

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES AND SKILLED TRADES DIVISION
Land Surveying/GIS/Civil Engineering Technology Program
Revision Date: March 2026

I. CATALOG DESCRIPTION

Course Number: LSCE1326
Course Title: AutoCAD Civil Design
Prerequisite(s): DDRT 1120 and LSCE1130
Corequisite(s): MATH1050 or higher
Catalog Description: This course introduces Civil 3D software, drawings of subdivision plats and computer aided drafting projects. This course provides the applications of design and layout of a basic plan set. Using Civil 3D surface information, design cross section templates and apply to road design. Determine cut and fill projections.
Credit Hours: 3.0
Class Hours: 15
Lab Hours: 90
Total Contact Hours: 105

II. COURSE OBJECTIVES: *Course will:*

- A. Provide students with knowledge of AutoCAD Civil 3D that enables them to organize data, work with points, create and analyze surfaces, setup survey data bases, learn the basics of the tool space interface, design and edit parcels, edit label styles, and edit object styles.
- B. Apply knowledge to the production of civil drawings for use in plan sets, court documents, and deliverable processed data.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Auto CAD Civil 3D basics
 - 2. Setting up for Survey Data
 - 3. Importing and manipulating Points
 - 4. Create an existing ground surface using points.
 - 5. Modify and update a TIN surface.
 - 6. Create parcels from objects.
 - 7. Create subdivision lots automatically by layout.
 - 8. Create an alignment from an object.
 - 9. Lay out a design on the basis of a table of data.
 - 10. Create a typical road assembly with lanes, curbs, gutters, and sidewalks.
 - 11. Edit an assembly.
 - 12. Build a single baseline corridor from and alignment, profile, and assembly.
- 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.** Chapter 1 - Introduction
- B.** Chapter 2 - Points
- C.** Chapter 3 - Surfaces
- D.** Chapter 4 – Surface Volumes and Analysis
- E.** Chapter 5 - Alignments
- F.** Chapter 6 – Working with Profiles
- G.** Chapter 7 - Assemblies and Subassemblies
- H.** Chapter 8 - Working with Corridors and Parcels
- I.** Chapter 9 - Sample Lines, Sections, and Quantity Takeoffs
- J.** Chapter 10 - Feature Lines and Grading

V. INSTRUCTIONAL MATERIALS

Required Text(s): Exploring AutoCAD Civil 3D 2023 12th Edition, CADCIM Technologies, ISBN 978-1-64057-150-1

- A.**
- C.** Supplies: Data Storage Device

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.** Assignments Sheets, Labs, and Drawings
 - 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.