

SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES AND SKILLED TRADESDIVISION
Plumbing Technology Program
Revision Date: August 2025

I. CATALOG DESCRIPTION

Course Number: PLMB1010
Course Title: Plumbing Concepts I
Prerequisite(s): None
Catalog Description: Study of water supply systems, water sources, waste disposal systems, sewage disposal systems, including their components with reference to the Uniform Plumbing Code.

Credit Hours: 3
Class Hours: 45
Lab Hours: 0
Total Contact Hours: 45

II. COURSE OBJECTIVES: *Course will:*

- A. Explain plumbing history, codes and principles.
- B. Display safe working practices.
- C. Demonstrate problem solving as it pertains to the plumbing industry.
- D. Explain the proper use of the tools used in the piping trade.
- E. Describe where our water supplies come from.
- F. Discuss what materials are approved for water supply piping, drainage waste and vent piping along with the plumbing fixtures.
- G. Demonstrate methods of installing plumbing systems and recognize quality workmanship that abides by the codes.
- H. Display the many different fixtures that can be used in a plumbing system.
- I. Explain different options for gas piping and how they are sized.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Define the scope, purpose, and safety regulations of the plumbing codes.
 - 2. Recognize who the Authority Having Jurisdiction is and their requirements.
 - 3. Identify the purpose of the codes and how they evolved in history.
 - 4. Know how to complete their work in a safe manner and maintain a safe work environment.
 - 5. Describe the different tools used in the piping trade and how to use them properly.
 - 6. Recognize where the water supplies come from and how the water is treated.
 - 7. Discuss proper piping installation practices.
 - 8. Display the math skills needed for the piping trades.
 - 9. Recognize approved plumbing materials and fixtures.
 - 10. Identify the importance of proper pipe sizing for a plumbing and gas systems.
 - 11. Know how to test a plumbing system for leaks.
 - 12. Recognize quality and proper workmanship.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #3: Critical Thinking & Problem Solving
Outcome 1: Collect, identify, interpret and analyze data.

IV. CONTENT/TOPICAL OUTLINE

- A.** Understand the history of plumbing and why there are codes that must be followed.
- B.** Learn who the Authority Having Jurisdiction is and the rules you must follow.
- C.** Discuss safe practices as it pertains to plumbing installations and quality workmanship.
- D.** Understand the math used in the piping trade.
- E.** Learn to read blueprints, draw plans and lay out a plumbing system.
- F.** Learn the different tools in the piping trade and how to use them properly.
- G.** Realize where our water comes from and how it is treated.
- H.** Sizing a water supply system.
- I.** Sizing a drainage waste and vent system.
- J.** Methods of choosing fixtures, faucets and other plumbing needs for a system.
- K.** Understand how to install a plumbing system without affecting the integrity of the building.
- L.** Learn the importance of quality workmanship.

V. INSTRUCTIONAL MATERIALS

- A.** Required Text(s):
 - 1.** IAPMO, *Uniform Plumbing Code*, (Refer to CID and/or instructor for current edition)
 - 2.** IAPMO, *Uniform Plumbing Code Study Guide*, (Refer to CID and/or instructor for current edition)
 - 3.** ATP Publisher, *Plumbing Design and Installation Workbook & Book*, (Refer to CID and/or instructor for current edition)
- B.** Other Resources: Handouts, PowerPoints, Videos
- C.** Supplies:
 - 1.** 2inch 3 ring binders
 - 2.** Notebook
 - 3.** Colored and regular pencils
 - 4.** Calculator
 - 5.** Architects scale

VI. METHODS OF PRESENTATION/INSTRUCTION

- A.** Methods of presentation typically include a combination of the following:
 - 1.** Online materials including but not limited to Articles, PowerPoints, Videos, Exercises, and Practice Quizzes, In Person Lecture, Canvas Modules

VII. METHODS OF EVALUATION

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

VIII. SPECIFIC COURSE REQUIREMENTS

- A.** This course will not qualify as a prerequisite if the student receives a final grade below a C (70%).