

# MINOR IN MANUFACTURING

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The manufacturing minor is for mechanical engineering students who seek a career in manufacturing. Students will learn about design for manufacturing, manufacturing processes and robotics systems. This minor will prepare students to solve manufacturing problems and improve current manufacturing processes. Students will be able to apply appropriate theories and methods to analyze and design manufacturing technologies and systems within realistic constraints (e.g., economic, manufacturability, sustainability, environmental) and communicate effectively about manufacturing engineering problem solutions, technologies and system designs.

Code	Title	Credits
<b>Required Courses</b>		
MER 250	Computer Aided Design	3
or IER 250	Computer Aided Design	
MER 340	Manufacturing/Machine Component Design	3
MER 340L	Manufacturing/Machine Component Design Lab	1
MER 490	Engineering Professional Experience	0-1
or IER 490	Engineering Professional Experience	

## Select one of the following tracks

### 1. Mechatronics/Robotics

Required Course		
MER 475	Mechatronics	3
Select two of the following courses		
IER 220	Production Systems (MER 225)	
IER 230	Lean Systems Engineering (MER 235)	
IER 240	Physical Human Factors and the Workplace (MER 245)	
or IER 265	Cognitive Human Factors and the Workplace (MER 265)	
IER 360	Operations Planning and Control	
IER 370	Industrial Robotics (MER 375)	
IER 375	Statistical Process Control	

### 2. Production and Process Improvement

Take three of the following courses		
MER 380	Advanced Solid Modeling	
IER 220	Production Systems (MER 225)	
IER 230	Lean Systems Engineering (MER 235)	
IER 240	Physical Human Factors and the Workplace (MER 245)	
or IER 265	Cognitive Human Factors and the Workplace (MER 265)	
IER 360	Operations Planning and Control	
IER 370	Industrial Robotics (MER 375)	
IER 375	Statistical Process Control	

### 3. Engineering Management

Take the following two courses

IER 401	Introduction to Engineering Management	3
IER 402	Engineering Quality Management & Decision Making	3
Take one of the following courses		3
IER 230	Lean Systems Engineering (MER 235)	
IER 280	Data Analytics I	
IER 375	Statistical Process Control	