

Industrial Engineering, MS

ESINDENMS

Are you seeking to further your career through a highly ranked graduate program in industrial engineering? Consistently ranked among the top 20 graduate programs in the United States, this program is recognized for its high-impact, agile, interdisciplinary, results-oriented research on the most pressing societal needs.

Program description

Degree awarded: MS Industrial Engineering

The industrial engineering MS program prepares students to provide practical and economically efficient solutions to real-life, complex problems --- solutions that require a system-level approach. Examples of these problems include health delivery, food and energy systems, and those that arise in the strategic planning of manufacturing, logistics operations and service industries. Statistics, optimization, computer simulation and advanced analytics are some of the tools used to address these problems.

The industrial engineering program is immersed in the innovation environment that permeates Arizona State University, and its faculty members are internationally recognized for their innovative research projects funded by both government and industry.

At a glance

- **College/School:** [Ira A. Fulton Schools of Engineering](#)
- **Location:** [Tempe](#) or [Online](#)

Concurrent Program Options

Students can choose to create their own **concurrent degree** combination to match their interests by working with their academic advisor during or after their first semester of study. Some concurrent combinations are not possible due to high levels of overlap in curriculum; students should speak with their academic advisor for more details.

This degree is also offered as a concurrent program with the following:

[W. P. Carey MBA - Online Program](#)

[Compare programs](#)

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 Management, BSE](#)

[Industrial Engineering, BSE](#)

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 thesis, or
30 credit hours including a portfolio

Required Core (12 credit hours)

IEE 505 Information Systems Engineering (3) or IEE 506 Web-enabled Decision Support Systems (3)
IEE 545 Advanced Simulating Stochastic Systems (3) or IEE 561 Production Systems (3)
IEE 572 Design Engineering Experiments (3) or IEE 573 Reliability Engineering (3) or IEE 578 Regression Analysis (3)
IEE 574 Applied Deterministic Operations Research (3) or IEE 575 Applied Stochastic Operations Research Models (3)

Electives (12 or 18 credit hours)

Culminating Experience (0 or 6 credit hours)

IEE 599 Thesis (6) or
portfolio (0)

Additional Curriculum Information

The Master of Science in industrial engineering is a 30 credit hour program with a thesis and a nonthesis track. The thesis track requires 24 credit hours of coursework, six credit hours of thesis, a written thesis and a final oral examination. The nonthesis track requires 30 credit hours of coursework and a portfolio.

The thesis track includes 12 credit hours of electives, and the nonthesis track includes 18 credit hours of electives. Elective coursework includes IEE 500-level coursework and should be selected in consultation with the program advisor.

At the time of admission, students' applications are considered primarily for the nonthesis track. After matriculating at ASU, a student may consult with and receive approval from the industrial engineering faculty to pursue the thesis track.

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 any field from a regionally accredited institution.

Applicants must have a minimum cumulative GPA of 3.20 (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 from all institutions attended
3. a statement of purpose
4. proof of English language proficiency

Additional Application Information

An applicant whose native language is not English must provide proof of [English proficiency](#) regardless of their current residency.

At the time of application, all applicants must have successfully completed a minimum of nine credit hours of calculus (Calculus I, II, III) with a grade of "C" (scale is 4.00 = "A") or higher.

A student with any deficiency coursework must complete each deficiency with a grade of "B" or better (scale is 4.00 = "A") within two semesters of admission to the program. Deficiency courses include:

CSE 110 Principles of Programming

CSE 205 Object-oriented Programming and Data Structures

IEE 376 Operations Research Deterministic Techniques/Applications

IEE 380 Probability and Statistics for Engineering Problem Solving

IEE 470 Stochastic Operations Research

MAT 242 Elementary Linear Algebra

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.

Attend online

ASU Online

ASU offers this program in an online format with multiple enrollment sessions throughout the year. Applicants may [view the program's ASU Online page](#) for program descriptions and to request more information.

Application deadlines

Fall

Spring [expand](#)

[expand](#)

Program learning outcomes

Program learning outcomes identify what a student will learn or be able to do upon completion of their program. This program has the following program outcomes:

- Conduct advanced modeling from the fields of operations research and management information systems through the use of analysis tools at the MS level
- Apply key theories and methods used in the field of industrial engineering to develop solutions.
- Integrate learning to deliver an organized description of an industrial engineering solution.

Career opportunities

Industrial engineers integrate people, processes, equipment, information and systems to do things better. Industrial engineering graduates develop, implement and improve processes, operations and systems in industries for manufacturing, services, communications, agriculture or any other field.

Graduates of the Master of Science program in industrial engineering are well suited for careers in logistics, finance, defense, travel and health care.

Contact information

[Industrial, Systems & Operations Engineering Prgm](#) | CTRPT 105
SCAI.Grad.Admission@asu.edu | 480-965-3199

