

Common Course Outline
CAMM 201
CNC PROGRAMMING
3 Semester Hours

The Community College of Baltimore County

Description

CNC Programming

Discusses basic computer operations and commands necessary to use a PC for programming, editing, storing, and retrieving programs for CNC machines; covers 2-axis mill, basic lathe programming, and basic machine shop practices used when creating and manipulating CNC programs.

Prerequisite: CAMM 101 and CAMM 111

Overall Course Objectives

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

1. Describe and use basic windows commands
2. Use a CAM software package to edit G codes.
3. Import and Export CAD files.
4. Create 2-d geometry.
5. Create tool-paths from sketches, CAD files, and drawings.
6. Create CNC G and M codes using a code generator.
7. Use the communication software to talk to a CNC machine.

Major Topics

- I. Introduction to Operating System
 - A. Version of windows
 - B. Differences between editors for NC and CNC
 - C. Location and file storage
 - D. File extensions
- II. CAM Systems
 - A. Manual and CAM generated codes
 - B. Local and work coordinates
 - C. Contour and pocketing routines
 - D. Hole operations and optimization
- III. Creating Tool-Paths and Working with Assorted CNC Machines
 - A. Using the CAM system with various CNC machines
 - B. Using libraries of parts

- C. Vertical and Horizontal programming practices
- IV. Post Editing
- A. Using the post processor
 - B. Editing the post
 - C. Adding operation and function
 - D. Debugging posts and resulting G code.

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