

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

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**Course Title:** Shop V  
**Prefix and Course Number:** MACH 222

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**Course Learning Outcomes:**

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

- Use CAM software to create basic programs for CNC Lathes
- Identify components of the CNC Lathe and its control
- Successfully and accurately prepare the CNC Lathe to machine basic parts
- Demonstrate ability to select part origins and work-holding devices best suited to each project

**Course Outline:**

I. MASTECAM SOFTWARE

- A Program Interface
- B Geometry Creation
- C Toolpath Creation
- D Program Verification
- E Post Process Program

II. CNC LATHE OPERATION

- A. Identify Machine components
- B. Machine Startup
- C. Select Tooling Correctly
- D. Set Tools
- E. Set Part Reference Zero
- F. Machine control use
- G. Machine care and maintenance
- H. Load Programs

III. FIXTURE SETUP AND USE

- A. Chuck With Hard Jaws
- B. Chuck With Soft Jaws
- C. 5C Collet

IV. TOOLS AND HOLDERS

- A. Identify Tool Holder Types
- B. Tool Holder Assemblies
- C. Care of Tool Holders and Collets