

**Common Course Outline**  
**DFAB 201**  
**Integrated Fabrication and Design/Build Technology**  
**3 Credits**

**The Community College of Baltimore County**

**Description**

**DFAB 201- 3 credits** – **Integrated Fabrication and Design/Build Technology** provides students the opportunity to work as a team to demonstrate proficiency in fabrication software, equipment, materials, and techniques. Students design and fabricate a series of modules or components to be assembled into a larger system as might be seen in manufacturing. Projects incorporate contemporary design and fabrication strategies, such as tool-free assembly, zero-waste and flat-pack systems.

**3 Credits:** 2 lecture hours and 2 lab hours

**Prerequisites:** DFAB 102, CADD 242, and CAMM 111 or the consent of program coordinator.

**Overall Course Objectives**

Upon completion of this course students will be able to:

1. utilize digital fabrication tools to design and create a comprehensive project;
2. incorporate contemporary design strategies into a comprehensive project;
3. formulate fabrication strategies;
4. distinguish and demonstrate contemporary manufacturing strategies, including zero waste, tool-free assembly, press-fit and slip-fit assemblies, and flat-pack;
5. describe and demonstrate fundamental principles, including dimensional stability, and tolerances;
6. evaluate a project to choose the most appropriate tools, materials, and fabrication techniques; and
7. design and build components as part of a team project.

**Major Topics**

- I. Safety
- II. Group Project Procedures
- III. Project Design
- IV. Project Assembly
- V. Flat-Pack Procedures
- VI. Digital Fabrication Techniques
- VII. Digital Design Techniques
- VIII. Electronic Design Techniques
- IX. Equipment Operation in the Fab Lab and Manual Machine Shop

### **Course Requirements**

Grading/Exams: Grading procedures will be determined by the individual faculty member and will be provided on the first day of class. The following will be required for this course:

- Project designed and built by the student group, responding to a prompt from the instructor, utilizing all machines.
- Minimum of two quizzes
- Midterm exam
- Written comprehensive exam with final project
- Minimum of five homework assignments

Students are required to utilize appropriate academic resources.

### **Other Course Information**

This course is a Design, Fabrication, & Advanced Manufacturing core course, and an elective for other degree programs. Portions of this class will be taught in a lab environment.