

# MANUFACTURING TECH (MCHN)

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## MCHN 1319

### Manufacturing Materials and Processes

CRT HRS:3 LEC HRS:2 LAB HRS:4 OTH HRS:0

This course is a basic study of various materials used in the manufacturing industry and the chemical, physical, and mechanical properties of various materials. Emphasis is placed on manufacturing processes, including casting, forming, and machining.

*Prerequisite: MCHN 1338 or MCHN 1352.*

## MCHN 1320

### Precision Tools and Measurement

CRT HRS:3 LEC HRS:2 LAB HRS:4 OTH HRS:0

This course is an introduction to the modern science of dimensional metrology. Emphasis is placed on the identification, selection, and application of various types of precision instruments associated with the machine trade. Students will gain practice of basic layout and piece part measurements while using standard measuring tools.

*Prerequisite: None.*

## MCHN 1326

### Introduction to Computer-Aided Manufacturing (CAM)

CRT HRS:3 LEC HRS:2 LAB HRS:4 OTH HRS:0

This course is a study of Computer-Aided Manufacturing (CAM) software which is used to create part programs, transfer programs to the machine control unit and machine parts.

*Prerequisite: MCHN 1338 or MCHN 1352.*

## MCHN 1338

### Basic Machine Shop I

CRT HRS:3 LEC HRS:1 LAB HRS:6 OTH HRS:0

This is an introductory course that assists the student in understanding the machinist occupation in industry. The student begins by using basic machine tools such as the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance.

*Prerequisite: None.*

## MCHN 1343

### Machine Shop Mathematics

CRT HRS:3 LEC HRS:3 LAB HRS:0 OTH HRS:0

This course is designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses.

*Prerequisite: None.*

## MCHN 1352

### Intermediate Machining I

CRT HRS:3 LEC HRS:1 LAB HRS:6 OTH HRS:0

This course covers the operation of drills, milling machines, lathes, and power saws, and provides an introduction to precision measuring techniques.

*Prerequisite: MCHN 1338.*

## MCHN 2303

### Fundamentals of Computer Numerical Controlled (CNC) Machine Controls

CRT HRS:3 LEC HRS:1 LAB HRS:6 OTH HRS:0

This course is a study in the programming and operation of Computer Numerical Controlled (CNC) machine shop equipment.

*Prerequisite: None.*

## MCHN 2341

### Advanced Machining I

CRT HRS:3 LEC HRS:2 LAB HRS:4 OTH HRS:0

This is an advanced study of lathe and milling operations. Emphasis is placed on advanced cutting operations of the lathe and milling machines, including the use of carbide insert tooling, bench assembly and metals metallurgy.

*Prerequisite: MCHN 1338 or MCHN 1352.*

## MCHN 2382

### CAPSTONE: Tool & Die Technology

CRT HRS:3 LEC HRS:1 LAB HRS:0 OTH HRS:15

In this course, career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the work experience.

*Prerequisite: None.*

## MCHN 2435

### Advanced CNC Machining

CRT HRS:4 LEC HRS:2 LAB HRS:6 OTH HRS:0

This course is a study of advanced CNC operation with an emphasis on programming and operations of machining and turning centers.

*Prerequisite: MCHN 2303.*

## MCHN 2438

### Advanced Computer-Aided Manufacturing (CAM)

CRT HRS:4 LEC HRS:2 LAB HRS:6 OTH HRS:0

This course is a study of advanced techniques in Computer-Aided Manufacturing (CAM).

*Prerequisite: MCHN 1326.*

## MCHN 2447

### Specialized Tools and Fixtures

CRT HRS:4 LEC HRS:2 LAB HRS:6 OTH HRS:0

This is an advanced course in the designing and building of special tools, such as jigs, fixtures, punch press dies and molds. This course covers the machining and assembling of a production tool, using conventional machine shop equipment. It includes the application of production tool theory, care and maintenance.

*Prerequisite: MCHN 1338 or MCHN 1352.*