

# BSE Chemical Engineering/MEng in Manufacturing Sequential Undergraduate/Graduate Studies (SUGS) Program

A sequential undergraduate/graduate study (SUGS) program is offered through the Integrative Systems + Design (ISD) Division, Master of Engineering in Manufacturing (M. Eng. in Mfg.) program. **See the “Sequential Undergraduate/Graduate Study (SUGS) Programs for Chemical Engineering Students”** **handout for details on how SUGS programs work.**

In addition, visit the ISD, Manufacturing Engineering SUGS [site](#) for detailed information regarding SUGS Requirements.

## SUGS applications to M. Eng. in Mfg. must:

- Have completed 80 or more credits of course work with a 3.2 GPA or better.
- In the second semester of your junior year, schedule a preliminary meeting with your undergrad advisor and the ISD graduate program coordinator.
- Complete a draft of the [SUGS Election form](#) for the meeting with the graduate coordinator.
- Refer to the [Manufacturing curriculum](#) when completing the form.
- In the first semester of your senior year, apply by January 15 for Fall term admission or September 15 for Winter term admission.
- Have relevant work, research, or internship experience.
- Applied credits must come from courses taken in your junior or senior year.
- Only two 400-level courses can be applied towards the M. Eng. In Mfg. degree.

## Master of Engineering in Manufacturing

### Degree Objectives

To prepare engineers to improve the quality and efficiency of manufacturing systems by giving them advanced skills in their engineering discipline, breadth across engineering disciplines, the ability to lead project teams, and an understanding of the complete product development and manufacturing process including, its management. A requirement for every ISD Master of Engineering (M.Eng.) student, the graduate-level [Capstone Project](#) Course (ISD 503) is an excellent opportunity for students to gain real-world experience while applying what they have learned in their studies.

### Overview

The Master of Engineering (M.Eng.) in Manufacturing is a graduate professional degree that includes selecting from over 80 courses offered through various departments in the College of Engineering and the Stephen M. Ross School of Business (70% engineering and 30% business). It can be earned in one calendar year, including a four-month team project in industry. This program is available on campus and online.

### Summary of M. Eng. in Mfg. Curriculum Distribution

<https://isd.engin.umich.edu/graduate-degree-programs/manufacturing-program/manufacturing-program-curriculum/>

### Manufacturing Engineering Core – 9 credits

Letter Graded (A-E) – Minimum of 9 credit hours from selected concentration – Typically three courses at 3 credits per course.

#### Concentrations Areas:

- Production Systems & Quality Engineering
- Manufacturing Design and Sustainability
- Advanced Materials and Manufacturing Nano/Digital/Additive
- Industry Safety, Health and Ecology

### Engineering Elective – 6 credits

Letter Graded (A-E) – Minimum of 6 credit hours may come from the list of Engineering Electives and/or from Engineering Concentrations – typically 2 courses at 3 credits per course.

### **Business Operations and Management – 9 credits**

Letter Graded (A-E) – Minimum of 9 credit hours (3 courses at 3 credits per course) from the Business Operations and Management course selection. Select courses from three of the following Business Operations and Management categories:

- Accounting and Finance
- Business and Data Analytics
- Entrepreneurship
- Marketing and Strategy
- Systems and Engineering Management

### **Required Courses - 6 Credits**

- MFG 502 Manufacturing Systems Design - 3 credits - Letter Graded (A-E)
- MFG 503 Project - 3 credits - Graded Satisfactory/Unsatisfactory (S/U)

#### ***or for Full-time Tauber Institute for Global Operations Students Only***

- MFG 501 Topics in Global Operations – 1.5 credits - Letter Graded (A-E)
- 1.5 additional credits from courses from another MFG curriculum category
- MFG 504 Tauber Institute Project - 3 credits - Letter Graded (A-E)

The incoming student must obtain the approval of the course advisor for the planned M. Eng. in Mfg. degree courses selected. A course advisor will be assigned to the student upon admission.

**See the *Sequential Undergraduate/Graduate study (SUGS) Programs for ChE Students* handout for more information regarding how SUGS works.**

### **CONTACTS**

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ISD SUGS website:

<https://isd.engin.umich.edu/admissions-information/sequential-undergraduate-graduate-study-sugs>

Rackham SUGS website:

[www.rackham.umich.edu/current-students/policies/academic-records/sugs-information](http://www.rackham.umich.edu/current-students/policies/academic-records/sugs-information)