

SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Electrical/Electromechanical Technology Program
Revision Date: August 26, 2019

I. CATALOG DESCRIPTION

Course Number: ELEC 1336
Course Title: CAD & Electrical Estimating
Corequisite(s): ELEC1366
Catalog Description: Introduction to computer based drafting systems for electrical applications followed by the design of electrical distribution system and computerized cost estimating.

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

II. COURSE OBJECTIVES: *Course will:*

- A.** Develop students' abilities to maneuver the function and uses of Auto Cad.
- B.** Demonstrate basic function and uses of computer aided and basic electrical estimation.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A.** Student Learning Outcomes: *Student will be able to:*
 - 1.** Create Auto Cad drawings.
 - 2.** Reproduce a simple schematic drawing within specified time restraints.
 - 3.** Estimate a residential print within specified time restraints.
 - 4.** Estimate a commercial print within specified time restraints.
- B.** General Education Learning Outcomes (GELOs)
 - 1.** GELO #2: Written Communication
Outcome 1: Comprehend, analyze, and evaluate a given text.

IV. CONTENT/TOPICAL OUTLINE

- A. AUTO CAD DRAWING COMMANDS**
 - 1.** Goal Statement: Student will use current version of Auto Cad drawing to create a residential/commercial print.
 - a.** Line
 - b.** Circle
 - c.** Arc
 - d.** Text
 - e.** Donut
 - f.** Polyline
 - g.** Part
- B. AUTOCAD EDITING COMMANDS**
 - 1.** Goal Statement: Student will edit a residential/commercial print.
 - a.** Redraw
 - b.** Erase
 - c.** Scale
 - d.** Rotate
 - e.** Move
 - f.** Mirror

- g. Copy
 - h. Break
- C. AUTOCAD DRAWING AIDS
 - 1. Goal Statement: Students will use current version of Auto Cad commands to assist in creating drawings.
 - a. Grid
 - b. Snap
 - c. Ortho
 - d. Layer
 - e. Attach
 - f. Zoom
- D. Intellibid RESIDENTIAL PRINT
 - 1. Goal Statement: Student will use Intellibid to estimate a residential print.
 - a. Job Registry
 - b. Take Off
 - c. Bid Recap
 - d. Item Library
 - e. Phases
- E. Intellibid COMMERICAL PRINT
 - 1. Goal Statement: Students will use Intellibid to estimate a commercial print.
 - a. Maintenance Library
 - b. Zonal Cavity Lighting Calculator
 - c. Assembly construction
 - d. Power tools
- V. INSTRUCTIONAL MATERIALS
 - A. Required Text(s): None
- VI. METHODS OF PRESENTATION/INSTRUCTION
 - A. Methods of presentation typically include a combination of the following:
 - 1. Lecture 15 hours
 - 2. Lab 45 hours
- VII. METHODS OF EVALUATION
 - A. Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:
 - 1. Theory Grade
 - a. Test given over the covered material.
 - b. Quizzes given over the material covered.
 - 2. Lab Grade
 - a. Create drawings similar to practice in under time limit-evaluated on percent completed and general layout and neatness.
 - b. Estimate a residential print.
 - c. Estimate a commercial print.
- VIII. SPECIFIC COURSE REQUIREMENTS
 - A. A minimum grade of 60% is required.
 - B. Cheating within the Manufacturing Division: Any violation of academic integrity on assignments, quizzes, or tests will result in a grade of 0 on that assignment, quiz, or test. A second violation in any course after the initial infraction will result in a grade of F for

that course. Any additional violations while in the program will result in a suspension from the program.

- C. Credit by Examination: Credit for the course CANNOT be earned through Credit by Examination.