Engineering Education Systems and Design, PhD

ESEESDPHD

Program Description

Degree Awarded: PHD Engineering Education Systems and Design
The PhD program in engineering education systems and design prepares all students to conduct engineering education research related to their scholarly interests using a systems and design approach.

Students who enroll in the program have a passion for developing skills as engineering education researchers and commitment to contributing to the engineering education community. Learning is driven by engagement with faculty and peers through coursework, research and programmatic events. Those who complete the program are ready to take on a variety of roles across a range of educational settings (e.g., pre-college and higher education, science centers, government agencies, museums, policy setting institutions and industry).

Students may enter the program with a bachelor's or master's degree in an engineering or a related discipline. Areas of research may include workforce adaptability, culturally responsive education, education policy, accessibility, broadening participation in engineering, engineering classroom practices, studies of marginalized groups, student persistence, graduate education, online education and empathy.

At a Glance

- College/School: Ira A. Fulton Schools of Engineering
- Location: Polytechnic

Degree Requirements

84 credit hours, a written comprehensive exam, an oral comprehensive exam and a dissertation
**Required Core (21 credit hours)**
- EGR 535 Innovation and Design of Engineering Academic Settings (IDEAS) (3)
- EGR 565 Qualitative Methods for Engineering Education Research (3)
- EGR 572 Quantitative Methods for Engineering Education Research (3)
- EGR 574 Engineering Education Systems in Context (3)
- EGR 576 From Then Until Now: Examining Inequities in STEM (3)
- EGR 671 Applications of Qualitative Methods for Engineering Education Research (3)
- EGR 673 Applications of Quantitative Methods for Engineering Education Research (3)

**Electives and Research (48 credit hours)**
- electives (36)
- research (12)

**Other Requirement (3 credit hours)**
- EGR 594 Topic: EESD Seminar (3)

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

**Additional Curriculum Information**
Students may be allowed to apply up to 30 credit hours from a previously awarded master's degree to their doctoral program as approved by the academic unit and the Graduate College. If students do not have a master's degree, the remaining 30 credit hours must consist of at least 18 graduate-level credit hours in a particular engineering discipline and at most nine credit hours in support of the student's dissertation research area.

Students are allowed up to six credit hours of 400-level coursework on the student plan of study with appropriate faculty advisor and program chair approval.

**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 engineering or a closely related field from a regionally accredited institution.

Applicants must have a minimum cumulative GPA of 3.25 (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 3.00 (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. statement of purpose
4. CV or resume
5. writing sample
6. two letters of recommendation
7. 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. Applicants should see the Graduate Admission Services website.

Global Launch at ASU offers an online alternative to standardized testing for international students who are seeking admission to ASU but need proof of English proficiency.

Unofficial transcripts may be submitted at time of application. If admitted, applicants must then submit official transcripts to ASU Graduate Admission Services.

If the applicant does not meet the minimum GPA requirements, the application may still be considered. In certain cases, demonstrated aptitude through professional experience or additional postbaccalaureate education is considered.

Tuition Information
When it comes to paying for college, everyone’s situation is different. Students can learn about ASU tuition and financial aid options to find out which will work best for them.

Application Deadlines

Fall  
Spring  

Program Learning Outcomes
Program learning outcomes identify what a student will learn or be able to do upon completion of their program. This program has the following program outcomes:

- Synthesize the engineering education ecosystem by examining its past and exploring its future.
- Conduct engineering education research using quantitative methods
- Conduct engineering education research using qualitative methods.
- Address the need for social justice, equity, diversity, and inclusion within engineering education

Career Opportunities
Graduates are equipped for competitive positions in top tier research institutions as exemplary scholars and teachers or for work as leaders in engineering education in a variety of settings, including:

- education startups
- government agencies
- industry
- policy-setting institutions
- science centers and museums
- think tanks
- universities

Contact Information

Engineering Programs | SUTON 240
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Admission Deadlines