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, preparing them to apply their studies in the world of academia, governmental policy, and industry. The program is available for students of high ability who seek to develop and implement their own research studies.

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

- artificial intelligence
- big data
- cloud and distributed computing
- computer design and architecture
- cybersecurity
- data mining and machine learning
- database management and information retrieval
- social computing
- statistical modeling
- theory and algorithms

At a Glance

- **College/School:** [Ira A. Fulton Schools of Engineering](https://www.asu.edu)
- **Location:** [Tempe campus](https://www.asu.edu)

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)
data and information systems (3)
foundations of computation and algorithms (3)
inelligent and interactive systems (3)
software and information assurance (3)

**Depth (6 credit hours)**
six additional credit hours in one core area (6)

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

**Electives and Additional Research (33 credit hours)**

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

**Additional Curriculum Information**
Courses that are used to satisfy the core area requirement cannot be used to satisfy electives or other requirements. A grade of "B" or better is required for core courses.

Eighteen credit hours of CSE 792 Research is required and up to 24 credit hours is allowed on the plan of study. Students with research credit hours in excess of 18 add these credit hours to their electives and additional research.

Electives include:

- additional CSE 792 Research credit hours (up to six credit hours allowed beyond required 18)
- computer science courses of which up to 18 credit hours of CSE 590 and CSE 790 Reading and Conference is allowed
- up to 15 credit hours of interdisciplinary electives in other academic units that are subject to program chair approval

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 cumulative GPA of 3.50 (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program, or applicants must have a minimum cumulative GPA of 3.50 (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. three letters of recommendation
4. a statement of purpose
5. curriculum vitae or resume
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: [https://admission.asu.edu/international/graduate/english-proficiency](https://admission.asu.edu/international/graduate/english-proficiency)

Submission of GRE scores is optional.

Students assigned any deficiency coursework upon admission must complete those classes with a grade of "B" or higher (scale is 4.00 = "A") 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.

**Application Deadlines**

**Fall**

**Spring**
Career Opportunities

Graduates who receive the doctorate in computer science are able to analyze, understand and apply key theories and algorithms used in the field of computer science. They are also able to generate and evaluate new theories, algorithms and software modules that can advance the field of computer science.

Career examples include:

- computer science professor
- computer science researcher
- data scientist or engineer
- machine learning, AI or computer vision engineer
- machine learning, AI or computer vision scientist

Contact Information

Computer Science and Engineering Program | CTRPT 105
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