

# MACHINE TOOL TECHNOLOGY (MACH)

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**MACH-100 Machine Shop Practice** **3 Units**

36 hours lecture; 54 hours lab; 90 hours total

This is a basic course in machine tool technology that satisfies the degree requirement for welding and DDGT. This course develops skills in the use of precision measuring instruments and provides students with an overview of the operations of the lathe, drill press, vertical milling machine, horizontal milling machine and surface grinder.

Transfers to CSU only

**MACH-110 Machine Technology 1** **7 Units**

54 hours lecture; 216 hours lab; 270 hours total

This is a beginning course in the machine tool technology degree program. This course develops skills in the use of precision measuring instruments and the operation of the engine lathe, drill press, vertical milling machine, horizontal milling machine, and surface grinder.

Transfers to CSU only

**MACH-111 Machine Technology 2** **7 Units**

54 hours lecture; 216 hours lab; 270 hours total

**Prerequisite:** Completion of MACH-110 with a minimum grade of C.

An intermediate course in the Machine Tool Technology degree program. Emphasis is placed on accuracy and efficiency of producing machined parts on conventional machine tools. Advanced lathe operations, including various thread forms, are a focus of the course.

Transfers to CSU only

**MACH-210 Machine Technology 3** **7 Units**

54 hours lecture; 216 hours lab; 270 hours total

**Prerequisite:** Completion of MACH-111 with a minimum grade of C.

An advanced course in the machine tool technology degree program. This course emphasizes skills in the operation of horizontal and vertical milling machines. Advanced milling operations include gear cutting, gear calculations, and the use of rotary tables, index heads and dividing heads and multiple-lead threading.

Transfers to CSU only

**MACH-211 Machine Technology 4** **7 Units**

72 hours lecture; 180 hours lab; 252 hours total

**Prerequisite:** Completion of MACH-210 or equivalent with a minimum grade of C.

**Recommended Preparation:** Completion of TECH-107 with a minimum grade of C.

An advanced course in the Machine Tool Technology degree program. This course emphasizes advanced skills in the operation and programming of CNC (computer numerical controlled) machines, utilizing skills developed in Machine Technology 1, 2, and 3. This course further develops skills in the use of precision measuring instruments, the reading of prints and engineering drawings, and provides students with an intermediate overview of the programming and operation of CNC vertical machining centers and CNC turning centers along with hands-on operation of hand tools, grinders, engine lathes and vertical milling machines.

Transfers to CSU only