

SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Building Construction Technology Program
Revision Date: August 23, 2021

I. CATALOG DESCRIPTION

Course Number: CNST1328
Course Title: Estimating I
Prerequisite(s): CNST1222 CNST1225 or by Permission
Catalog Description: This course introduces students to the basics of construction estimating. Students will learn how to estimate costs using both traditional and digital methods and how to read building plans and specifications to accurately calculate material. The course also covers how to prepare bids and manage project costs, providing the skills needed to support construction planning and budgeting.

Credit Hours: 3.5
Class Hours: 30
Lab Hours: 68
Total Contact Hours: 98

II. COURSE OBJECTIVES: *Course will:*

- A. Identify estimating practices, processes, and variables that impact construction project costs.
- B. Explain various estimating methods, including traditional and digital techniques.
- C. Describe specifications and architectural practices required for the estimating process.
- D. Describe site preparation materials and calculate earthwork quantities.
- E. Identify cast-in-place concrete applications and calculate concrete quantities.
- F. Describe the different types of wood materials, construction methods, and calculate lumber quantities.
- G. Identify the different types of doors, windows, and hardware.
- H. Describe gypsum, tile, flooring, and wall-covering materials, and how to estimate their quantities effectively.
- I. Explain the skills necessary for assembling bids and managing costs effectively.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Explain the fundamental principles and purpose of construction estimating.
 - 2. Interpret construction drawings and specifications to identify scope and quantities of work.
 - 3. Prepare basic quantity takeoffs and cost estimates using standard estimating methods and tools.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #3: Critical Thinking & Problem Solving
Outcome 2: Synthesize information to arrive at reasoned solutions to problems.

IV. CONTENT/TOPICAL OUTLINE *(course outline may provide more detailed information)*

- A. Estimating Practices
- B. Estimating Methods
- C. Specifications and Drawings

- D.** Contracting Requirements and General Requirements
- E.** Earthwork
- F.** Concrete
- G.** Woods, Plastics, and Composites
- H.** Thermal and Moisture Protection
- I.** Openings
- J.** Finishes
- K.** Final Bid Assembly and Presentation

V. INSTRUCTIONAL MATERIALS

- A.** Required Text(s):
 - 1.** Leonard P. Toenjes, Construction Estimating 3rd Edition
- B.** Supplies:
 - 1.** Calculator
 - 2.** Architectural Plans (Provided by Instructor)

VI. METHODS OF PRESENTATION/INSTRUCTION

- A.** Methods of presentation typically include a combination of the following:
 - 1.** Lecture
 - 2.** Hands-on lab projects
 - 3.** Lab demonstrations
 - 4.** Lab assistance
 - 5.** Speaker(s)
 - 6.** Field Trip(s)
 - 7.** Instructional handouts

VII. METHODS OF EVALUATION

- A.** Methods of evaluation, although determined by the individual instructor, traditionally includes a combination of the following:
 - 1.** Reading Assignments
 - 2.** Estimates
 - 3.** Tests

VIII. SPECIFIC COURSE REQUIREMENTS

- A.** Student must meet all of the following to receive a passing grade:
 - 1.** Achieve a passing grade of “C” (70%) 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.** Intentional damage to college property will not be tolerated and may result in punitive action, such as being removed from the program.
 - 5.** All cell phones will be turned off during class/lab time. If this becomes a problem, the instructor may consider the delinquent student absent.
- B.** All program policies of the Building Construction Technology program will be strictly enforced.