

Course Objectives/Course Outline
Spokane Community College

Course Title: Precision Measurement and Tools

Prefix and Course Number: MACH 107

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Make accurate measurements using inspection tools
- Identify the proper tools for a given job
- Determine the correct use of a selected tool
- Select taps for specific applications
- Describe setup, use and safety on the pedestal grinder

Course Outline:

Precision Measurement tools

I. Basic Measurement tools

- A Steel ruler
- B Combination square
- C Protractor
- D Radius gages
- E Screw pitch gage

II. Precision measuring hand tools

- A Outside micrometer
- B Depth micrometer
- C Calipers dial and digital
- D Thread gages
- E Pin gages
- F Gage blocks

III. Advanced measurement tools

- A Indicators
- B Height gages
- C Optical comparators
- D Coordinate Measurement Machine (CMM)

Shop tools

IV Mandrel and Shop Presses

- A Types
- B Uses
- C Procedures

V. Work Holding and Hand Tools

- A Vises
- B Clamps
- C Pliers
- D Hammers
- E Wrenches
- F Screwdrivers
- G Chisels and Punches
- H Hacksaws

- I Files
- J Hand Reamers
- K Deburring tools
- VI. Taps
 - A. Identification and Uses
 - B. Tapping Procedures
- VII. Thread Cutting Dies
 - C. Types
 - D. Functions
 - E. Threading Procedures
- VIII. Off Hand Grinding
 - F. Pedestal Grinders