 7.0.

All international records must be submitted in the original language accompanied by an official English translation. If the student has attended a U.S. institution, one set of official transcripts from every college and university attended, except ASU, is required.

If the student is assigned any deficiency coursework upon admission, those classes must be completed with a grade of "'B'" (3.00) 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
Contact Information

Computer Science and Engineering Program | CTRPT 105
cidse.advising@asu.edu | 480-965-3199
Admission Deadlines