

Electrical Engineering, PhD

ESEEPHD

Program description

Degree awarded: PHD Electrical Engineering

The PhD in electrical engineering is awarded upon evidence of excellence in research leading to a scholarly dissertation that is a contribution to knowledge.

Graduate courses and programs are offered in the following six areas of specialization:

- control systems
- electric power and energy systems
- electromagnetics, antennas and microwave circuits
- electronic and mixed-signal circuit design
- physical electronics and photonics
- signal processing and communications

At a glance

- **College/School:** [Ira A. Fulton Schools of Engineering](#)
- **Location:** [Tempe](#)

Degree requirements

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

Doctoral students are required to complete 84 credit hours of academic credit beyond the bachelor's degree. The following summarizes the degree course requirements:

Master's degree (30 credit hours)

from any accredited institution

Electives 500 level or above (18 credit hours)

at least nine credit hours of EEE courses

Research Class or Omnibus Courses (12 credit hours)

can be 400-level and above or

EEE 792 Research (12)

Dissertation (12 credit hours)

EEE 799 Dissertation (12)

Additional Curriculum Information

The 84 credit hours include 30 credit hours from the master's degree, a required 18 credit hours of doctoral coursework, 12 credit hours of research (EEE 792), and 12 credit hours (and only 12 credit hours) of dissertation (EEE 799).

The additional 12 credit hours can be more hours of research (EEE 792) or can be coursework as determined by the supervisory committee. At least nine credit hours of the minimum requirement of 18 credit hours of doctoral coursework must be in electrical engineering. EEE 790 Reading and Conference can be used for no more than three credit hours toward the required 18 but does not count toward the nine hours of 500-level EEE classes required.

All courses counting toward the required 18 credit hour minimum must be at the 500 level or higher. (Note: All courses with the prefix EEE 591 count as 400-level courses.) No more than one three-hour reading and conference course (EEE 790) may be taken as part of the 18 credit hour requirement. The content of any proposed reading and conference course must be reviewed and approved by the electrical engineering graduate program chair before a student registers for the course.

A qualifying examination, a comprehensive exam and the dissertation defense are required. Additional information on the program can be found in the Blue Student Guide published and available on the program's website.

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 any field from a regionally accredited institution.

In general, a student must have a minimum GPA of 3.00 (scale is 4.00 = "A") in all undergraduate coursework and a minimum GPA of 3.50 (scale is 4.00 = "A") in all graduate coursework for admission

to the doctoral program. A student usually must hold a master's degree before being admitted to the doctoral program. Direct doctoral admission is available for students graduating from an ABET-accredited electrical engineering program with a GPA of 3.60 (scale is 4.00 = "A") or higher.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts
3. 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.

International students seeking teaching assistantships must demonstrate proficiency in spoken English by scoring at least 26 on the speaking portion of the internet-based TOEFL or 50 on the ASU-administered Speaking Proficiency English Assessment Kit.

A student whose master's degree is not from a U.S. ABET-accredited institution must score 156 or higher on the quantitative section of the GRE General Test. A good score on the writing portion is considered desirable.

ASU does not accept the GRE® General Test at home edition.

A student whose undergraduate degree is not in electrical engineering may need to take appropriate undergraduate courses to establish a baseline of knowledge in the discipline.

Applicants should see the program website for application deadlines.

Tuition information

When it comes to paying for higher education, everyone's situation is different. Students can learn about [ASU tuition and financial aid](#) options to find out which will work best for them.

Career opportunities

The graduate with a PhD in electrical engineering has an advanced understanding of electrical engineering concepts and theories and the ability to develop and contribute to their specialization through the application of these concepts and theories.

Career examples include:

- computer hardware engineer
- computer and information research scientist
- computer network architect
- director of engineering

- electrical engineer
- electrical engineering researcher
- energy engineer

Contact information

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