

Master Syllabus

CAM 2145 - Shop Floor Programming

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 1109 OR CAM 1161

Date Revised: January 2015

Course Description:

Operation and programming of conversational controlled two-axis milling machines. Includes programming and manufacturing a variety of machined parts utilizing ProtoTRAK and Anilam two-axis CNC controls. Two classroom, two lab hours per week.

General Education Outcomes:

- ▣ Critical Thinking/Problem Solving
- ▣ Information Literacy

Course Outcomes:

Machine operation and set up skills

Demonstrate the use of tooling fixtures used with shop floor programming machines.

Assessment Method: Performance appraisals

Performance Criteria: 70% of students will make parts to print specifications.

Shop floor programming skills

Write programs that control 2 and 3 axis milling machines.

Assessment Method: Locally developed exams

Performance Criteria: 70% of students score 80% or higher on Midterm and Final Exam

Assessment Method: Portfolios

Performance Criteria: 70% of students complete term project graded with a rubric with a "70" or better

Basic machining skills

Demonstrate use of CNC two and three-axis controllers for basic machining tasks.

Assessment Method: Performance appraisals

Performance Criteria: 70% of students to make parts to print specifications.

Outline:

DRO Mode, Mill, Arc, Tool Offset, Rough and Finish, Rectangular Profile, ConRad, Absolute and Incremental Positioning, Speeds and Feeds, Climb and Conventional Milling, Cartesian Coordinate System, AGE Engine, Irregular Profile, Island, Copy Rotate, Circle Profile