

APPT 193: WATER SUPPLY, PATTERNS

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 define backflow and back siphon prevention assemblies.
- A student will be able to describe the components and operation of high purity water systems.
- A student will be able to describe the water treatment process.

Description

This course provides students with a working knowledge of water supply and patterns as it applies to the plumbing and pipe fitting industry. Students will apply safety practices as it relates to on-the-job training.

Course Objectives

The student will be able to:

- Perform water supply application required in the plumbing industry.
- Perform patterns required in the plumbing industry.

Course Content

A. Water supply

1. Basic water supply principles
2. Formulas and tables
3. Pipe measurement

B. Patterns

1. Angle cutting principles
2. Pipe measurements
3. Geometry

Lab Content

Students will work individually on applying math principles and concepts to the layout of piping systems in the lab:

- Calculate water flow friction loss.
- Calculate water column pressure using plumbing trade formulas.
- Metric measurements.

Special Facilities and/or Equipment

- Laboratory with overhead projector
- Calculator

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:

- Discussion
- Laboratory
- Demonstration

Representative Text(s) and Other Materials

United Association. [Water Supply](#). 2008.

Winstead, C.R.. [Pipefitting with a Calculator](#). 1981.

NOTE: These are the Plumbing textbooks used for this course. Although, one or more may not be within 5 years of the required published date, they are the most current books used when teaching this course. We will adopt the next edition of each text, 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. Water supply and patterns for the plumbing trades, Ch. 1-4
2. Application of geometry for the plumbing trades, Ch. 5-6
3. Instrumentation for piping systems layouts, Ch. 7-8

B. Writing assignments; examples include:

1. Complete worksheets on water supply systems
2. Calculating sizing of piping systems
3. Applying formulas for water supply and patterns in the pipe trades
4. Calculating metric measurements for piping system layouts

Discipline(s)

Plumbing