

SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Plumbing Technology Program
Date: August 2025

I. CATALOG DESCRIPTION

Course Number: PLMB1116
Course Title: Advanced Plumbing Processes & Practices
Prerequisite(s): "C" or higher in PLMB1015
Catalog Description: A continuation of Plumbing Processes & Practices. Installation of drainage waste and vent piping and water supply piping for both residential and commercial applications in accordance with the Uniform Plumbing Code.
Credit Hours: 5
Class Hours: 30
Lab Hours: 135
Total Contact Hours: 165

II. COURSE OBJECTIVES: *Course will:*

- A. Discuss proper communication skills and professionalism for plumbers.
- B. Demonstrate the skills to identify and repair problems on plumbing systems and equipment.
- C. Demonstrate how to change out bad components or fixtures.
- D. Demonstrate the ability to service and repair water heaters.
- E. Illustrate the proper techniques to clear drain pipes.
- F. Identify backflow or cross connection problems.
- G. Identify how to eliminate water hammer.
- H. Initiate a plan to correct unsafe or improper installations.
- I. Show proper pipe hanger requirements for all types of pipe.
- J. Examine the final sections of the UPC 2012 codes.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Communicate with customers and co-workers professionally and with respect.
 - 2. Recognize the problems that occur in a plumbing system and how to repair or service them.
 - 3. Identify issues with water heaters and how to repair or replace.
 - 4. Demonstrate how to clear a plugged drainage system.
 - 5. Identify a backflow or cross connection problem and how to solve it.
 - 6. Demonstrate how to eliminate water hammer.
 - 7. Test the systems so they can pass inspection.
 - 8. Practice proper pipe hanging requirements.
 - 9. Recognize quality workmanship and skill for all installations.
 - 10. Recognize the principles of electricity and how to work with it safely.
 - 11. Identify problems with an electrical supply and correct them.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #6: Career and Life Skills
Outcome 7: Demonstrate choices that reflect personal responsibility in one's academic, civic, social, and vocational/professional life.

IV. CONTENT/TOPICAL OUTLINE

- A. Hands on experience with advanced tools for the piping trade.
- B. Hands on experience with the different materials used for commercial plumbing systems.
- C. Demonstrate safe practices as it pertains to commercial job sites.
- D. Layout residential and commercial water supply systems.
- E. Layout residential and commercial DWV systems.
- F. Follow the codes that apply to the system being installed.
- G. Develop an efficient method of all types of installations with 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, UPC 2012 online
- C. Supplies: Your tools and shops tools

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 - 1. Lab demonstrations and hands on work
 - 2. Construction site field trips
 - 3. Actual plumbing installations with approved materials

VII. METHODS OF EVALUATION

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