# MANUFACTURING SYSTEMS ENGINEERING, MS

The Master of Science in Manufacturing Systems Engineering (MSE) is a multidisciplinary degree, drawing courses and faculty and instructors from engineering, business, and Interdisciplinary Professional Programs. As the first program of its kind in the United States, and among the first in the world, MSE has long been recognized as a leading provider of resourceful engineers for global and dynamic manufacturing firms. Hands-on projects, along with classes taught by internationally recognized experts and state-of-the-art technology, provide an ideal foundation for anyone entering today's advanced manufacturing environment.

MSE graduates leave the program skilled in both technical and leadership domains. Students are exposed to practical problems and cutting-edge concepts, resulting in engineers who combine management skills with advanced technical abilities. Courses cover a broad range of manufacturing issues, while reinforcing a systems approach. The coursework is a combination of required and elective courses.

The student body of the MSE program is predominantly composed of students working for their degrees while employed. Students have an engaged learning experience, applying what they learn in their work environment.

Specifically, the program addresses solutions to problems in the design, development, implementation, operation, evaluation, and management of modern manufacturing systems.

## ADMISSIONS

# ADMISSIONS

Students apply to the Master of Science in Manufacturing Systems Engineering through the named option:

- Manufacturing Engineering (http://guide.wisc.edu/graduate/engineering-college-wide/manufacturing-systems-engineering-ms/manufacturing-systems-engineering-manufacturing-engineering-ms/)

## FUNDING

# FUNDING

## GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding/) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

## PROGRAM RESOURCES

Funding information for the named option program is available on the corresponding page:

- Manufacturing Engineering (http://guide.wisc.edu/graduate/engineering-college-wide/manufacturing-systems-engineering-ms/manufacturing-systems-engineering-manufacturing-engineering-ms/) (online)

## REQUIREMENTS

# MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirementstext), in addition to the program requirements listed below.

# MAJOR REQUIREMENTS

## CURRICULAR REQUIREMENTS

| Requirement | Detail |
|---|---|
| Minimum Credit Requirement | 30 credits |
| Minimum Residence Credit Requirement | 16 credits |
| Minimum Graduate Coursework Requirement | 15 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: https://policy.wisc.edu/library/UW-1244 (https://policy.wisc.edu/library/UW-1244/).<br><br>The department recommends taking coursework in College of Engineering, the School of Business, the Department of Statistics, the Department of Biological Systems Engineering, and the Department of Computer Sciences. |
| Overall Graduate GPA Requirement | 3.00 GPA required.<br>Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: https://policy.wisc.edu/library/UW-1203 (https://policy.wisc.edu/library/UW-1203/). |
| Other Grade Requirements | See Named Option for policy information. |
| Assessments and Examinations | See Named Option for policy information. |
| Language Requirements | No language requirements. |

## REQUIRED COURSES

Select a Named Option (p. 1) for courses required.

# NAMED OPTIONS

A named option is a formally documented sub-major within an academic major program. The named option appears on the transcript with degree conferral. Students pursuing the Master of Science in Manufacturing Systems Engineering must select the following named option:

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- **MANUFACTURING SYSTEMS ENGINEERING: MANUFACTURING ENGINEERING, MS (HTTP://GUIDE.WISC.EDU/GRADUATE/ENGINEERING-COLLEGE-WIDE/MANUFACTURING-SYSTEMS-ENGINEERING-MS/MANUFACTURING-SYSTEMS-ENGINEERING-MANUFACTURING-ENGINEERING-MS/)**

## POLICIES

# POLICIES

Students should refer to the named option for policy information:

- Manufacturing Engineering (http://guide.wisc.edu/graduate/engineering-college-wide/manufacturing-systems-engineering-ms/manufacturing-systems-engineering-manufacturing-engineering-ms/)

## PROFESSIONAL DEVELOPMENT

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## GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School's professional development resources (https://grad.wisc.edu/pd/) to build skills, thrive academically, and launch your career.

## LEARNING OUTCOMES

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1. Demonstrate a strong understanding of mathematical, scientific, and engineering principles in the field.
2. Demonstrate an ability to formulate, analyze, and solve advanced engineering problems.
3. Apply the latest scientific and technological advancements, advanced techniques, and modern engineering tools to these problems.
4. Recognize and apply principles of ethical and professional conduct.

## PEOPLE

# PEOPLE

## PROFESSORS

- Frank Pfefferkorn (MSE Director; Mechanical Engineering) (https://directory.engr.wisc.edu/me/Faculty/Pfefferkorn_Frank/)
- Kaibo Liu ( (https://directory.engr.wisc.edu/ie/Faculty/Liu_Kaibo/)Industrial and Systems Engineering (https://directory.engr.wisc.edu/ie/Faculty/Li_Jingshan/)) (https://directory.engr.wisc.edu/ie/Faculty/Liu_Kaibo/)
- Jeffrey S. Russell (Vice Provost for Lifelong Learning/ Dean of Continuing Studies) (https://continuingstudies.wisc.edu/staff/russell-jeff-s/)
- Susan Ottmann (Interdisciplinary Professional Programs) (https://directory.engr.wisc.edu/interpro/Faculty/Ottmann_Susan/)
- Peter Lukszys (School of Business) (https://business.wisc.edu/directory/profile/peter-b-lukszys/)
- Tina Xu (Industrial and Systems Engineering) (https://directory.engr.wisc.edu/ie/Faculty/Xu_Jiao/)
- David Ding (Interdisciplinary Professional Programs)