

**Course Outline**  
CADD 211  
Advanced CADD I  
3 semester hours

**The Community College of Baltimore County**

**Description**

**Advanced CADD I**

Studies the design of static mechanical components including machined, welded, cast and sheet metal parts and their assembly; covers dimensioning, tolerancing, manufacturing processes, drafting practices and use of standard references.

Prerequisites: CADD 114, or permission of Program Coordinator

**Overall Course Objectives**

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

1. Explain and utilize the engineering design process
2. Utilize common engineering materials in the design of parts
3. Describe common manufacturing processes and select appropriate processes to manufacture specific parts
4. Describe and properly specify surface textures
5. Recognize, develop and apply appropriate tolerances to parts in an assembly
6. Produce drawings which fully document the design solution to an engineering problem
7. Recognize and apply industry standard drafting practices
8. Utilize standard design references and vendor catalogs in developing a design solution

**Major Topics**

1. Understand drawing formats, organization and administration.
2. Identify and describe types and uses of common hardware and fasteners.
3. Develop assembly and detail drawings; bills of material/parts lists
4. Apply dimensions and tolerances.
5. Understand basic manufacturing operations and drafting representations (i.e. welds, castings, forgings, machining).
6. Use standard industry references (e.g. DOD Std 100, ANSI 14.5, vendor catalogs).
7. Use measuring instruments (e.g. micrometer, caliper etc).
8. Develop an appreciation for the design process and design parameters.
9. Provide a basis for advanced CADD course work.

## **Course Requirements**

Grading/Exams: Grading procedures will be determined by the individual faculty member but will include the following:

1. Graded exercises
2. Periodic tests
3. Comprehensive final examination
4. Class participation

## **Other Course Information**

This course is a core course in the CADD curricula.  
This course is taught in a computerized environment.  
There are 2 lecture and 3 laboratory hours per week.

Revised 09/18/00

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### **Banner Short Course Description**

Design of detailed and assembly static mechanical components including machined, welded, and sheet metal parts. Covers dimensioning, tolerancing, manufacturing processes, and use of standard references. Drawings will be produced using CADD techniques and AutoCAD software. Prerequisites: CADD 114, or permission of Program Coordinator

### **Full Catalog Description**

A continuation of application of CADD techniques to drafting problems initiated in CADD 101. Intended for students who have completed an introductory course in CADD or have substantial practical drafting experience. Covers application of CADD functions to complex features, multi-part assemblies, development of design appreciation, multi-discipline drawings, pictorials, and introduction to solid modeling. Requires a minimum of four hours CADD system outside of scheduled classes. Uses AutoCAD software on microcomputers. Prerequisites: CADD 101, or permission of Program Coordinator