

**Course Objectives/Course Outline**  
**Spokane Community College**

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**Course Title:** Machine Theory I

**Prefix and Course Number:** MACH 141

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**Course Learning Outcomes:**

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

- Interpret parts of an Engine Lathe
- Interpret parts of horizontal bandsaws
- Knowledge of shop safety practices
- Basic layout procedures

**Course Outline:**

- I. Shop Safety
  - A. Personal Protection
  - B. Shop Hazards
  - C. Machine Hazards
  - D. Industrial Safety and Federal Law
- II. Mechanical Hardware
  - A. Threads and Thread Forms
  - B. Classes of Thread Fits
  - C. Externally Threaded Fasteners
  - D. Internally Threaded Fasteners
  - E. Washers, Pins, Retaining Rings and Keys
- III. Layout
  - A. Basic Semi-precision Layout Practice
  - B. Basic Precision Layout Practice
- 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
- VI. Taps
  - A. Identification and Uses
  - B. Tapping Procedures
- VII. Thread Cutting Dies
  - A. Types
  - B. Functions
  - C. Threading Procedure