Computer Engineering (Computer Systems), PhD

ESCENCPHD

Our transdisciplinary computer engineering program allows you to develop unique skills as you take computer science and electrical engineering courses and participate in projects across the two schools and across our core areas, providing you with combined and high-demand computer science and electrical engineering skills.

Program Description

Degree Awarded: PHD Computer Engineering (Computer Systems)

The PhD in computer engineering is a transdisciplinary program that builds on the fundamentals of computer science, electrical engineering, applied mathematics and physical sciences. Graduates of this program will have the knowledge and skills necessary to fundamentally advance and develop new paradigms for the design, system integration, testing, evaluation and deployment of state-of-the-art hardware and software for systems that include computing, communications and networking (wired and wireless), control functions, sensing, signal processing and actuation.

The program in computer engineering with a concentration in computer systems is intended for students with excellent ability in mathematics and physical science who are interested in gaining an in-depth knowledge of the foundational principles of engineering and pursuing a career in academia, research or highly technical entrepreneurial innovation. This doctoral program provides broader and more in-depth preparation than the MS programs, in anticipation of a demonstrated ability to independently pursue more creative and substantive innovation with higher impact.

At a Glance

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

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

Required Core (6 credit hours)
CSE 551 Foundations of Algorithms (3)
EEE 554 Random Signal Theory (3)

Concentration and Electives (54 credit hours)

Research (12 credit hours)
CEN 792 Research (12)

Culminating Experience (12 credit hours)
CEN 799 Dissertation (12)

Additional Curriculum Information
Concentration and elective courses are selected in consultation with the academic unit. Students must complete at least 18 credit hours of approved graduate courses from science and engineering. Additionally, students must complete at least 24 credit hours of approved computer engineering area courses, 12 credit hours of which must be courses noted with M* or D* from the six computer engineering areas, with no more than six credit hours noted with M*.

A maximum of six credit hours of CEN 790 Reading and Conference may be applied to the plan of study.

This program requires a qualifying exam. Students should see the academic unit for information on timelines and satisfactory progress standards.

For more information, students should visit
https://cidse.engineering.asu.edu/forstudent/prospective-students/computer-engineering/.

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 degree (or equivalent) or a graduate degree from a regionally accredited institution of recognized standing in a related field such as computer engineering, computer science, computer systems engineering or electrical engineering.
Applicants must have a minimum of a 3.00 cumulative GPA (scale is 4.00 = "A") in the last 60 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 an applicable master's degree program.

All applicants must submit:

1. graduate admission application and application fee
2. personal statement
3. three letters of recommendation
4. official transcripts
5. GRE scores
6. 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. The TOEFL is required for an applicant whose native language is not English: [https://admission.asu.edu/international/graduate/english-proficiency](https://admission.asu.edu/international/graduate/english-proficiency).

The personal statement should explain the professional goals and reasons for desiring to enroll in the doctoral program as well as describing any research experiences and indicating personal research interest.

Students (international and domestic) are exempt from taking the GRE if they have degrees from an ABET-accredited program (from U.S. or overseas institutions) and meet the minimum GPA requirements of the academic units. Students who do not meet these requirements as outlined will be required to take the GRE.

Depending on prior academic preparation and accomplishments of an applicant, it is recommended that students consider taking the following courses to ensure adequate background preparation:

- CSE 230 Computer Organization and Assembly Language Programming
- CSE 310 Data Structures and Algorithms
- EEE 203 Signals and Systems I
- EEE 335 Analog and Digital Circuits
- MAT 243 Discrete Mathematical Structures

**Application Deadlines**

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**Contact Information**
Admission Deadlines