

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

I. CATALOG DESCRIPTION

Course Number: PLMB1110
Course Title: Plumbing Concepts II
Prerequisite(s): "C" or higher in PLMB1010
Catalog Description: Continuation of the study of plumbing systems design and installation with emphasis on advance types of fixtures, appliances, water heaters, and hydronic systems.

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

II. COURSE OBJECTIVES: *Course will:*

- A. Demonstrate an understanding of advanced plumbing design options.
- B. Interpret the most economical installation options.
- C. Explain the techniques to install these advanced systems.
- D. Illustrate architectural types of fixtures and appliances.
- E. Explain the quality workmanship needed to install these types of fixtures and appliances.
- F. Discuss how to design a hydronic system as a heating option.
- G. Discuss the knowledge to properly pipe a hydronic system.
- H. Examine the codes that pertain to all types of designs and installations.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Recognize advanced options of designing a plumbing system.
 - 2. Identify the best option for the piping installation.
 - 3. Recognize the different options for designer fixtures and how to properly install them.
 - 4. Demonstrate quality workmanship and skill of all installations.
 - 5. Demonstrate the ability to know and use the proper tools in more advanced installations.
 - 6. Recognize how to separate potable from non-potable water supplies of pools and hydronic systems.
 - 7. Explain how a hydronic system works.
 - 8. Identify the differences between a hydronic heating system and forced air systems.
 - 9. Know how to properly pipe a hydronic system.
 - 10. Recognize quality workmanship and perform it in a safe manner.
- 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 many design option of a plumbing system.
- B. Use print reading knowledge to efficiently install the system.

- C. Install the system according to code with quality workmanship.
- D. Follow safe practices as it pertains to plumbing installations.
- E. Understand the many options of fixtures and how to properly install them.
- F. Learn the different tools for advanced installations.
- G. Learn the many ways to separate potable water from non-potable water.
- H. How hydronic heating systems work.
- I. Understand the different components that go into a hydronic system.
- J. Designing a hydronic system.
- K. Remember the importance of quality workmanship.

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s):
 - 1. ATP Publisher, *Plumbing Design and Installation* (Refer to CID and/or instructor for current edition)
 - 2. ATP Publisher, *Plumbing Design and Installation Workbook* (Refer to CID and/or instructor for current edition)
- B. Other Resources: Handouts, PowerPoints, Videos, UPC 2012 online

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 - 1. Lectures, power points, online and classroom videos
 - 2. Classroom demonstrations
 - 3. Construction site field trips

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
 - 3. Assignments
 - 4. Classroom Assessments