Industrial Engineering, MS

ESINDENMS

Program Description

Degree Awarded: MS Industrial Engineering
The industrial engineering MS program prepares students to give 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 as well as those that arise in the strategic planning of manufacturing, logistics operations and service industries. Some of the tools used to address these problems include statistics, optimization, computer simulation and advanced analytics.

The industrial engineering program at Arizona State University is recognized for its high-impact, agile, interdisciplinary, results-oriented research on the most pressing societal needs and it is consistently ranked among the top 20 graduate programs in the United States. The 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 both by government and industry.

At a Glance

- **College/School:** Ira A. Fulton Schools of Engineering
- **Location:** Tempe campus 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 an integrated major map with the following:
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:

- Engineering Management, BSE
- Industrial Engineering, BSE

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 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)

Elective (0-6 credit hours)

Related Area (9-12 credit hours)

Culminating Experience (0-6 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 which has 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.

At the time of admission, students' applications are considered primarily for the nonthesis track. After matriculating at Arizona State University, 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 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 from all institutions attended
3. a statement of purpose
4. three letters of recommendation
5. proof of English language proficiency

Additional Application Information
An applicant whose native language is not English must provide proof of English proficiency regardless of 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

Attend Online

ASU offers this program in an online format with multiple enrollment sessions throughout the year. Applicants may view the program description and request more information here.

Application Deadlines

- Fall
Career Opportunities

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

Contact Information

Industrial, Systems & Operations Engineering Prgm | CTRPT 105
cidse.advising@asu.edu | 480-965-3199