Mechanical Engineering, PhD

ESMEPHD

Program Description

Degree Awarded: PHD Mechanical Engineering
This PhD program in mechanical engineering emphasizes original research and provides students with a strong background for employment by academic institutions, government laboratories and industrial research laboratories with a focus on mechanical engineering.

The program stresses a sound foundation in technical fundamentals, communication and professionalism. To this end, a broad-based curriculum is offered in design, system dynamics and control; fluid mechanics and aerodynamics; mechanics and dynamics of solids and structures; transport phenomena; thermodynamics; and energy. Modern computational and laboratory facilities are available to support timely research investigations.

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

84 credit hours
qualifying exams
written and oral comprehensive exams
prospectus
dissertation
All students pursuing the doctorate are required to pass both a qualifying and a comprehensive examination administered by the program committee.

- credit hours of coursework directly related to the research area (18)
- credit hours of mathematics (9)
- credit hours of graduate elective courses outside the major research area (9)
- MAE 792 Research
- MAE 799 Dissertation credit hours (12)

**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 from an accredited U.S. or international 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 3.25 (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. GRE scores
4. personal statement
5. resume or curriculum vitae
6. three 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 current residency and is required to achieve a minimum score of 80 on the internet-based TOEFL.

Admission to the mechanical engineering doctoral program is highly competitive and preferred applicants have an undergraduate or Master of Science degree in aerospace engineering or mechanical engineering. The admission process considers all aspects of the student's application and admission is not guaranteed. The typical successful applicant has at least a 3.25 cumulative GPA (scale is 4.00 = "A") in engineering and science coursework in a bachelor's or master's degree program and has high GRE and a successful applicant whose native language isn't English would also have a high TOEFL score.

Applicants should see the program website for application deadlines.
Application Deadlines

Career Opportunities

Professionals with a mechanical engineering doctoral degree have strong opportunities at all levels in mechanical engineering in research, design, and manufacturing at companies of all sizes as well as national laboratories (DOE, DOD, NASA). Analytical skills learned in mechanical engineering are also valued for other nonengineering positions.

Career examples include:

- engineer
- engineering manager or director
- engineering professor
- research engineer

Contact Information

Mechanical and Aerospace Engineering Program | ECG 202
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Admission Deadlines