APPT 161: INTRODUCTION TO THE PIPING INDUSTRY

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2024
Units:	6
Hours:	63 lecture, 36 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 demonstrate and classify Materials used in the plumbing industry.
- A student will be able to demonstrate assembly of all piping methods.
- A student will be able to identify and apply on the job safety standards.

Description

First-year course of the Plumbing and Pipefitting Apprenticeship program. Provides students with a working knowledge of plumbing industry materials and standards. Learn use and care of pipe trade tools, practice safety and heritage of the United Association. Also provides OSHA 30 certification.

Course Objectives

The student will be able to:

1. Recognize and classify materials used in the plumbing industry
2. Demonstrate the proper use and care of plumbing tools
3. Demonstrate assembly of piping
4. Recognize and apply on-the-job safety standards
5. Achieve OSHA 30 certification

Course Content

1. Materials used in the plumbing industry
    a. Identification of materials
    b. Selection of materials to code
    c. Relationship between plan and specification
    d. Material classification
2. Use and care of plumbing tools
    a. Use of wrenches
    b. Use of layout tools
    c. Use of hand tools
    d. Cleaning tools
    e. Maintaining tools
3. Shop assembly of piping
    a. Soldering
    b. Brazing
    c. Pipe threading
    d. No-hub joint
    e. Plastics
    f. Compression joints/flared joints
4. Safety
    a. At the work site
    b. Hazardous materials
    c. Forms used for OSHA

Lab Content

Students will work individually and in teams reviewing safety requirements related to working in the trade, which will include:

1. People/personnel safety precautions
2. Equipment safety
3. Grounding and GFCI
4. Handling power tools
5. Handling hand tools
6. Fire hazards
7. Handling compressed gas cylinders
8. Welding, cutting, gasses
9. Excavations
10. Confined space

Special Facilities and/or Equipment

1. Laboratory with plumbing tools
2. Personal protective equipment
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

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.. Use and Care of Tools. 2015.

U.A.. Job Safety and Health. 2020.

U.A.. Standard for Excellence. 2019.

U.A.. Plumbing Service, Maintenance, and Repair. 2017.

. Soldering and Brazing. 2020.

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

1. Readings from the textbook for the U.A.
   a. Standards of the Union
   b. Application of Job Safety & Health
   c. Application & Use of Tools
   d. Plumbing Service, Maintenance, and Repair
2. Writing assignments are related to the assignments given in the laboratory
   a. Group assignment to discuss and contrast individual views of the heritage of the unions. Prepare statement from individual perspective
   b. Review the OSHA Safety Pocket Guide. Discuss each personal experience and provide examples
   c. Complete end of chapter assignments in the Use and Care of Tools lab manual

Discipline(s)

Plumbing