

M.S. in Manufacturing Engineering

Admission Requirements

Students should consult the College of Engineering section in the Graduate Catalog for information on general admission requirements. Applicants are expected to have a Bachelor of Science degree in Industrial and Systems Engineering or a related field from an ABET accredited institution in the United States, or proof of equivalent education from an international institution.

Students apply through the Graduate School, submitting an application form and the following supporting materials:

- Official transcripts of all previous academic work.
- Applicants whose degrees are from non-English speaking institutions are required to demonstrate English proficiency. Please consult the Graduate School (<https://www.utep.edu/graduate/future-students/applicant-timelines.html>) website for required scores.
- Personal Statement of Purpose
- Two letters of Recommendation

General Degree Requirements

All students follow a 30 credit hour program that is composed of (15) credit hours of core coursework and (6) credit hours of approved graduate level coursework in areas outside the Industrial, Manufacturing and Systems Engineering Department. For students following the Thesis option, there is a requirement to take six (6) credit hours of thesis and (3) credit hours from the Industrial, Manufacturing and Systems Engineering department. For students following the Non-Thesis option, there is a requirement to take (9) additional credit hours of coursework from the Industrial, Manufacturing and Systems Engineering department.

No more than six (6) semester hours of approved upper-level undergraduate coursework can be used to satisfy the degree requirements in the Industrial and Manufacturing Engineering programs. All coursework must be approved by the student's academic advisor and by the Graduate School. Specific requirements for each master's program are available from the Industrial Engineering Program.

Degree Requirements Summary

	Thesis Option (in credit-hours)	Non Thesis Option (in credit-hours)
Core MFG coursework	15	15
Graduate IMSE Electives*	3	9
Graduate Electives**	6	6
Thesis	6 (MFG 5398 and MFG 5399)	0
Total	30	30

*At most, six (6) credit hours of approved senior-level undergraduate coursework, and, at most, three (3) credit hours of Individual Studies can be included in the degree plan.

**At most six (6) hours of approved graduate level coursework in areas outside the Industrial, Manufacturing and Systems Engineering Department can be included in the degree plan. IMSE Department courses can be used to satisfy the Graduate Electives requirement.

All coursework must be approved by the department's graduate program director. All courses listed in the degree plan require a grade of C or better for successful completion. A minimum GPA of 3.0 is required for graduation.

Degree Plan

Required Credits: 30

Code	Title	Hours
MS in Manufacturing Engineering (All courses require a grade of C or better)		
Non-Thesis Option		
Core MFG Coursework		
Select fifteen hours of the following:		15
MFG 5311	Design for Manufacturability	
MFG 5312	Strategic Design-Mfg Processes	
MFG 5314	Robotics & Flexible Automation	
MFG 5315	Analysis-Mat'l Handling System	
MFG 5321	Modeling/Analysis-Mfg Process	
MFG 5350	Reliability & Maintainability	
MFG 5358	Industrial Data Analytics	
MFG 5359	Computer-Aided Manufacturing	
MFG 5389	Green Energy Manufacturing	
MFG 5390	Special Topics	
MFG 5391	Individual Studies	
MFG 5394	Graduate Research	
Non-Thesis Graduate IMSE Electives		
Select nine additional hours of graduate IE, MFG or SE courses:		9
IE 5195	Graduate Seminar	
IE 5341	Adv Production/Inven Control	
IE 5351	Linear and Combin Optimiz Meth	
IE 5352	Design/Analysis Indust Exprmnt	
IE 5357	Computer Simulation Appli	
IE 5385	Advanced Quality Control	
IE 5390	Special Topics Industrial Engr	
IE 5391	Individual Studies	
MFG 5311	Design for Manufacturability	
MFG 5312	Strategic Design-Mfg Processes	
MFG 5314	Robotics & Flexible Automation	
MFG 5315	Analysis-Mat'l Handling System	
MFG 5321	Modeling/Analysis-Mfg Process	
MFG 5350	Reliability & Maintainability	
MFG 5358	Industrial Data Analytics	
MFG 5359	Computer-Aided Manufacturing	
MFG 5389	Green Energy Manufacturing	
MFG 5390	Special Topics	
MFG 5391	Individual Studies	
MFG 5394	Graduate Research	
SE 5341	Systems Engr Fundamentals	
SE 5342	Systems Engr Management	
SE 5343	Systems Requirements Analysis	
SE 5344	Sys Intgrtn, Verfctn, & Valdtn	
SE 5346	Systems Architecture & Design	
SE 5347	Systems Engr Processes	
SE 5348	Systems Modeling & Simulation	
Thesis Graduate Electives		
Select six additional hours of graduate courses from the College of Engineering, Science or Business		6
Total Hours		30