

COURSE INFORMATION

Course prefix/No.:	BCT 101
Course Title:	Introduction to Building Construction
Lecture Hours/Week:	4
Lab Hours/Week:	3
Credit Hours/Semester:	5

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

COURSE DESCRIPTION

This course is an introduction to residential and light commercial construction, construction terms, tools of the trade and their safe use.

COURSE COMPETENCIES

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

Module 1. Introduction

- Explain the roles of architects, engineers, city building officials, contractors and craftsmen in the skilled trades.
- Describe the various drawings in a set of blueprints and explain how they are used by craftsmen in each trade.
- Wear appropriate PPE and follow safety precautions.
- Demonstrate proficiency in construction math.
- Read a ruler to within 1/16 inch.
- Identify common construction hand tools and explain their use.
- Properly use common construction hand tools.
- Discuss basic specifications for common power tools.
- Properly use basic power tools.

Module 2. Masonry

- Estimate materials cost for an assigned construction project.
- Interpret drawings to lay out footings, piers and foundation walls.
- Correctly lay a running bond brick wall.
- Correctly lay a concrete block wall.
- Construct forms for concrete for footings, piers and foundation walls.
- Construct brick and block piers and foundation walls.

Module 3. Carpentry

- Interpret drawings and specifications to lay out a construction project.
- Estimate materials cost for an assigned construction project.
- Frame a floor system and install subfloor.
- Construct wall sections.
- Apply wall sheathing.
- Lay out, cut, and install ceiling joists.
- Lay out and cut rafters for gable roof.
- Apply roof sheathing.
- Install roofing felt and shingles.
- Install wall insulation and paneling.
- Install doors and windows.
- Install molding and other trim.
- Install underlayment and tile floor.

Module 4. Electrical

- Properly interpret drawings and specifications for electrical service for an assigned construction project.
- Follow codes and specifications to size and select materials and equipment.
- Perform a material takeoff for the electrical system.
- Install the electrical entrance connection for a construction project.
- Rough in the electrical system for a construction project.
- Install switches, outlets, and other electrical equipment.
- Conduct appropriate tests for the electrical system.

Module 5. Plumbing

- Properly interpret drawings and specifications for a plumbing project.
- Lay out and rough in a plumbing system for a basic construction project.
- Perform a plumbing material takeoff for an assigned project.
- Rough in a water supply line for an assigned project.
- Rough in a DWV for an assigned project.
- Install a hot water heater.
- Install basic plumbing fixtures.
- Conduct appropriate tests of the plumbing system.

Module 6. HVAC

- Properly interpret drawings and specifications for HVAC system for an assigned construction project.
- Follow codes and specifications to size and select materials and equipment for HVAC.

- Perform a material takeoff for the HVAC system.
- Rough in the HVAC system for a construction project.
- Install specified HVAC equipment.
- Conduct appropriate tests for the HVAC system.

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 three total)	8.33% for each Module
Work Attitude	4.16% for each Module
Lab	4.16% for each Module

16.67% X 6 Modules = 100% Final Grade

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, ACR 102 or BCT 105

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.