

# APPT 163: PLUMBING I

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2024
Units:	5
Hours:	50 lecture, 49 laboratory per quarter (99 total per quarter)
Prerequisite:	Per California Code of Regulations, this course is limited to students admitted to the Plumbing & Pipefitting Apprenticeship Program.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	None
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

## Student Learning Outcomes

- A student will be able to apply all trade related plumbing codes to all plumbing applications, using the (UPC California Plumbing Code) as reference materials.
- A student will be able to apply UPC to all gas pipe sizing.
- A student will be able to apply UPC to all waste and vent pipe sizing.
- A student will be able to apply UPC to all water pipe sizing.

## Description

First year of the Plumbing and Pipefitting Apprenticeship program. This course provides students with a working knowledge of Plumbing Code I and water supply systems. Includes the implementation of beginning isometric drawing.

## Course Objectives

The student will be able to:

1. Recognize and discuss portions of the Plumbing Code
2. Recognize and classify water supply systems
3. Recognize and use isometric graphing systems

## Course Content

1. Plumbing Code I
  - a. Definitions
  - b. Drainage systems
  - c. Vents and venting
  - d. Indirect wastes
  - e. Traps and interceptors
2. Water supply systems
  - a. Water treatment
  - b. Water mains and service
  - c. Building water systems
  - d. Cross connection
  - e. Hot water supply

- f. Valves
  - g. Pumps
3. Isometrics
    - a. Layout
    - b. Fitting application

## Lab Content

Students will work individually and in teams on visually identifying the various Plumbing Codes for a water supply system in the lab:

1. General code regulations
2. Review of plumbing fixtures
3. Water heaters
4. Water supply and distribution
5. Sanitary drainage
6. Indirect and special wastes
7. Vents
8. Traps
9. Fuel piping
10. Standards
11. Sizing water supply systems
12. Sizing waster and vent systems
13. Rainwater systems
14. Medical gas systems
15. Graywater systems
16. Private sewage disposal systems
17. Reclaimed water systems
18. IAPMO installation standards
19. Useful tables used in industry

## Special Facilities and/or Equipment

1. Laboratory with plumbing tools
2. Personal protective equipment
3. Calculator
4. When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address

## Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Written examination  
 Hands-on demonstration  
 Chapter quizzes  
 Group and classroom participation  
 Punctuality

## Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture  
 Discussion  
 Laboratory  
 Demonstration

## **Representative Text(s) and Other Materials**

U.A.. Drawing Interpretation and Plan Reading. 2006.

Texts older than five years may be utilized in this course as industry-standard texts.

2022 California Plumbing Code (Code of Regulations Title 24, Part 5).

Tyler Pipe & Coupling booklet, 2015.

AB&I or Tyler No-Hub Cast Iron pocket catalog, 2016.

## **Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments**

1. Readings from the 2022 California Plumbing Code Manual for Title 24, Part 5, as required
2. Weekly writing assignments are documented in the lab manual of the Plumbing Code booklet
3. Drawing exercises under requirements of California State Code

## **Discipline(s)**

Plumbing