

COURSE INFORMATION

Course prefix/No.:	BCT 131
Course Title:	Estimating/Quantity Takeoff
Lecture Hours/Week:	2
Lab Hours/Week:	0
Credit Hours/Semester:	2

[*Distance Learning Attendance/VA Statement*](#)
[*Textbook Information*](#)

COURSE DESCRIPTION

This course covers construction estimation and quantity takeoff for construction trades based on local and national building codes.

COURSE COMPETENCIES

Upon successful completion of this course, the student should be able to:

Module 1 - Introduction to Estimating

- Explain the concept of estimating for construction.
- Describe different types of estimates and their specific purposes.
- Define essential terms involved in estimating and contracting.
- Identify the specific building plans and other documentation required to perform a detailed estimate.
- Explain the quantity takeoff process.
- Complete a bill of materials from a set of drawings.
- Calculate building features—lengths, perimeters, areas, and volumes—to do quantity takeoffs.
- Explain the use and importance of site visits and soils reports to the estimating process.
- Explain the contents of a soils report and complete a sample site visit checklist.

Module 2 - Measuring Concrete Work and Carpentry Work

- Prepare a formwork assessment using drawings given for concrete.
- Complete a quantity takeoff for concrete work for a residential construction project, including measurements of concrete, formwork, and concrete finishes.
- Complete a quantity takeoff for a driveway.
- Describe grades of lumber needed for different applications in framing and finish carpentry.
- Calculate lumber needs using nominal dimensions and board measure.

- Complete floor system takeoff.
- Complete wall system takeoff.
- Complete roof system takeoff.
- Complete a takeoff for finish carpentry and miscellaneous items.

Module 3 - Measuring Masonry and Finishes, Plumbing, HVAC, and Electrical Work

- Describe how masonry work and finishes are measured in a takeoff.
- Use drawings and specifications to measure masonry items, interior and exterior finishes.
- Calculate quantities of bricks, blocks, and masonry units by using conversion factors.
- Complete masonry takeoff.
- Complete interior and exterior finish takeoffs.
- Explain the need for additional sketches for estimating plumbing, HVAC, and electrical work not covered on project plans.
- Identify the details needed in a plumbing layout to complete a takeoff.
- Identify the details needed in a HVAC layout to complete a takeoff.
- Identify the details needed in an electrical layout to complete a takeoff.
- Explain quick methods used to estimate prices for plumbing, HVAC, and electrical work.
- Complete plumbing, HVAC, and electrical takeoffs by using square footage shortcuts.
- Complete plumbing takeoff by using cost-per-fixture technique.

Module 4 - Pricing General Expenses, Summarizing and Pricing the Work

- Define general expenses.
- Create a schedule for the completion of a residential project.
- Describe the types of expenses that are involved in general expenses.
- Identify two types of insurance policies that builders purchase for a project.
- Complete a takeoff of general expenses for a residential project.
- Describe the pricing process after takeoffs are completed.
- Explain how to prepare a Bill of Materials.
- Complete a Bill of Materials for a residential project.
- Explain how to price subcontractor's work.
- Finalize an estimate using manual methods.

REQUIREMENTS

Attendance Policy

The college attendance policy stated in the college handbook will be honored. The instructor will provide specific requirements for the course.

Academic Honesty

Students are expected to adhere to the college policy regarding student conduct as stated in the college handbook.

Assignments

Students are expected to complete all assignments and any supplementary exercises designated by the instructor.

EVALUATION STRATEGIES/GRADING

Students must complete all modules, including assignments, projects, labs, and tests. Students must earn at least a "C" in order for the course to serve as a prerequisite and for the course to apply towards a certificate.

Grading Scale

A = 90 -100

B = 80 - 89

C = 70 - 79

D = 60 - 69

F = 0 - 59

Evaluation Method

Tests/Projects (minimum of four total)	12.50% for each module
Work Attitude	6.25% for each module
Lab	6.25% for each module

100% Final Grade = 25% X 4 modules

Work Attitude is defined as:

- Participation
- Responsibility
- Cooperation
- Professionalism
- Appearance
- Attendance
- Effort
- Self Motivation
- Safety
- Works Independently

ENTRY LEVEL SKILLS

The student must be able to read and solve basic mathematical equations.

PREREQUISITES/CO-REQUISITES

Prerequisites: RDG 031 or equivalent and BCT 112, BCT 213, EGT 133, and MAT 150

Co-requisites: None

METHODS OF INSTRUCTION

Lectures, reading assignments, projects, discussions, video presentations, multimedia presentations, and web content are the major teaching methods used in this course. See instructor for specifics.

LAB EXERCISES

See addendum and/or instructor for additional details.

Effective Date: SU06