APPT 165: HYDRONICS 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 use drafting techniques and apply to plumbing and piping systems.
- A student will be able to apply isometric piping and elevation views of plumbing and piping systems.

Description

Third-year course of the Plumbing and Pipefitting Apprenticeship program. This course provides students with a working knowledge of technical drawings, isometric drawings, and the creation of building plans as it applies to the piping trades.

Course Objectives

The student will be able to:

1. Recognize and classify drainage systems related to the plumbing industry
2. Recognize and classify piping fixtures
3. Demonstrate piping fixture installations

Course Content

1. Hydronics I
   a. Technical drawings
   b. Isometric drawings
   c. Building plans
2. Piping equipment
   a. Submittals
   b. Specifications
   c. Equipment cut sheets
3. Installation
   a. Installation practices
   b. Institutional fixtures and equipment
   c. Fixture control
   d. Appliances and accessories

Lab Content

Students will classify the different types of plumbing fixtures and drawings and demonstrate plumbing fixture installations in the lab:

1. Basic piping layout and design
2. Complete equipment room layout
3. Basic commercial building systems
4. Specialty piping systems
5. Isometric drawing of a lab space

Special Facilities and/or Equipment

1. Laboratory with drawing tables
2. Drawing utensils for drafting
3. 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

United Association of Journeymen and Apprentices. Drainage. 2014.

U.A.. Hydronics Heating and Cooling. 2016.

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

2019 California Plumbing Code (Code of Regulations Title 24, Part 5).

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

1. Readings from the textbook and reference from the Plumbing Code Handbook
   a. Section H, Drainage Systems
   b. The application of isometric drawings
2. Writing assignments on elevation, isometric and plan views for commercial systems

a. Final exam consists of a 50-question written exam of the entire course and Section H Handbook

Discipline(s)

Plumbing