

# APSM 132: SMQ-32 INTERMEDIATE CAD DETAILING THIRD PARTY

## Foothill College Course Outline of Record

Heading	Value
<b>Effective Term:</b>	Summer 2021
<b>Units:</b>	1
<b>Hours:</b>	10 lecture, 30 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 create custom catalogs and symbol sets.
- A successful student will be able to Edit fittings and connectors for download fabrication.

## Description

Continuation of 3-D duct detailing program for electronic coordination, emphasizing accessing, editing, and recovering files with CAD DUCT or similar third party sheet metal detailing software system. Students will use format standards, tag files, and program utilities. Using contract documents, students will work through the steps necessary to create a job file.

## Course Objectives

The student will be able to:

- Develop drawing templates
- Combine multiple drawings
- Set up and manage utilities, files, and libraries
- Edit fittings and connectors for download fabrication
- Print reports and plot drawings

## Course Content

- Develop drawing templates
  - Enter data input from catalogs to database files for utilization during drawing input
  - Format rectangular and round fitting standards, tag files, and utilities for the drawing process
- Combine multiple drawings
  - Import and export .dxf files
- Set up and manage utilities, files and libraries
  - Backup and restore catalogues and drawing files
  - Set up and exit equipment libraries

- Access data files and configure files
- Access set-up files and edit utilities
- Recover corrupt drawing files
- Create custom catalogs and symbol sets
- Edit fittings and connectors for download fabrication
- Access and edit attributes of fittings during and after the drawing process
- Print reports and plot drawings

## Lab Content

Students will work individually and in teams on HVAC system design and detail CAD drawing:

- Practice using third party CAD software, focusing on creating and changing file libraries
- Editing construction parameters within the software
- Plotting and downloading using CAD software onto a CAM system

## Special Facilities and/or Equipment

- Computer laboratory with CAD software

## 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 assignment

## 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 for the Sheet Metal and Air Conditioning Industry. [Detailing Program Student Manual](#). 2007.

This is the standard Sheet Metal textbook/workbook used for this course. Although it may not be within 5 years of the required published date, it is the most current book used when teaching this course.

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

- Reading assignments:
  - Weekly reading assignments from text and outside sources (provided by instructor)
- Homework assignment:
  - Analysis of printed reports and plot drawings
  - Specification of possible edits to drawings

## **Discipline(s)**

Sheet Metal