

APPT 166: WELDING/OXY-ACETYLENE TRAINING

Foothill College Course Outline of Record

Heading	Value
Units:	4.5
Hours:	30 lecture, 72 laboratory per quarter (102 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 apply safety techniques related to welding and burning of metals.
- A student will be able to produce weld samples in the flat, horizontal, vertical and overhead positions.
- A student will be able to demonstrate welding techniques and methods.

Description

Third-year course of the Plumber & Pipefitter Apprenticeship program. This course provides students with a working knowledge of welding principles, as it relates to Metal ARC welding, Gas ARC welding, TIG Welding, MIG Welding and Oxygen/Acetylene burning and welding.

Course Objectives

The student will be able to:

- Demonstrate safety related to welding and burning
- Demonstrate welding techniques and methods
- Demonstrate how to weld pipe

Course Content

- Safety
 - Review safety specifications for setup and teardown
 - Review OSHA practices
- Welding Techniques
 - Weld a metal plate and pipe to standards and specifications
 - Prepare an arc weld
 - Complete a test coupon
 - Perform a MIG weld
- Pipe Welding
 - Weld joints for pipe
 - Oxy-acetylene welding

Lab Content

Students will work individually and in teams on the welding and burning techniques used on the job site in this laboratory.

- Basic Welding Techniques
- Pipe Fitting and Welding
- Oxy-fuel cutting & SMAW Techniques
- GTAW Welding Techniques
- Welding Safety Practices

Special Facilities and/or Equipment

- Laboratory with welding equipment
- Personal protective equipment

Method(s) of Evaluation

- Written examination
- Hands-on demonstration
- Chapter Quizzes
- Group and Classroom participation
- Punctuality

Method(s) of Instruction

- Lecture
- Discussion
- Laboratory
- Demonstration

Representative Text(s) and Other Materials

Oxy/Fuel Cutting & Welding/Shielded Metal Arc Welding manual, Pipe Trades Pocket Manual and Pipe fitters Hand Book. Washington, D.C.: International Pipe Trades Joint Training Committee, Inc., 2014.

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

A. Readings from the pocket manual on Welding and the Pipe Fitters Handbook

- The theory of SMAW Welding as it pertains to the trades
- The theory of GTAW as it pertains to the trades

B. Writing assignments include homework from:

- Written OSHA practices used in the laboratory
- Types of welding techniques used for various applications
- Welding safety enforced in the field

Discipline(s)

Plumbing