

SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Design & Drafting Technology Program
Revision Date: August 22, 2022

I. CATALOG DESCRIPTION

Course Number: DDRT1224
Course Title: 3D Civil CAD
Prerequisite(s): DDRT1110
Catalog Description: Using 3D civil software, students will work with field survey data, manage point data, perform analysis, and create construction documentation for use on civil design projects.

Credit Hours: 2
Class Hours: 15
Lab Hours: 45
Total Contact Hours: 60

II. COURSE OBJECTIVES: *Course will:*

- A. Utilize 3D Civil CAD to create 3D models and documentation per industry standards.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
1. Manage existing and proposed point data.
 2. Perform analysis for geospatial data, visual analysis and storm and sanitary analysis.
 3. Create construction documentation.
- B. General Education Learning Outcomes (GELOs)
1. GELO #5: Analytical, Quantitative, and Scientific Reasoning
Outcome 2: Understand and create logical arguments supported by quantitative and scientific evidence and communicate those arguments in a variety of formats.

IV. CONTENT/TOPICAL OUTLINE

- A. Introduction, Software, Theory, Files, & Start-up
- B. Using Survey Data
- C. Modeling terrain using surfaces
- D. Alignments
- E. Profiles
- F. Designing New Terrain
- G. Analysis
- H. Construction Documentation
- I. Final Exam

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s): Ellis, Rick, *A Practical Guide to AutoCad Civil 3D*, (Refer to CID and/or instructor for current edition)
- B. Supplies: 2GB (Minimum) USB Flash/Jump drive and Three ring notebook

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. Power Point presentations

VII. METHODS OF EVALUATION

- A. Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:
 1. 50% Drawing Assignments
 - a. 30% Tests (written and drawing)
 - b. 20% Final Exam (written and drawing)
 2. Grading Criteria:
 - a. Completeness
 - b. Neatness
 - c. Accuracy
 - d. Drafting standards followed
 - e. According to instructions provided
 - f. Quality of work done in accordance with industry standards

VIII. SPECIFIC COURSE REQUIREMENTS

- A. Student must meet all of the following to receive a passing grade:
 1. Achieve a passing grade of “D” (60%) or higher, based on SCC grading scale.
 2. Submit own work. Students turning in homework, reports, field notes, or calculations by someone other than themselves will receive 0% and be referred to the Division Dean and Dean of Students for further disciplinary action. Consequences can include failing the course.
 3. Demonstrate attitude, skills, and character commensurate with industry standards.
 4. All program policies of the Computer Aided Design Drafting program will be strictly enforced.
 5. Intentional damage to college property will not be tolerated and may result in punitive action, such as being removed from the program.
- B. Attendance: Students are required to attend all classes. Any student absent more than 12 class hours for a lab or 6 hours for lecture class will have their final course grade reduced one grade point. (Example: A reduced to a B)