

# APPT 194: MEDICAL GAS, REVIEW EXIT EXAM/FINAL EXAM

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	1.5
Hours:	5 lecture, 55 laboratory per quarter (60 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 describe Level 1 medical air supply systems.
- A student will be able to describe medical-surgical vacuum systems.
- A student will be able to describe performance criteria and testing.

## Description

Apprentices learn the installation procedures of medical gas and vacuum systems. This includes medical gas alarms systems, valve stations, inlets, outlets and the complete vacuum system. Brazing techniques will be described and demonstrated.

## Course Objectives

The student will be able to:

- Demonstrate safety practices taken when working with medical gas systems.
- Perform procedures and requirements of medical gas and vacuum system installations.
- Demonstrate gas and vacuum systems' testing procedures and pass the NITC final exam.

## Course Content

- Medical gas
  - Medical gas review
  - Formulas and tables
  - Pipe measurement
- Installation
  - Proper handling of medical gas piping
  - Proper alignment of medical gas piping
  - Brazing of medical gas piping
- Completion
  - Purging the system
  - Secure of pipe installation

- Labeling medical gas piping

## Lab Content

Students will work on applying medical gas principals and concepts.

- Practice brazing techniques to practice brazing.
- Apply code as it pertains to medical gas.

## 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

Lecture  
Discussion  
Laboratory  
Demonstration

## Representative Text(s) and Other Materials

National Fire Protection Association (NFPA). Medical Gas and Vacuum Systems Installations Handbook. 2018.

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

- Reading assignments; examples include:
  - Medical Gas for the Plumbing Trades (Chapters 1-3)
  - Application of Medical Gas Systems for the Plumbing Trades (Chapters 4-6)
- Writing assignments; examples include:
  - Calculate medical gas systems formulas
  - Complete medical gas code assignments

## Discipline(s)

Plumbing