

# APSM 116: SMQ-16 PLANS & SPECIFICATIONS

## Foothill College Course Outline of Record

Heading	Value
<b>Effective Term:</b>	Summer 2021
<b>Units:</b>	3
<b>Hours:</b>	38 lecture, 2 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 explain the organization of plans and specifications.
- A successful student will be able to Read and interpret architectural, structural, mechanical, electrical, control, specialty and residential drawings.

## Description

Introduction to plans and specifications and their applications in the sheet metal construction industry. This includes reading and interpreting title blocks, lines, abbreviations, symbols, sections, details and schedules for residential and commercial projects. Architectural, structural, mechanical, electrical, control, and specialty drawings are covered in detail.

## Course Objectives

The student will be able to:

- Explain the organization of construction documents (plans and specifications)
- Locate and identify line types, symbols, and abbreviations used on the plans and specifications
- Identify and use plans, elevations, coordinates, sections, isometric drawings, and detail drawings
- Read and interpret architectural, structural, mechanical, electrical, control, specialty, and residential drawings
- Find specific information about a project in the plans and specifications provided
- Verify sheet metal installation, system and performance requirements are correct per all plans and specifications
- Understand typical symbols and organization used in residential contract documents

## Course Content

- Explain the organization of construction documents (plans and specifications)

- Contract documents
- Construction specification institute formats
- Locate and identify line types, symbols, and abbreviations used on the plans
  - Theory and application of typical line types, symbols, and abbreviations on building plans
  - Research specifications for information needed for construction
  - Theory and application of research methodologies for construction
- Identify and use plans, elevations, coordinates, sections, isometric drawings, and detail drawings for specific information required
  - Theory and application of building plan specifications for final product
- Search, read, and interpret civil, architectural, structural, mechanical, electrical, control, specialty, and residential drawings and specifications
  - Civil drawings and specifications
  - Architectural drawings and specifications
  - Structural drawings and specifications
  - Mechanical drawings and specifications
  - Electrical drawings and specifications
  - Control drawings and specifications
  - Specialty drawings and specifications
- Verify sheet metal installation, correctness of system, and performance requirements per all plans and specifications
  - Measurements of system performance and balance techniques
- Understand typical symbols and organization used in residential contract documents
  - Residential projects in comparison with industrial and commercial projects

## Lab Content

Students will work individually and in teams. Lab content includes:

- Demonstrations and practice in identifying sections of building plans
- Demonstrations and practice involving identifying details and detail nomenclature in building plans
- Student research involving information in building plans and specifications for actual building projects
- Student practice to develop skills in locating the desired information efficiently and independently

## 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. Reading Plans and Specs, International Training Institute for the Sheet Metal and Air Conditioning Industry (student manual and workbook; selected specifications and submittals; selected plans). 2006.

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 books used when teaching this course.

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

A. Reading assignment:

1. Read unit 1 in the Student Manual, explaining the function of plans and specifications for a construction project and how they are organized

B. Writing assignment:

1. Complete Module 1, Activity 1, using plans to find information

## **Discipline(s)**

Sheet Metal