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

Master Syllabus

CAM 1109 - Fundamentals of Tooling & Machining

Division: Science, Mathematics and Engineering

Department: Computer Aided Manufacturing

Credit Hour Total: 3.0 **Lecture Hrs:** 2.0 **Lab Hrs:** 2.0

Date Revised: October 2013

Course Description:

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

General Education Outcomes:

- Written Communication Competency
- Critical Thinking/Problem Solving Competency
- Values/Citizenship/Community Competency
- Information Literacy Competency
- Oral Communication Competency

Course Outcomes:

Layout
Demonstrate layout and use of measuring instruments and discuss systems.

Assessment Method: Behavioral observations
Performance Criteria: Students achieve competency on 70% of items on Instructor checklist

Assessment Method: Locally developed exams
Performance Criteria: 70% of the students score 70% or higher correct on locally developed exams

Hand Tools and Safety
Demonstrate the use of hand tools and safe work practices.

Assessment Method: Behavioral observations
Performance Criteria: Instructor checklist showing 100% compliance on safety items

Assessment Method: Locally developed exams
Performance Criteria: 70% of the students score 70% or higher correct on locally developed exams

Assessment Method: Performance appraisals
Performance Criteria: Performance rubric that shows 70% of students capable of using tools correctly

Machine Tool Operation
Demonstrate the use of various machine tools by the completion of projects.

Assessment Method: Behavioral observations
Performance Criteria: Instructor checklist showing 100% compliance on safety items

Assessment Method: Locally developed exams
Performance Criteria: 70% of the students score 70% or higher correct on locally devloped exams

Assessment Method: Performance appraisals
Performance Criteria: Instructor Observation - performance rubric that shows 70% of students capable of using tools correctly

Outline:

Safety procedures
Mechanical hardware
Hand tools
Measurement instruments
Operation and functions of an engine lathe
Operation and functions of a milling machine
Operations and functions of a surface grinder