

## Master Syllabus

### CAM 1161 - Machine Operations Laboratory I

**Division:** Science, Mathematics and Engineering

**Department:** Computer Aided Manufacturing

**Credit Hour Total:** 8.0

**Lecture Hrs:** 2.0 **Lab Hrs:** 18.0

**Other Prerequisite(s):** Approval of Department

**Date Revised:** December 2014

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#### Course Description:

An introduction to the manufacturing processes used in the tooling and machining industry. Safety, handtools, metrology, engine lathe, milling, sawing and grinding will be the major focus of this course. Two classroom, eighteen lab hours per week.

#### General Education Outcomes:

- ▣ Critical Thinking/Problem Solving Competency
- ▣ Values/Citizenship/Community Competency
- ▣ Information Literacy Competency

#### Course Outcomes:

##### Proper use of machine tools

Set up and manipulate machine tool equipment to make parts to print specifications.

**Assessment Method:** Portfolios

**Performance Criteria:** Inspect parts from print specifications with a rubric. 70% of students scoring a "70" or better on the rubric

##### Safety

Students will demonstrate safety procedures while running machine tools and working in the shop.

**Assessment Method:** Behavioral observations

**Performance Criteria:** All students exhibit safety procedures learned from lectures and exams, as observed by instructor against checklist.

**Assessment Method:** Locally developed exams

**Performance Criteria:** All students correctly answer safety exams with 90% accuracy

##### Inspection equipment

Set up and manipulate inspection equipment to check parts against print specifications.

**Assessment Method:** Portfolios

**Performance Criteria:** Inspect parts from print specifications with a rubric, 70% of students score "70" or better on the rubric.

#### Outline:

Milling Machine  
Drill Press  
Semi-Precision Layout Techniques  
Lathe  
Grinding  
In Process Inspection  
Machine Shop Safety