

Master Syllabus

CAM 1142 - Shop Floor Calculations II

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 1141

Date Revised: October 2013

Course Description:

This course applies the principles of geometry and trigonometry and the computing of compound angles to situations encountered in the machining industry. It also gives a brief introduction to the calculations required in computer numerical control programming. Two classroom, two lab hours per week.

General Education Outcomes:

- ▣ Critical Thinking/Problem Solving Competency

Course Outcomes:

Calculations

Apply the principles of geometry and trigonometry to correctly solve problems encountered in the machining industry.

Assessment Method: Locally developed exams

Performance Criteria: 70% of students earn 70% or higher on exams

Scientific Calculator

Demonstrate the ability to use a scientific calculator to correctly solve complex problems encountered in machining.

Assessment Method: Locally developed exams

Performance Criteria: 70% of students will earn 70% or higher on exams.

Compound Angles

Demonstrate the ability to compute the angles of rotation and tilt and correctly set up a rectangular solid for inspecting a compound-angular surface.

Assessment Method: Locally developed exams

Performance Criteria: 70% of students will earn 70% or higher on exams.

Outline:

Computing with a scientific calculator
Areas and volumes of geometric figures
Calculations for simple and complex practical machine applications
Cartesian Coordinate System
Application of compound angles in machining
Introduction to computer numerical control programming calculations