

Manufacturing Engineering, MS

TSMEGRMS

Program description

Degree awarded: MS Manufacturing Engineering

Manufacturing engineering draws on 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 course offerings that build on existing unit faculty strengths, including smart automation; industrial robotics; additive and subtractive manufacturing processes; and data-driven modeling and simulation, microelectronics manufacturing and manufacturing management. Focus areas within this master's program include advanced manufacturing processes, factory operations management and smart manufacturing processes.

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](#)

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 plus master's degree](#) with:

[Engineering \(Automotive Systems\), BSE](#)

[Engineering \(Electrical Systems\), BSE](#)

[Engineering \(Mechanical Engineering Systems\), BSE](#)

[Engineering \(Robotics\), BSE](#)

[Manufacturing Engineering, BS](#)

Acceptance to the graduate program requires a separate application. Students typically receive approval to pursue the accelerated master's during the junior year of their bachelor's degree program. Interested students can learn about eligibility requirements and [how 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 (MFG 593)

Required Core (6 credit hours)

EGR 520 Engineering Analysis I (3)

EGR 522 Statistics for Quality Control in Manufacturing (3)

Electives (15-21 credit hours)

Other Requirement (3 credit hours)

MFG 598 Topic: Manufacturing Systems Management (3)

Culminating Experience (0-6 credit hours)

MFG 593 Applied Project (3) or

MFG 599 Thesis (6) or

portfolio (0)

Additional Curriculum Information

Students should see the academic unit for a complete list of approved electives.

MFG 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 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. 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 review 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 and need proof of English proficiency.

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.

Unofficial transcripts may be submitted at time of application. If admitted, applicants must then submit official transcripts to ASU graduate admission services.

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

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

Typical job responsibilities include manufacturing process design, manufacturing process management, and quality control and assurance. 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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