# MANUFACTURING MINOR

This minor exposes engineering students to the fundamentals and applications of manufacturing. This minor is not allowed for Management and Engineering for Manufacturing (MEM) engineering students. This minor includes design and fabrication techniques, including evaluating the impact on the human and environmental factors, process, and profit associated with the steps from design through production. Actual case studies will help reinforce the concepts.

## Requirements

The minor relies on the two core manufacturing courses and an elective as well as a manufacturing-focused senior design from the student's home department. This elective can also be counted as an elective in their home department.

Students must apply for the application for the minor two semesters before graduation and have an approved Plan of Study one semester before graduation

Students must complete 15 credits as follows:

| Course | Title | Credits |
|---|---|---|
| **Group 1 (Required Courses)** | | **6** |
| ENGR 2215 | Principles of Manufacturing Engineering | |
| ENGR 3215 | Statistical Quality Control and Reliability for Manufacturing | |
| **Group II (Electives)** [1] | | **9** |
| MEM 3221 | Introduction to Products and Processes | |
| MEM 4225 | Advanced Products and Processes | |
| ME 3217 | Metal Cutting Principles | |
| ME 3221 | Manufacturing Automation | |
| ME 3222 | Production Engineering | |
| ME 3225 | Computer-Aided Design, Modeling, and Graphics | |
| ME 3295 | Special Topics in Mechanical Engineering (when taught as Principles of Machining and Machine Tools) | |
| MSE 2101 | Materials Science and Engineering I | |
| MSE 2102 | Materials Science and Engineering II | |
| MSE 3004 | Mechanical Behavior of Materials | |
| MSE 4004 | Thermal/Mechanical Processing of Materials | |
| MSE 4040 | Materials Selection in Mechanical Design | |

[1] Nine or more credits selected from the list of Manufacturing minor electives from any engineering department, which may include Senior Capstone from the student's home department related to a manufacturing problem, subject to approval by Minor advisor. Group II courses can simultaneously be used towards the student's major requirements.