

# Machine Trades (MASP)

## **MASP 107 Machining for Related Occupations**

**2-6 credits | REEL**

**Quarter(s): S, F, W, Sp**

This course will expose students to three basic types of machine tools as well as general shop safety, layout, cutting tool geometry, and precision measuring.

The three areas of focus will be hole operations such as drilling, reaming, and tapping, engine lathe operations such as turning, facing, and boring, and the basic operation of the vertical milling machine. Lab hours are required for this course.

Prerequisite: None

## **MASP 111 Machine Shop I**

**2-10 credits | REEL**

**Quarter(s): S, F, W, Sp**

Designed to introduce the beginning student to the safe operation of basic hand tools, saws, bench grinders, drill press and the engine lathe. The student will use these tools to complete basic projects designed to use the equipment in a wide variety of operations to develop basic skills. Lab hours are required for this course.

Prerequisite: None

## **MASP 112 Machine Shop II**

**2-10 credits | REEL**

**Quarter(s): S, F, W, Sp**

Continues building skills learned in MASP 111, while expanding the scope to include more advanced procedures on equipment used in the previous class. This class also introduces new equipment such as a shaper and surface grinder, along with tools and procedures required for their safe operation. Lab hours are required for this course.

Prerequisite: 10 credits of MASP 107 and/or MASP 111

## **MASP 113 Machine Shop III**

**2-10 credits | REEL**

**Quarter(s): S, F, W, Sp**

Teaches students the use of milling machines and carbide cutting tools. This course will cover various techniques of holding parts and the proper use of different styles of machinery. The student will also learn to apply basic and advanced procedures to accomplish the required tasks. Lab hours are required for this course.

Prerequisite: 10 credits of MASP 112

## **MASP 204 CNC Machining Center Fundamentals**

**3 credits | REEL**

**Quarter(s): S, F, W, Sp**

This course introduces students to the history, theory, and workings of computer numerically controlled Machining Centers. The course provides a basic understanding of the required skills to program, set-up, and operate computerized machine tools.

Prerequisite: None

**MASP 205 CNC Turning Center Fundamentals****3 credits | REEL****Quarter(s): S, F, W, Sp**

This course introduces students to the history, theory, and workings of computer numerically controlled Turning Centers. The course provides a basic understanding of the required skills to program, set-up, and operate computerized machine tools.

Prerequisite: None

**MASP 221 CNC Milling****2-10 credits | REEL****Quarter(s): F, W, Sp**

Introduces students through hands-on experience to the basic operations of CNC machines. Working with computer controlled mills, basic machine functions are used to produce parts of various shapes that could not be easily made on conventional equipment. Lab hours are required for this course.

Prerequisite: MASP 204

**MASP 222 CNC Turning****2-10 credits | REEL****Quarter(s): F, W, Sp**

Introduces students through hands-on experience to the basic operations of CNC machines. Working with computer controlled turning centers, basic machine functions are used to produce parts of various shapes that could not be easily made on conventional equipment. Lab hours are required for this course.

Prerequisite: MASP 205

**MASP 223 Advanced CNC Processes****2-10 credits | REEL****Quarter(s): F, W, Sp**

This course exposes the student to advanced machining practices on the CNC Machining Center and CNC Turning Center including introduction of 4th axis set-ups and programmable tailstock operations. It will also include nontraditional set-ups. Lab hours are required for this course.

Prerequisite: MASP 221 or MASP 222

**MASP 288 Cooperative Work Experience****1-15 credits****Quarter(s): F, W, Sp**

Provides work-based learning experience in a specific program of study. Individualized student outcomes are developed, focusing on behaviors that contribute to workplace success. Prerequisites: Instructor or Cooperative Education Coordinator permission. Concurrent requirements: COLL 289 or BUS 294 must be taken prior to or concurrent with this course.

**MASP 299 Independent Study****1-10 credits****Quarter(s): F, W, Sp**

Offers individualized learning opportunities for knowledge or skill development. Content and expectations are established between the student and instructor, and documented in an Independent Study contract.

Prerequisites: By instructor permission only.

**MASP 71 Machine Shop Support I****1 credit | REEL**

Introduces machine shop practices. This theory course addresses topics such as the appropriate uses and safe operation of basic hand tools, saws, bench grinders, drill press and the engine lathe.

Prerequisite: None Concurrent requirement: MASP 111

**MASP 72 Machine Shop Support II****1 credit | REEL**

Introduces machine shop practices. This theory course addresses topics such as basic metallurgy and the appropriate uses and safe operation of milling machines and grinding machines.

Prerequisite: None Concurrent requirement: MASP 111