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

Master Syllabus

CAM 1141 - Shop Floor Calculations I

Division: Science, Mathematics and Engineering

Department: Computer Aided Manufacturing

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

Prerequisite(s): DEV 0025OR DEV 0075

Date Revised: May 2016

Course Description:

This course applies the principles of arithmetic, algebra and geometry to situations encountered in the machining industry. Two classroom, two lab hours per week.

General Education Outcomes:

- Critical Thinking/Problem Solving

Course Outcomes:

Calculations
Apply the principles of arithmetic, algebra, and geometry to correctly solve problems encountered in the machining industry.

Assessment Method: Locally developed exams
Performance Criteria: 70% of students will earn 70% or higher on exams.

Measuring Instruments
Demonstrate the ability to correctly use the measuring instruments of the machining industry.

Assessment Method: Locally developed exams
Performance Criteria: 70% of students will earn 70% or higher on exams.

Geometric Calculations
Demonstrate the ability to correctly apply geometric principles, formulas, and fundamentals to accurately solve problems encountered in the machining industry.

Assessment Method: Locally developed exams
Performance Criteria: 70% of students will earn 70% or higher on exams.

Outline:

Basic operations with fractions and decimal numbers
English and metric units of measure
Tolerance, clearance, and interference
Powers, Roots and working with exponents
Basic computing and functions with a scientific calculator
Basic algebra, symbolism, variables, functions, formulas and solving equations
Word problem setting up and solving
Ratios, Direct and indirect proportion
Use and reading of measuring instruments; steel rules, micrometers, calipers, gage blocks, protractors, etc.
Fundamental geometric principals and calculations of geometric shapes, lines, angles, triangles, squares, circles and polygons