

# Manufacturing Technology

## MT 102

### Solidworks(R) I [RE] • 4.0 Credits

This course is an introduction to SolidWorks(R) design software. The intent is to guide students through the software so they develop an understanding of how parts are designed as well as the concepts of blueprint construction/reading. The principles of geometric construction and constraints such as perpendicularity, concentricity, and parallelism are stressed so students are able to understand the workings of a precision model. \$25 Solidworks fee. \$11.40 lab fee. **Prerequisite: Completion of BPR 105 with a 2.0 or higher, or instructor permission.**

## MT 111

### Introduction to Manual Machining [RE] • 4.0 Credits

This course is designed to give students skills in using measuring instruments and concepts of machining with a metal lathe. Upon completion of this course, students should know how to turn and measure diameters within .001", cut threads, knurl, and cut tapers. \$7 per credit machine shop fee. **Prerequisite: Acceptance into the Manufacturing Technology program.**

## MT 112

### Introduction to Manual Machining Lab [RE] • 1.0–7.0 Credits

Formerly MT 112

Work on projects using the lathe to practice the concepts taught in the class. \$7 per credit machine shop fee. \$11.40 lab fee. **Prerequisite: Acceptance into the Manufacturing Technology program.**

## MT 121

### Intermediate Manual Machining Techniques [RE] • 4.0 Credits

This course is designed to build skills and knowledge on vertical and horizontal milling machine. Upon completion, students should be able to set up a milling machine to cut features with a tolerance of .001". \$7 per credit machine shop fee. **Prerequisite: Completion of BPR 105, MT 111, and MT 112, all with a 2.0 or higher, or instructor permission.**

## MT 122

### Intermediate Manual Machining Techniques Lab [RE] • 1.0–7.0 Credits

Formerly MT 122, MT 132

Work on projects using the lathe and milling machine to practice the concepts taught in class. \$7 per credit machine shop fee. \$11.40 lab fee. **Prerequisite: Completion of BPR 105, MT 111, and MT 112, all with a 2.0 or higher, or instructor permission.**

## MT 131

### Advanced Manual Machining [RE] • 4.0 Credits

This course is designed to allow students to learn about job planning, scheduling, and estimating parts as well as producing a product suggested by the instructor. \$7 per credit machine shop fee. **Prerequisite: Completion of MT 102, MT 121, and MT 122, all with a 2.0 or better, or instructor permission.**

## MT 132

### Advanced Manual Machining Lab [RE] • 1.0–7.0 Credits

Formerly MT 122, MT 132

Work on projects using the lathe and milling machine to practice the concepts taught in class. \$7 per credit machine shop fee. \$11.40 lab fee. **Prerequisite: Completion of MT 102, MT 121, and MT 122, all with a 2.0 or better, or instructor permission.**

## MT 193

### Independent Study [RE] • 1.0–15.0 Credits

A class used to explore new coursework or for a specific topic of special interest. \$7 per credit machine shop fee. **Prerequisite: Acceptance into the Manufacturing Technology program.**

## MT 202

### Solidworks(R) II [RE] • 4.0 Credits

This course prepares students to take the Certified SolidWorks(R) Associate Exam. \$25 Solidworks fee. **Prerequisite: Completion of MT 102 with a 2.0 or higher, or instructor permission.**

## MT 211

### Introduction to CNC Machining [RE] • 4.0 Credits

This course is designed to build skills and knowledge in Computer Numerical Controlled (CNC) milling. Upon completion of this course, students should be able to program, set up, and operate a CNC milling machine. \$7 per credit machine shop fee. **Prerequisite: Acceptance into the Manufacturing Technology program.**

## MT 212

### Introduction to CNC Machining Lab [RE] • 1.0–7.0 Credits

Formerly MT 212

Work on projects using the lathe and milling machine to practice the concepts taught in class. \$7 per credit machine shop fee. \$11.40 lab fee. **Prerequisite: Acceptance into the Manufacturing Technology program.**

## MT 221

### Intermediate CNC Machining and Programming [RE] • 4.0 Credits

This course is designed to build skill and knowledge in CNC. Upon completion of this course, students should be able to program, set up, and operate CNC equipment. \$7 per credit machine shop fee. **Prerequisite: Completion of MT 211 and MT 212 with a 2.0 or higher, or instructor permission.**

## MT 222

### Intermediate CNC Machining and Programming Lab [RE] • 1.0–7.0 Credits

Formerly MT 222

Work on projects using the CNC to practice the concepts taught in class. \$7 per credit machine shop fee. \$11.40 lab fee. **Prerequisite: Completion of MT 211 and MT 212 with a 2.0 or higher, or instructor permission.**

## MT 231

### Advanced CNC Machining Technologies [RE] • 4.0 Credits

This course is designed to build skill and knowledge in Computer Aided Manufacturing (CAM). Upon completion of this course, students should be able to draw a part in a solid modeling software, write a program with the CAM system, and machine the part on a CNC. \$7 per credit machine shop fee. **Prerequisite: Completion of MT 221 and MT 222 with a 2.0 or higher, or instructor permission.**

## MT 232

### Advanced CNC Machining Technologies Lab [RE] • 1.0–7.0 Credits

Formerly MT 232

Work on projects using SolidWorks(R), CAM system, and CNC milling machine to practice the concepts taught in class. \$7 per credit machine shop fee. \$11.40 lab fee. **Prerequisite: Completion of MT 221 and MT 222 with a 2.0 or higher, or instructor permission.**