

CAMM 105

Technical Blueprints and Schematics

3 Credits

Community College of Baltimore County Common Course Outline

Description

CAMM 105 – Technical Blueprint and Schematics: introduces students to the basic graphic elements and symbols used in a variety of industrial drawings. Technical prints covered include machine drawings, sheet metal drawings, hydraulic and pneumatic drawings, piping and plumbing system drawings, and drawings representing electrical systems. Sketching concepts are presented to support student understanding of basic drawing principals. Students also learn to recognize standard features in schematics, and read and interpret symbols used in electrical, piping, hydraulic and pneumatic, and welding.

Pre-requisites: ACLT 052 or ACLT 053 or (ESOL 052 and ESOL 054)

Overall Course Objectives

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

1. describe the types and components of a variety of blueprint drawings;
2. explain the operations and components of simple machines;
3. sketch match mark assemblies;
4. select appropriate machine tools for specific activities;
5. interpret sheet metal drawings;
6. link symbols to the components they represent in hydraulic and pneumatic systems;
7. identify the components of piping and plumbing systems and the instruments used in conjunction with these systems;
8. describe a variety of sketch types and symbol systems used in schematics;
9. interpret the symbols shown on an electrical schematic, wiring diagrams, and industrial schematics;
10. describe the schematics representation of piping system components;
11. identify the symbols used to represent fluid-power system components in a schematic diagram;
12. interpret composite symbols and explain their use in hydraulic and pneumatic systems;
13. explain the process and purpose of fusion welding; and
14. interpret welding symbols on a schematic.

Major Topics

- I. Introduction to Blueprints
- II. Machine Parts and Drawings
- III. Hydraulic and Pneumatic Drawings and Piping and Plumbing

The Common Course Outline (CCO) determines the essential nature of each course.
For more information, see your professor's syllabus.

- IV. Electrical Drawings
- V. Introduction to Sketching, Schematics and Symbols
- VI. Electrical Symbols and Diagrams
- VII. Piping, Hydraulic and Pneumatic Symbols and Diagrams
- VIII. Welding and Joint Symbols

Course Requirements

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

- Ten homework assignments
- Two quizzes
- Midterm exam
- Final exam

Date Revised: 12/1/2020