Manufacturing Engineering, MS

Program Description

Degree Awarded: MS Manufacturing Engineering
Manufacturing engineering draws upon two distinct bodies of knowledge: manufacturing processes (i.e., how materials are altered in either shape or properties) and the processes of manufacturing (i.e., manufacturing systems and management). This combination of topics is embedded in the MS program in manufacturing engineering, and students can follow their interests by developing deeper expertise in either manufacturing processes or the processes of manufacturing.

The program provides advanced technical content to help students prepare for career transitions and improve company competitiveness. It consists of a core set of courses designed to provide all students with advanced knowledge of manufacturing fundamentals and an introduction to systems engineering. The expertise developed in the core curriculum supports student focus areas building on existing unit faculty strengths, including automation, additive and subtractive manufacturing processes including computer numerical control machining, modeling and simulation, electronics manufacturing and manufacturing management.

Thesis, applied project and portfolio options are offered for the culminating experience.

At a Glance

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

Accelerated Program Options

This program allows students to obtain both a bachelor's and master's degree in as little as five years. It is offered as an accelerated bachelor's and master's degree with:
Acceptance to the graduate program requires a separate application. During their junior year, eligible students are advised by their academic departments to apply.

**Degree Requirements**

30 credit hours and a portfolio, or
30 credit hours and a thesis, or
30 credit hours including the required applied project course (EGR 593)

**Required Core (6 credit hours)**
EGR 520 Engineering Analysis (3)
EGR 522 Statistics for Quality Control in Manufacturing (3)

**Electives (15-21 credit hours)**

**Other Requirement (3 credit hours)**
EGR 598 Topic: Manufacturing Systems Management (3)

**Culminating Experience (0-6 credit hours)**
EGR 593 Applied Project (3) or
EGR 599 Thesis (6) or
portfolio (0)

**Additional Curriculum Information**
Students should see the academic unit for a complete list of approved electives.

EGR 598 Topic: Manufacturing Systems Management may be substituted with approval from the academic unit.

**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 engineering, physical sciences, mathematics or similar from a regionally accredited U.S. institution, or the equivalent of a U.S. bachelor's degree from an international institution that is officially recognized by that institution's country.

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 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. personal statement
4. professional resume
5. GRE general exam scores
6. 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. Applicants should review the Graduate Admission Services website at [https://admission.asu.edu/international/graduate/english-proficiency](https://admission.asu.edu/international/graduate/english-proficiency). 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.

[https://globallaunch.asu.edu/learn-english/online-english/english-for-admission](https://globallaunch.asu.edu/learn-english/online-english/english-for-admission)

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.

A GRE waiver may be requested if the applicant received a bachelor's degree in a related field from the United States with a cumulative GPA of 3.00 or better. Engineering programs must have a bachelor's degree from an ABET-accredited program. Students should email polygrad@asu.edu to request a waiver. Applicants can also submit a GRE waiver request form if they have five years of full-time applicable professional experience:


Students should note an approved waiver does not guarantee admission.

**Application Deadlines**

**Fall**

**Spring**

**Career Opportunities**
Graduates of the Master of Science program in manufacturing engineering find opportunities in both large and small corporations and government agencies as well as within startup enterprises where they play a critical role.

Typical job responsibilities include manufacturing process design, manufacturing process management and quality control and assurance, and graduates with advanced degrees have opportunities to participate in and lead research teams that are developing the next generation of advanced manufacturing technologies.

ASU manufacturing engineering graduates are well placed and command top salaries in their engineering careers, some of which include:

- additive manufacturing
- automation and robotics
- engineering economics
- logistics and supply chain management
- manufacturing operations
- project management
- quality management and reliability

Contact Information

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