

# **Manufacturing Systems Engineering**

**Manufacturing processes, production analysis and control, work systems, facilities planning, material handling, automation and robotics, production engineering.**

A minimum of 16 credit hours is required to obtain a minor in manufacturing systems. A student must take a required course from each of 4 areas and 2 elective courses from a general list.

REQUIRED COURSES: Computer Graphics Requirement:

ISE 112 Computer Graphics (1) OR  
ME 10 Graphics for Engineering Design (3) OR CE  
15 Graphics for Civil Engineering (3)

Probability and Statistics Requirement:

Math 231 Probability and Statistics (3) OR  
ISE 328 Engineering Statistics (3) OR  
ISE 111 Engineering Probability (3) and ISE 121 Applied Engineering Statistics (3)

Manufacturing Processes: ISE 215 Fundamentals of Modern Manufacturing (3) OR  
Mat 206 Processing and Properties of Metals (3) OR ME  
240 Manufacturing (3)

Production Analysis:

ISE 251 Production and Inventory Control

ELECTIVES:

At least 2 elective courses from the following list:  
ISE 131 Work Systems and Facilities Planning (3)  
ISE 327 Material Handling and Facilities Planning (3)  
ISE 332 Quality Control (3)  
ISE 334 Organizational Planning and Control (3)

For more information, please contact Professor Derya Pamukcu at [dp00@lehigh.edu](mailto:dp00@lehigh.edu) or the Industrial and Systems Engineering office at [ise@lehigh.edu](mailto:ise@lehigh.edu).