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 aims to advance understanding of the engineering education ecosystem. The goal of the program is to enable long-lasting improvement of the learning process and infrastructure in engineering education at all levels (i.e., K-12, higher education, engineering professionals, graduate students, etc.) by emphasizing the study of education as a complex ecosystem that takes into account the multiple inputs, outputs and interactions within an educational setting.

A typical student will enter the program with a master's degree in an engineering or a related discipline and will select a research area such as engineering student pathways, increasing participation and retention of underrepresented groups in engineering, making and the maker movement, effective teaching and assessment strategies, the application of learner analytics to relevant data, or entrepreneurship.

Upon completion of the program, students will be equipped to take competitive positions in top-tier research institutions as exemplary scholars and teachers, or as leaders in engineering education in a variety of education settings (e.g., universities, science centers, government agencies, museums, policy setting institutions or industries).

At a Glance

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

Degree Requirements

84 credit hours, a written comprehensive exam, an oral comprehensive exam, and a dissertation
**Required Core (18 credit hours)**
- EGR 535 Engineering Innovation and Entrepreneurship (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 671 Applications of Qualitative Methods for Engineering Education Research (3)
- EGR 673 Applications of Quantitative Methods for Engineering Education Research (3)

**Electives and Research (24 credit hours)**
- Electives (12)
- Research (12)

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

**Additional Curricular Information**
Students may be allowed up to 30 credit hours from a previously awarded master's degree 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 be made 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.

**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 of a 3.75 cumulative GPA (scale is 4.00 = "A") in the last 60 hours of the student's first bachelor's degree program coupled with a record of research or leadership accomplishments, or applicants must have a minimum of 3.25 cumulative GPA (scale is 4.00 = "A") in an applicable master's degree program. Exceptional undergraduates are encouraged to apply after completion of a BS degree.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts
3. two letters of recommendation
4. GRE scores
5. three writing samples (more details are listed in the application)
6. resume or curriculum vitae
7. 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. Students should visit https://students.asu.edu/graduate/proficiency for more information.

Application Deadlines

Fall

Spring

Contact Information

Engineering Programs | WANER 204
polygrad@asu.edu | 480-727-4723
Admission Deadlines