

COURSE INFORMATION

Course prefix/No.:	BCT 150
Course Title:	PLUMBING
Lecture Hours/Week:	3
Lab Hours/Week:	6
Credit Hours/Semester	5

Distance Learning Attendance/VA Statement Textbook Information

COURSE DESCRIPTION:

This course is a study of skills for the plumbing trade, safe and proper use of plumbing tools, calculations for plumbing, schematics for plumbing, selection and joining of various pipes, selecting and fitting tubing and fillers, cutting and threading carbon steel pipes, and making flare and compression joints.

COURSE COMPETENCIES:

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

Module 1. Plumbing as a Career

- List significant events in the history of plumbing.
- Identify the personal traits required to be a successful plumber.
- Identify the responsibilities of plumbers.
- Identify the positive impacts the plumbing profession has on society.
- Describe the stages of progress in the career of a plumber.

Module 2. Plumber's Toolbox

- Identify and select appropriate measuring and layout tools (rulers, squares, plumb bobs, chalk boxes, and levels) for plumbing operations.
- Identify and correctly use various kinds of screwdrivers, pliers, wrenches and hammers used by plumbers.
- Identify and correctly use various kinds of saws and cutters used for cutting plastic, copper, and steel pipe.
- Identify and properly use wallboard saws, wood chisels, cold chisels, utility knives and multi-purpose tools.
- Properly use a copper flaring tool and a copper tubing bender.
- Properly use a torch assembly to solder copper pipe.
- Identify and wear appropriate Personal Protection Equipment (PPE).

Module 3. Power Tools

- Identify and properly use plumbing power tools.
- Select and properly use the appropriate drills and saws for a specific plumbing procedure.
- Select the appropriate drill bit or saw blade for a specific plumbing procedure.
- Select and correctly use portable band saws, grinders, power actuated tools, air compressors, and jackhammers.
- Identify and wear the appropriate personal protection equipment (PPE) for power tools.
- Use power tools properly and safely.
- Observe appropriate safety rules in the use of extension cords and ground fault circuit interrupters.
- Observe appropriate safety rules in selecting, placing and using ladders and fall protection devices.

Module 4. Types of Pipe, Fittings and Valves

- Identify and describe common types of pipe and tubing used in a residential plumbing system.
- Identify the types and schedules of plastic pipe and describe the applications for each.
- Identify types of fittings and valves used with plastic piping.
- Properly measure, cut and join plastic piping and fittings.
- Identify the types and sizes of copper tubing and describe applications.
- Identify types of fittings and valves used with copper piping.
- Properly measure, cut and join copper piping and fittings.
- Identify the types and sizes of cast iron pipe and describe applications.
- Identify types of fittings used with cast iron fittings.
- Properly measure, cut and join cast iron piping.
- Identify the types and sizes of steel pipe and describe applications.
- Identify types of fittings and valves used with steel piping.
- Properly measure, cut, thread and connect steel piping.

Module 5. Blueprint Reading and Drafting

- Identify pictorial, schematic, and orthographic drawings, and explain how these views give necessary information about objects and their placement.
- Identify basic plumbing symbols and abbreviations used in schematic drawings of pipe assemblies.
- Interpret basic residential architectural blueprints.
- Create basic sketches of piping systems.
- Use an architect's scale to measure lines drawn to scale and draw lines to scale on orthographic and schematic drawings.

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:

Successful completion of the course requires the completion of each of the five modules, all tests/projects (minimum of five total), and all assignments. 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 5 total)	50% of each Module
Work Attitude	25% of each Module
Lab	25% of each Module

20% X 5 module grades = 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. Students should demonstrate hand/eye coordination, manual dexterity, and be able to work in an industrial environment.

PREQUISITE/CO-REQUISITES:

Prerequisite:

BCT 105 and BCT 112

Co-requisite:

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 Activities: (See addendum or instructor for additional details)