

SOUTHEAST COMMUNITY COLLEGE
CONSTRUCTION MANUFACTURING AND TECHNOLOGY DIVISION
Plumbing Technology Program
Revision Date: August 22, 2022

I. CATALOG DESCRIPTION

Course Number: PLMB1020
Course Title: Blueprint Reading for Plumbers
Prerequisite(s): None
Catalog Description: Study of the fundamentals of structural, plumbing, electrical, HVAC, and detail plans, rough-in sheets, installation tolerances, and isometric pipe sketches and views.

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

II. COURSE OBJECTIVES: *Course will:*

- A. Demonstrate how to read building plans and drawings.
- B. Recognize the importance of interpreting the plans accurately for all trades.
- C. Develop an understanding of the symbols used in the plans.
- D. Demonstrate how working drawings are created.
- E. Discuss the methods to make drawings or sketches, materials list and specification sheets.
- F. Perform the math skills learned to properly layout a plumbing system.
- G. Demonstrate the difference between linear and angular measurements.
- H. Develop an understanding of one dimensional and isometric drawings.
- I. Review the plans to make sure they are to code.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Interpret a set of plans for all trades.
 - 2. Identify the methods required to install a plumbing system without interference to other trades.
 - 3. Solve problems that could cause structural damage during the installation.
 - 4. Analyze the plans to make sure the system can be installed according to code.
 - 5. Know how to make their own drawings or sketches for accurate layouts.
 - 6. Solve installation layouts by using their math skills they have learned.
 - 7. Solve linear and angular measurements for proper rough-ins.
 - 8. Interpret isometric drawings to gather information as to the fittings and materials needed.
 - 9. Identify the materials and equipment needed based on a set of plans.
 - 10. Diagram a sequential plan of installation.
 - 11. Recognize and solve any problems that may occur during the installation from the plans.
- B. General Education Learning Outcomes (GELOs)
 - 1. GELO #2: Written Communication
Outcome 3: Identify and evaluate evidence from a variety of printed, visual, and electronic sources.

IV. CONTENT/TOPICAL OUTLINE

- A. Understand the basics for reading a set of plans.
- B. Learning the different symbols used by all trades on plans.
- C. Accurately measuring all types of drawings.
- D. Being able to create a drawing or sketch to use during installation.
- E. Looking at more advanced drawings and being able to interpret them.
- F. Write a materials list based on the plans.
- G. Write spec sheets for fixtures and equipment.
- H. Make sure all is according to code.

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
- C. Supplies: Architects scale, pencil, notebook, calculator

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 - 1. Readings in the book, workbook, PowerPoints, handouts and videos
 - 2. Classroom demonstrations

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 Assessment