

Common Course Outline
CAMM 251
MEASURING AND GAUGING
3 Semester Hours

The Community College of Baltimore County

Description

Measuring And Gauging

Covers basic practices of standard measuring and gauging with emphasis on the CMM (Coordinate Measuring Machine).

Prerequisite: CAMM 111 and CAMM 156 or CADD 103

Overall Course Objectives

Upon completion of this course the student will be able to:

1. Describe and make use of the Optical Comparator to check datum's, holes, and radii.
2. List the advantages of using the CMM when performing a quality check.
3. Describe the major features of the CMM.
4. Create a SPC chart for documentation of a machined part.
5. Explain SPC terminology.
6. Inspect machined parts using a surface plate, an angle plate, a sine bar, and a dial indicator.
7. Interpret Geometric Dimensioning and Tolerancing symbols and describe how to measure parts dimensioned using them.
8. Set-up and operate a CMM.

Major Topics

- I. Graduated measuring Instruments
 - A. The micrometer
 - B. The height gage
 - C. The vernier caliper
 - D. The dial indicator
- II. Gages
 - A. Comparison gages
 - B. Fixed gages
 - C. Adjustable gages
- III. Measuring equipment
 - A. The CMM

- B. The optical comparator

Course Requirements

Grading: The faculty member will determine grading procedures, and a student can expect a minimum of eight grades from at least four of the following categories:

1. Quizzes
2. Lab projects
3. Written paper
4. Homework assignments
5. Midterm exam
6. Class participation
7. Comprehensive final.

Other Course Information

This course is taught in a computerized environment.

Date Revised: 6/1/00