

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES AND SKILLED TRADES DIVISION
Land Surveying/GIS/Civil Engineering Technology Program
Revision Date: August 225

I. CATALOG DESCRIPTION

Course Number: LSCE1126
Course Title: Basic Civil CAD
Prerequisite(s): None
Catalog Description: This course introduces computer aided drafting (CAD) and examines the hardware that makes up a CAD workstation. It also covers the operating system (Microsoft Windows) that enables the equipment to function as a unit. The course shows how to use AutoCAD to set up drawings and construct lines, circles, arcs, other shapes, geometric constructions, and text. Students will use display and editing techniques as well to obtain information about their drawings and work with drawing files. This course also introduces recommended drafting standards for students to use for properly preparing drawings with AutoCAD. This course also covers basic lettering skills, drawing media and the use of a civil engineer's scale.
Credit Hours: 3.0
Class Hours: 15
Lab Hours: 90
Total Contact Hours: 105

II. COURSE OBJECTIVES: *Course will:*

- A. Distinguish between basic hand lettering skills and AutoCAD annotation.
- B. Assist students in becoming proficient in using basic AutoCAD commands referencing civil projects.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Select basic rules for learning to letter.
 - 2. Describe a civil engineer's scale.
 - 3. State the purpose for using a civil engineering scale.
 - 4. Describe and use the basic terms, concepts and techniques to computer-aided drafting.
 - 5. Draw lines, basic shapes and geometric constructions and edit drawings.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #6: Career and Life Skills
 - 2. Outcome 4: Use digital technology to access, manage, integrate, evaluate, and present information.

IV. CONTENT/TOPICAL OUTLINE

- A. Lettering
- B. Media
- C. Civil Engineer's Scale Usage
- D. Introduction to AutoCAD Features
- E. Working With Drawings and Templates

- F. Introduction to Drawing and Editing
- G. Drawing Basic Shapes
- H. Line Standards, Drawing Format and Printing/Plotting
- I. Display Options
- J. Object Snaps and Auto Tracking
- K. Geometric Construction
- L. Placing Text on Drawing

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s): Shumaker and Madsen, *AutoCAD and Its Applications: Basics*, E-Book (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. Lectures
 - 2. Classroom demonstrations
 - 3. Classroom discussions
 - 4. Hands-on lab projects
 - 5. Lab demonstrations
 - 6. Lab assistance
 - 7. Instructional handouts
 - 8. Video presentations
 - 9. PowerPoint presentations

VII. METHODS OF EVALUATION

- A. Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:
 - 1. Assignment Worksheets
 - 2. Tests
 - 3. Participation
 - 4. Evaluation will be based on the number of points earned from the total points possible

VIII. SPECIFIC COURSE REQUIREMENTS

- A. A minimum grade of “C” or higher is required in all courses designated or starting with LSCE to progress through or graduate from the program.