

APPT 168: MEDICAL GAS/ RIGGING SIGNAL PERSON

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2024
Units:	4.5
Hours:	36 lecture, 66 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 Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- A student will be able to receive N.I.T.C. medical gas installer and braze certification.
- A student will be able to apply pipe sizing methods for all hydronic heating and cooling systems.

Description

Fourth-year course of the Plumbing and Pipefitting Apprenticeship program. This course provides students with a working knowledge of medical gas, brazer, crane signaling.

Course Objectives

The student will be able to:

1. Receive N.I.T.C. Medical Gas Installer and Brazer certification
2. Size piping systems and equipment related to piping systems
3. Become UA Crane Signal Person certified (United Association)

Course Content

1. N.I.T.C. certification
 - a. NFPA 99 certification
2. Piping system sizing/relocation
 - a. Sizing/relocating hydraulic systems
 - b. Sizing/relocating hydronic systems
3. United Association (UA) course requirements
 - a. Mobile crane operator practice exam
 - b. Tower crane operator practice exam
 - c. Overhead crane operator practice exam
 - d. Crane inspection, methods, and techniques

Lab Content

Students will work individually and in teams on how to prepare and install medical gas and piping equipment in the lab, which includes:

1. Piping systems
2. Radiators
3. Heat pumps
4. Boilers
5. Controls
6. Pumps

Special Facilities and/or Equipment

1. Laboratory with medical gas and hydronic equipment
2. Personal protective equipment
3. Calculator
4. 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

International Codes and Standards Organization. [NFPA 99 Health Care Facilities Code](#). 2020.

International Pipe Trades Joint Training Committee, Inc.. [Hydronic Heating and Cooling](#). 2016.

International Pipe Trades Joint Training Committee, Inc.. [Signal Person Training Guide](#). 2019.

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

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

1. Readings from the NFPA 99 textbook (National Fire Protection Agency) section 99
 - a. The application of medical gas and vacuum systems
 - b. The design of hydronic, heating, and cooling systems in a controlled environment
 - c. The ability to signal cranes safely

2. Writing assignments are part of the homework assignments from readings, and practice quizzes at the end of each chapter in the textbook, NFPA 99 Health Care Facilities Code, and the Signal Person Training Guide

Discipline(s)

Plumbing