

# APSM 112: SMQ-12 FIELD INSTALLATION

## Foothill College Course Outline of Record

Heading	Value
<b>Effective Term:</b>	Summer 2021
<b>Units:</b>	2
<b>Hours:</b>	28 lecture, 12 laboratory per quarter (40 total per quarter)
<b>Prerequisite:</b>	Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Apprenticeship Program.
<b>Degree &amp; Credit Status:</b>	Degree-Applicable Credit Course
<b>Foothill GE:</b>	Non-GE
<b>Transferable:</b>	None
<b>Grade Type:</b>	Letter Grade (Request for Pass/No Pass)
<b>Repeatability:</b>	Not Repeatable

## Student Learning Outcomes

- A successful student will be able to identify the proper techniques for rigging a load.
- A successful student will be able to put on a safety harness properly.

## Description

This course addresses knowledge and application specific to field work in the sheet metal industry. Students receive training and safety certifications for forklift, scissor lift, or articulating booms. Proper techniques for rigging and hoisting loads are presented. Field measurement and job-site layout considerations are practiced. In addition, fire damper types are presented as well as the necessity of following the manufacturer's specifications for applications related to life safety in buildings.

## Course Objectives

The student will be able to:

- Demonstrate proper techniques for crane communication and hoist and rigging requirements per OSHA standards
- Recognize fire-related construction associated with installed ducts
- Identify and install different fire dampers
- Organize job materials and equipment
- Follow common field measurement practices
- Perform job-site layout per plans and specifications
- Understand typical duct installation sequence

## Course Content

- Demonstrate proper techniques for crane communication and hoist and rigging requirements per OSHA standards
  - Crane functions and safety
  - Crane signals
  - Hoisting and rigging
- Recognize fire-related construction associated with installed ducts
- Identify and install different fire and smoke dampers
  - Types of fire and smoke dampers

- Installation requirements
- Fire-related construction
- Organize job materials and equipment
- Follow common field measurement practices
- Perform job-site layout per plans and specifications
  - Penetration layout
  - Mechanical plans and shop drawings
- Understand typical duct-installation sequence
  - Installing a duct run
  - Outlets, dampers, and duct accessories

## Lab Content

- Students will work individually and in teams. Lab content includes:
- Practice and skill demonstration for safety certifications on forklift and other lift equipment
  - Practices exercises for rigging techniques and job-site measuring and lay out
  - Demonstrations of proper smoke and fire-damper installation

## Special Facilities and/or Equipment

- Laboratory with sheet metal tools
- Personal protective equipment

## Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

- Results of written quizzes and tests
- Shop participation
- Comprehensive written final examination
- Comprehensive final project
- Evaluation of progress by weekly assignments

## Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

- Discussion
- Laboratory instruction
- Demonstration

## Representative Text(s) and Other Materials

International Training Institute. [Core Sheet Metal Curriculum, International Training Institute for the Sheet Metal and Air Conditioning Industry \(student manual and workbook\)](#). 2010.

International Training Institute. [HVAC, International Training Institute for the Sheet Metal and Air Conditioning Industry \(student manual\)](#). 2005.

International Training Institute. [Industrial Sheet Metal and Welding Curriculum, International Training Institute for the Sheet Metal and Air Conditioning Industry \(student manual and workbook\)](#). 2007.

These are the standard Sheet Metal textbooks/workbooks 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.

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

A. Reading assignment, from textbook:

1. Field Installation Unit 3, Installing Ductwork

B. Writing assignment:

1. Complete student manual review questions on page FI3-11 regarding installing ductwork

## **Discipline(s)**

Sheet Metal