

Manufacturing Engineering, PhD

ESMFGPHD

Program description

Degree awarded: PHD Manufacturing Engineering

The PhD program in manufacturing engineering provides students with the knowledge, skills and abilities to meet the most difficult challenges of modern manufacturing industries on a global scale. The program involves faculty and industry members together with a hands-on approach to education and research, providing students with various career development opportunities (e.g., internships and exchange experiences).

At a glance

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

Degree requirements

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

Required Core (6 credit hours)

EGR 520 Engineering Analysis I (3)

EGR 602 Principles of Independent Research (3)

Other Requirements (9 credit hours)

MFG 691 Seminar (3 semesters of 1 credit) (3)

Students choose two courses related to their research area.

Examples include:

MFG 522 Intermediate Engineering Statistics (3)

MFG 523 Artificial Intelligence for Smart Manufacturing (3)

MFG 574 Polymer Science and Additive Manufacturing (3)

MFG 575 Design for Additive Manufacturing (3)

MFG 581 Simulating Manufacturing Systems (3)

MFG 582 Metal Additive Manufacturing (3)

Research (12 credit hours)

MFG 792 Research (15)

Electives or Research (45 credit hours)

Culminating Experience (12 credit hours)

MFG 799 Dissertation (12)

Additional Curriculum Information

When approved by the academic unit and the Graduate College, this program allows 30 credit hours from a previously awarded master's degree to be used for this program.

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 minimum of a bachelor's or master's degree in manufacturing engineering or a related field from a regionally accredited institution.

Applicants must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program or 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. curriculum vitae or professional resume
5. two letters of recommendation
6. 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.

The statement of purpose requirement is a 300- to 500-word statement describing the applicant's motivation and rationale for obtaining a doctorate in manufacturing engineering at Arizona State University and how it relates to their long-term career goals.

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.

Application deadlines

Fall

Spring

[expand](#)

[expand](#)

Career opportunities

With the doctoral degree, graduates typically seek research-oriented academic appointments or industrial research and development positions.

Professionals with a doctorate in manufacturing engineering have substantial opportunities at all levels in manufacturing engineering in research and development at companies, research institutes and national laboratories (e.g., DOD, DOE, NASA). Relevant careers and related titles include:

- industrial engineer
- manufacturing engineer
- materials engineer
- materials scientist
- mechanical engineer
- mechatronics engineer

Contact information

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[Admission deadlines](#)