

COURSE INFORMATION:

Course Prefix/No.:	BCT 141
Course Title:	Fixtures and Installation
Lecture Hours/Week:	2.0
Lab Hours/Week:	3.0
Credit Hours/Semester:	3.0

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

COURSE DESCRIPTION:

This course is a study and application of planning and installing electrical fixtures.

COURSE COMPETENCIES:

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

Module 1 - Hardware and Materials

- Identify common box and enclosure types used in residential and commercial installations.
- Identify common conductor and cable types used in residential and commercial applications.
- Identify types of cable connectors, terminals, and lugs.
- Identify common raceway types.
- Identify common devices used in residential and commercial installations.
- Identify common box covers and plates used in residential and commercial installations.
- Identify common types of fuses and circuit breakers used in residential and commercial installations.

Module 2 - Electrical Box Installation

- Select the appropriate electrical box type for a given application.
- Perform proper installations of metal and non-metallic electrical device boxes.
- Perform proper installations of lighting outlets and junction boxes.
- Perform proper installations of electrical boxes in existing walls and ceilings.

Module 3 - Lighting Fixture Installation

- Explain the fundamentals of lighting basics.
- Recite common lamp and lighting fixture terminology.
- Recognize three different types of lamp types used in residential and commercial applications: incandescent, florescent and high-intensity discharge (HID).

- Select an appropriate lighting fixture for a specific area or location.
- Perform proper ceiling fan assembly and installation.
- Perform proper recessed lighting installations, IC rated and non-IC rated.
- Perform the proper installation of a cut-in recessed lighting fixture after sheet rock installation.

Module 4 - Device Installation

- Demonstrate the proper way to splice wires together using approved methods.
- Demonstrate the proper way to terminate circuit conductors to a switch or receptacle device.
- Select the proper receptacle for a specific application.
- Perform proper installation techniques for receptacles.
- Select the proper switch for a specific application.
- Perform proper installation techniques for switches.
- Perform proper GFCI and AFCI receptacle installations.
- Perform proper installations of TVSS devices.

STANDARDS:

Assignments and attendance must be completed as designated in “Evaluation Strategies/Grading.” Criteria for minimal acceptable performance will be provided by the instructor.

REQUIREMENTS:

Attendance Policy

The college attendance policy, stated in the college handbook, will be honored.

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 - 89.9
C = 70 - 79.9
D = 60 - 69.9
F = 00.0 - 59.9

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

25% X 4 module grades = 100% Final Grade

Work Attitude is defined as:

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

ENTRY LEVEL SKILLS:

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

PREREQUISITES/CO-REQUISITES:**Prerequisite:**

RDG 031 or equivalent, BCT 105, BCT 112, EEM 105, and EEM 141

Co-requisite:

EEM 165

METHODS OF INSTRUCTION:

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

LAB EXERCISES (See addendum or instructor for additional details):

Module 1 - Hardware and Materials

- Identify common box and enclosure types used in residential and commercial installations.
- Identify common conductor and cable types used in residential and commercial applications.
- Identify types of cable connectors, terminals, and lugs.
- Identify common raceway types.
- Identify common devices used in residential and commercial installations.
- Identify common box covers and plates used in residential and commercial installations.
- Identify common types of fuses and circuit breakers used in residential and commercial installations.

Module 2 - Electrical Box Installation

- Select the appropriate electrical box type for a given application.
- Installation of metal and non-metallic electrical device boxes.
- Installation of lighting outlets and junction boxes.
- Installation of electrical boxes in existing walls and ceilings.

Module 3 - Lighting Fixture Installation

- Select an appropriate lighting fixture for a specific area or location.
- Install lighting fixtures, both ceiling and wall type.
- Ceiling fan assembly and installation.
- Recessed lighting installation.

Module 4 - Device Installation

- Wire splicing using approved methods.
- Terminating circuit conductors to a switch or receptacle device.
- Select the proper receptacle for a specific application.
- Receptacle installation.
- Select the proper switch for a specific application.
- Switch installation.
- GFCI receptacle installation.