

**Western Dakota Technical Institute  
800 Mickelson Drive  
Rapid City, SD 57703-4018**

**Master Syllabus**

**Course Number:** MACH 120  
**Course Name:** Milling Theory and Operations I  
**Credits:** 3  
**Contact Hours:** 1 Lecture; 4 Lab

**Course Description:** The vertical milling machine and its set-up and operation are introduced in this course. Students will learn milling machine safety, tramming of the mill, and the use of edge finders and dial indicators to locate part features and align work. Use of the Cartesian coordinate system, drilling, surfacing, slotting, pocketing and contour milling procedures will be covered.

**Prerequisites:** None

**Textbooks:** <http://bookstore.wdt.edu/>

**Materials:** Machining Program Tool Set

**Student Learning Outcomes:**

- Select appropriate tooling and machine settings for the operation to be performed
- Operate the mill in a safe and efficient manner
- Produce assigned parts to acceptable dimensional tolerances
- Demonstrate basic skills in common milling operations on work pieces held in a milling machine vise

**Assessment:** Students' analytical skills, teamwork techniques, and employability will be assessed throughout this course.

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