

Common Course Outline
CAMM 253
COMPUTER NUMERIC CONTROL (CNC)
LATHE OPERATION
3 Semester Hours

The Community College of Baltimore County

Description

Computer Numerical Control (CNC) LATHE OPERATION

Covers the theory and operation of the CNC lathe; emphasizes set-up, part programming, tooling selection, and hands-on operation of the Storm and Hwa Cheon lathes.

Prerequisite: CAMM 111, CAMM 101

Overall Course Objectives

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

1. Identify the basic parts of a CNC lathe and utilize their functions.
2. Identify and apply the lathe coordinate operating system as it applies to CNC lathes.
3. Operate the CNC lathe in manual & automatic modes.
4. Write, load, edit, and execute various project part programs.
5. Select and set up various types of CNC lathe tooling.
6. Display safe operating practices of the CNC lathe.

Major Topics

- I. CNC Lathe Principles
 - A. CNC lathe hardware
 - B. CNC lathe operation
 - C. CNC lathe controls

- II. Lathe Programming
 - A. Developing and writing of CNC programs
 - B. Programming Angles and Radius features
 - C. Threading routines
 - D. Sub routines
 - E. Drilling and boring operations
 - F. Special operations

- III. Shop Math
 - A. Lathe coordinate system
 - B. Absolute and Incremental positioning
 - C. Speed and feed calculations
 - D. Calculation of angles and radius programming

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