



## MACHINING-PRECISION

### **Program Description:**

Good money!! – Fun work!! Do you like to work with your hands? If so, come join the high paying, exciting world of manufacturing and learn the very latest in machining operations at Tulsa Tech. Precision Machining is designed to offer the basic courses and skills needed to begin a high-tech career as a machinist. You will actually make parts from various types of metal, using milling machines, lathes, and grinders; and then assemble projects from the parts that you've made. Learning to read blueprints, and use measuring instruments.

**Campus:** Broken Arrow

### **PROGRAM COURSES**

#### **MACH 1016**

##### **Precision Machining Introduction**

In this course, students complete administrative paperwork, learn all policies and procedures for the Machining Technology Program, read the student handbook, and complete the required pre-tests.

#### **MACH 1001**

##### **Applied Mathematics I**

This is an applied course that covers basic math, fractions, decimals, geometry and trigonometry as required for the machine trades occupation.

#### **MACH 1002**

##### **Applied Communications I**

In this course, students will learn computer literacy, keyboarding skills, and how to assemble a portfolio. They also participate in a CTSO Professional Development Program and learn machining vocabulary.

#### **PRFD 1038**

##### **Employability Skills / CTSO I**

Students participate in CTSO (Career Tech Student Organization) leadership and job seeking activities; and can participate in machining skills contests, if desired.

#### **MACH 1017**

##### **Safety/Hazardous Materials**

In this course, students learn general shop safety, how to read and interpret Material Safety Data Sheets (MSDS), and safe operating procedures for shop equipment such as the drill press, pedestal grinders, surface grinders, engine lathes, vertical milling machines, and cut-off saws. The student will also learn safe procedures for heat-treating.

#### **MACH 1004**

**Blueprint Reading/Basic**

In this course, students will learn to read and interpret blueprint information, and produce a shop sketch to specifications.

**MACH 1018****Blueprint Reading/Advanced**

Students will read industrial-type blueprints and interpret the information necessary to produce machined parts.

**MACH 1006****Basic Measuring**

This course offers the student the ability to read and calibrate a variety of precision instruments. The instruments include micrometers, dial indicators, calipers, height gages, and the optical comparator.

**MACH 1007****Layout and Benchwork**

Students are taught the manufacturing processes for a variety of metals, and perform heat-treating and quenching operations on a pre-machined project. Students are also taught the various types of metal forming, the use of hand tools; and how to plan and sequence bench projects.

**MACH 1019****Basic Grinding Introduction**

Students will perform the grinding operations required to sharpen a drill, high speed steel turning tools, cemented-carbid