SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Manufacturing Engineering Technology Program
Revision Date: August 22, 2022
Syllabus Statements

I. CATALOG DESCRIPTION

Course Number:	MFGT1351
Course Title:	CAD for Manufacturing
Prerequisite(s):	None
Catalog Description:	This course covers the fundamentals of proper use of CAD software using current American Society of Mechanical Engineers (ASME) standards. Students will learn and practice multiple tools in CAD including sketch tools, editing, documentation creation, file management, solid modeling, assemblies, and simulation tools.
Credit Hours:	4
Class Hours:	15
Lab Hours:	135
Total Contact Hours:	150

II. COURSE OBJECTIVES: *Course will:*

A. Introduce multiple CAD software packages as tools used in the engineering design process.

B. Demonstrate the basic commands and tools necessary for professional engineering documentation and design.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. Student Learning Outcomes: *Student will be able to:*

1. Become familiar with the applications, development and terminology associated with CAD.

2. Execute basic draw commands, editing, dimensioning and modify commands, and be familiar with construction and inquiry commands.

3. Start new drawings, work with layers, symbols, blocks, and be familiar with setup of plotter and plotting drawings.

4. Collect information from the drawing and make mathematical calculations.

B. General Education Learning Outcomes (GELOs)

1. GELO #5: Analytical, Quantitative, and Scientific Reasoning
Outcome 4: Manipulate formulas, data sets, graphs, tables, etc. in a way to produce meaningful outcome.

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

A. CAD overview
B. Hardware and software
C. Operating system
D. User interface
E. Basic commands
F. Dimensioning & text
G. Construction commands
H. Modifying and edit commands
I. New and prototype drawings
J. Attributes

K. Plotting and printing
L. File extensions and management
M. Geometric, dimensioning and tolerancing

V. INSTRUCTIONAL MATERIALS

A. Required Text(s): Randy Shih, *Tools for Design Using AutoCAD and Autodesk Inventor* (Refer to CID and/or instructor for current edition)

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. Flip charts
6. Handouts
7. Observations
8. Assigned lab projects
9. Field trips

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

A. Methods of evaluation, 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 conduct

VIII. SPECIFIC COURSE REQUIREMENTS:

A. Completion of all tests, projects, assignments, and notebook (if required).
B. Must earn a final grade of 70% (2.0) or higher.