Computer Science, PhD

Program Description

Degree Awarded: PHD Computer Science

The PhD program in computer science prepares students to undertake fundamental and applied research in computer science to prepare students for careers in academia, government and industry.

Students can conduct cutting-edge research in a wide variety of research areas, including:

- artificial intelligence
- bioinformatics
- cloud and distributed computing
- computer design and architecture
- computer graphics
- computer networks
- computer-aided geometric design
- cyber-physical and embedded systems
- data mining and machine learning
- database management and information retrieval
- database systems
- distributed computing and operating systems
- embedded systems
- health operations and informatics
- imaging, graphics and visualization
- information assurance
- information assurance and security
- intelligent information integration
- multimedia
- network algorithms
- personalized learning and educational games
- simulation modeling and systems
- social computing
- software engineering
- statistical modeling
- theory and algorithms
Degree Requirements

84 credit hours, a written comprehensive exam, an oral comprehensive exam, a prospectus and a dissertation

**Required Core Areas (15 credit hours)**
- architecture and networked systems (3)
- intelligent and interactive systems (3)
- data and information systems (3)
- software and information assurance (3)
- foundations of computation and algorithms (3)

**Other Requirement (6 credit hours)**
- six additional credit hours in one core area (6)

**Electives (33-39 credit hours)**

**Research (12-18 credit hours)**
- CSE 792 Research (12-18)

**Culminating Experience (12 credit hours)**
- CSE 799 Dissertation (12)

**Additional Curriculum Information**
Students should see the academic unit for the list of courses approved for each core area. Courses that are used to satisfy the core area requirement cannot be used to satisfy electives or other requirements.

Students choose computer science electives in consultation with their graduate advisor. Up to 18 hours of CSE 590 and CSE 790 are allowed. Additional restrictions may apply to electives course selection.

When approved by the academic unit and the Graduate College, this program allows 30 credit hours from a previously awarded master’s degree to be used for this degree.

A maximum of six credit hours of 400-level coursework 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 area. Most applicants should have earned a master's degree, but exceptional undergraduate applicants may be admitted directly into the doctoral program.

Applicants must have a minimum of a 3.50 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 3.50 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 from every university attended
3. scores for the GRE
4. three letters of recommendation
5. a statement of purpose
6. curriculum vitae or resume
7. proof of English proficiency

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

If the student has graduated with an undergraduate degree in computer science or computer systems engineering from ASU, GRE scores are not 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 are:
CSE 230 Computer Organization and Assembly Language Programming (3)
CSE 310 Data Structures and Algorithms (3)
CSE 330 Operating Systems (3)
CSE 340 Principles of Programming Languages (3)
CSE 355 Introduction to Theoretical Computer Science (3)
CSE 360 Introduction to Software Engineering (3)
The applicant's undergraduate GPA and depth of preparation in computer science and engineering are the primary factors affecting admission.

Students should see the program website for application deadlines.

**Contact Information**

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