

Master Syllabus

CAM 1110 - Advanced Machine Operations

Division: Science, Mathematics and Engineering

Department: Computer Aided Manufacturing

Credit Hour Total: 3.0

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

Prerequisite(s): CAM 1109AND CAM 1107AND CAM 1141

Other Prerequisite(s): OR Approval of Department

Date Revised: April 2014

Course Description:

This course will increase student's proficiency in the use of manually operated machine shop equipment with an emphasis on high tolerance parts where precision machining is necessary for project completion. Two classroom, two lab hours per week.

General Education Outcomes:

- Critical Thinking/Problem Solving Competency

Course Outcomes:

Manufacture parts to print

Demonstrate the ability to manufacture parts within specifications using machine shop equipment autonomously.

Assessment Method: Portfolios

Performance Criteria:

80% of the students will be able to produce a part to print specifications.

In-process inspection

Perform in-process inspection of parts to determine their fitness for use.

Assessment Method: Portfolios

Performance Criteria:

Project specifications must be checked by a variety of metrology methods and the results must meet specifications. 100% of the specifications are met by 80% of the students. There is no acceptable level of error.

Produce complex parts

Demonstrate familiarity with basic machine shop equipment such as lathes, mills, grinders and drill presses to produce complex parts.

Assessment Method: Performance appraisals

Performance Criteria:

80% of the students receive a "C" or better on the project using a departmental grading rubric.

Outline:

Machining Review
Advanced Milling
Drill Press Work
Advanced Lathe
Advanced Grinding
Introduction to CNC Tool Room Mill
Introduction to CNC Tool Room Lathe