CAMM 131
Advanced Digital Fabrication
3 Credits (2 lecture hours, 2 lab hours)

Community College of Baltimore County
Common Course Outline

Description

CAMM 131 – Advanced Digital Fabrication: presents advanced fabrication principles using digital design and prototyping as a problem-solving tool. Students develop advanced knowledge of each machine's operation and working knowledge of the related software. Students are introduced to more advanced skills such as casting, microcontrollers, 3-D scanning and other complex fabrication processes and design strategies.

Pre-requisites: CAMM 130
Co-requisites: CADD 242

Overall Course Objectives

Upon completion of this course, students will be able to:

1. utilize digital fabrication equipment to produce a product;
2. identify the appropriate software for the product;
3. provide examples of contemporary design and fabrication strategies;
4. choose the proper material including any non-traditional or composite material for the product;
5. compare production methods to determine the most effective process for a given product;
6. determine when to use complex processes such as double-sided machining, jigs, fixtures, molding, casting, or adding electronic components;
7. utilize fundamental construction principles such as dimensional stability, material properties and part tolerances; and
8. apply the complementary features of different fabrication methods.

Major Topics

I. Equipment Safety
II. Digital Fabrication Software
III. Digital Fabrication Equipment
IV. 3-D Designs and 3-D Design Software
V. 3-D Project Creation
VI. 3-D Object Scanning
VII. Castings
VIII. Electronic Components
IX. Project Assembly

X. Manufacturing Processes

Course Requirements

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- Two quizzes
- Five homework assignments
- One project
- Midterm exam
- Final exam
- Final project

Other Course Information

This class will be taught in a fabrication lab.

Date Revised: 1/5/2021