

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES AND SKILLED TRADES DIVISION
Land Surveying/GIS/Civil Engineering Technology Program
Revision Date: August 2025

I. CATALOG DESCRIPTION

Course Number: LSCE1226
Course Title: Civil CAD II
Prerequisite(s): LSCE1126 and LSCE1130
Catalog Description: This course examines dimensioning, blocks, attributes, section views, external references, multi-view layouts, command aliases, scripts, and object linking and embedding. Students will learn how to use AutoCAD to dimension drawings, create section lines and graphic patterns, design symbols and attributes for multiple use, and create sheet sets. Student drawings will be plotted or printed. This course also covers recommended drafting standards and practices for students to use for properly preparing drawings with AutoCAD. The basic introduction to AutoCAD Civil 3D is covered in this course. This course also introduces the students into the basic use of the DC50 COGO data collector software.

Credit Hours: 3.0
Class Hours: 15
Lab Hours: 90
Total Contact Hours: 105

II. COURSE OBJECTIVES: *Course will:*

- A. Demonstrate AutoCAD and its Application Basics.
- B. Provide an introduction to Mastering AutoCAD Civil 3D to include the Basics, Survey, and Points chapters.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Edit existing text.
 - 2. Create and modify table styles.
 - 3. Edit a table.
 - 4. Insert formulas into cells to perform calculations on numeric data.
 - 5. Properly use the Fillet, Chamfer, Break, Join, Trim, Extend, Stretch, Lengthen, Explode, PEDIT, Move, Rotate, Align, Copy, Mirror, Reverse, Array, and MATCHPROP commands.
 - 6. Describe common dimension standards and practices.
 - 7. Properly use the QDIM, MLEADER, DIMORDINATE, REVLOUD and WIPEOUT tools.
 - 8. Add graphic patterns using the HATCH tool.
 - 9. Insert hatch patterns into drawings using DesignCenter and tool palettes.
 - 10. Edit existing hatch patterns with the HATCHEDIT tool and grips.
 - 11. Describe the AutoCAD Civil 3D Survey outcomes and how Points are handled in AutoCAD Civil 3D.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #6: Career and Life Skills
Outcome 4: Use digital technology effectively to access, manage, integrate, evaluate, and present information.

IV. CONTENT/TOPICAL OUTLINE

- A.** Single Line Text & Additional Text Tools
- B.** Tables
- C.** Basic Object Editing Tools
- D.** Polyline and Spline Editing Tools
- E.** Arranging and Patterning Objects
- F.** Grips, Properties and Quick Select
- G.** Obtaining Drawing Information
- H.** Dimension Standards and Styles
- I.** Linear and Angular Dimensioning
- J.** Dimensioning Features and Alternate Practices
- K.** Editing Dimensions
- L.** Section Views & Graphic Patterns
- M.** Civil 3D Chapter 1-3: the Basics, Survey and Points

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)
- B.** Other Text (s): Davenport and Voiculescu, *Mastering AutoCad Civil 3D* (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 typically include a combination of the following:
 - 1.** Assignment Worksheets
 - 2.** Tests
 - 3.** Participation

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.