

Course Objectives/Course Outline
Spokane Community College

Course Title: Shop III
Prefix and Course Number: MACH 162

Course Learning Outcomes:

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

- Explain the procedures for drilling, boring, reaming, knurling, recessing, parting, and tapping in the lathe
- Use appropriate tool holders when using turning machines
- Operate machine controls, practice safe working habits when working with machinery and its components
- Operate a lathe to produce precision parts
- Operate a milling machine to produce precision parts

Course Outline:

- I. Turning Machines
 - A. Turning Between Centers
 - B. Alignment of the Lathe Centers
 - C. Other Lathe Operations
 - D. Sixty Degree Thread Information and Calculations
 - E. Cutting Unified External Threads
 - F. Cutting Unified Internal Threads
 - G. Cutting Tapers
 - H. Using Steady and Follower Rests
 - I. Additional Thread Forms
 - J. Cutting Acme Threads on the Lathe
- II. Shop Safety Practices
 - A. Hazards in Lathe Operation
 - B. Workpiece Slippage Hazards
 - C. Chip Safety
- III. Practical Applications
 - A. Screw Threads
 - B. Cutting Speed and Feed
 - C. Mathematical Calculations
 - D. Tapers