Sinclair Community College
444 E. Third St.
Dayton, OH 45402

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 Competency
- Information Literacy Competency

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 wirth 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 SystemAGE Engine, Irregular Profile, Island, Copy RotateCircle Profile