

SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Precision Machining & Automation Technology Program
Revision Date: August 26, 2019

I. CATALOG DESCRIPTION

Course Number: MACH1250
Course Title: Computer Aided Drafting (CAD)
Prerequisite(s): None
Catalog Description: Fundamentals of Computer Aided Drafting using menus, settings and drawing setup, draw and edit commands, Cartesian coordinate system, practice drawings, symbols, prototype drawings and plotting.
Credit Hours: 2.0
Class Hours: 23
Lab Hours: 23
Total Contact Hours: 46

II. COURSE OBJECTIVES: *Course will:*

- A. Demonstrate the application of the basic CAD Draw commands.
- B. Demonstrate the application of the basic CAD Edit and Modify commands.
- C. Discuss dimensioning procedures and dimension variables.
- D. Introduce drawing layers, templates, and plot settings.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Generate 2D drawings using the basic draw commands.
 - 2. Edit drawings using edit and modify commands.
 - 3. Create a solid model.
 - 4. Create a drawing from a solid model.
 - 5. Create an assembly in 3D.
 - 6. Format dimension styles and annotate a CAD drawing.
 - 7. Publish a usable print for a production environment.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO 3: Critical Thinking & Problem Solving
Outcome 1: Collect, identify, interpret and analyze data.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)

- A. Settings
 - 1. Cartesian coordinates
 - 2. Limits
- B. Drawing
 - 1. Lines
 - 2. Circles
 - 3. Arcs
 - 4. Polygons
 - 5. Rectangles
- C. Editing/Modifying
 - 1. Snaps
 - 2. Trim
 - 3. Copy
 - 4. Chamfer/Fillet

- D. Templates
 - 1. Dimensioning
 - 2. Layout
 - 3. Model
- E. Solids
 - 1. Extrusions
 - 2. Cuts
 - 3. Holes
- F. Prints
 - 1. Templates
 - 2. Dimensions
- G. Assemblies

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s): Handouts will be supplied by the instructor. No purchased book required.

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 - 1. Lecture
 - 2. Small and large group discussion
 - 3. Video presentation
 - 4. Demonstrations
 - 5. Handouts
 - 6. Observations
 - 7. Assigned lab projects
 - 8. Field trips
 - 9. Hybrid

VII. METHODS OF EVALUATION (*course outline will provide more detailed information*)

- A. Methods of evaluations, although determined by the individual instructor, traditionally includes a combination of the following:
 - 1. Notebook (if required)
 - 2. Quizzes
 - 3. Tests
 - 4. Lab grades
 - 5. Class participation

VIII. SPECIFIC COURSE REQUIREMENTS

- A. Completion of all tests, projects, assignments, and notebook (if required).
- B. Program shop safety rules will be followed. Please see the course outline for any additional safety rules established by the instructor.