

APPT 192: NATURAL GAS INSTALLATION, DRAINAGE

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	5
Hours:	37 lecture, 86 laboratory per quarter (123 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 (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Student Learning Outcomes

- A student will be able to calculate elevation and grade.
- A student will be able to calculate rolling offsets.
- A student will be able to calculate pipe diagonals and derive pipe lengths.

Description

This course provides students with a working knowledge of natural gas installations and drainage as it applies to the plumbing and pipe fitting industry. This course is required to meet the certificate requirements to become journeyman plumber.

Course Objectives

The student will be able to:

- Perform natural gas installation required in the plumbing industry.
- Perform drainage installation required in the plumbing industry.

Course Content

A. Natural Gas

1. Basic natural gas installation
2. Formulas and tables
3. Pipe measurement

B. Drainage

1. Basic drainage installation
2. Drainage materials
3. Metals and alloys
4. Corrosion

Lab Content

Students will work individually on applying plumbing code application with plumbing fixtures to the layout of piping systems in the lab:

- Applying plumbing code application and plumbing fixture installation.
- Applying plumbing code in the plumbing industry.
- Applying metric measurements.

D. Utilizing instruments Used for piping systems layout.

Special Facilities and/or Equipment

- Laboratory with overhead projector
- Calculator

Method(s) of Evaluation

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

Method(s) of Instruction

Discussion
Laboratory
Demonstration

Representative Text(s) and Other Materials

United Association of Journeymen and Apprentices. [Plumbing Code Application, and Plumbing Fixtures](#). 2009.

NOTE: This is the Plumbing textbook used for this course. Although it may not be within 5 years of the required published date, it is the most current book used when teaching this course. We will adopt the next edition, as it is published.

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

A. Readings from the textbook. Examples include:

1. Utilize proper sizing methods of gas lines (Chapters 1-2)
2. Application of geometry for the plumbing trades (Chapters 1)
3. Applying proper instrumentation for piping systems layouts (Chapters 3-4)

B. Writing assignments; examples include:

1. Math calculations for pipe measurements
2. Applying geometry to calculate piping systems
3. Applying formulas for related math in the pipe trades
4. Calculating metric measurements for piping system layouts
5. Specifying instruments used for piping system layouts

Discipline(s)

Plumbing