

APSM 117: SMQ-17 SUBMITTALS & SHOP DRAWINGS

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	2.5
Hours:	34 lecture, 6 laboratory per quarter (40 total per quarter)
Prerequisite:	Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal 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 successful student will be able to Use a submittal to find specific information about a manufactured item.
- A successful student will be able to make a detailed material list including sizes, model numbers, and ratings from contract documents.

Description

This course continues to build on job specification and blueprint reading instructions and adds the creation of a shop drawing and use of submittals as done in the sheet metal industry. This includes reading typical plans, specifications and submittals, identifying specific information on the submittal, applying a numbering system to the shop drawing, creating material lists from the shop drawing or submittal, and field use of drawings and submittals.

Course Objectives

The student will be able to:

- Read typical submittals
- Use a submittal to find specific information about a manufactured item
- Create and read a shop drawing utilizing information from plans, specifications and submittals for a construction project
- Apply a numbering system to a shop drawing for installation of components
- Reference a detailed equipment schedule including sizes, model numbers, and ratings, to relate to submittals for details needed
- Provide data needed for computerized fabrication using input sheets
- Create shop drawings based on information given
- Use submittals and shop drawings in the field

Course Content

- Read typical submittals
 - HVAC equipment submittals

- Duct accessory submittals
 - Architectural sheet metal submittals
- Use a submittal to find specific information about a manufactured item
 - Obtain information about installation, fabrication, ordering information and delivery time
 - Sizes and other specifications needed for installation or for fabrication
 - Other design information
- Understand methods used to create a shop drawing utilizing information from plans, specifications, and submittals for a construction project
 - Gather information and resolve issues
 - Communication of information
 - Produce a shop drawing
- Apply a numbering system to a shop drawing for order of installation
 - Establish a start point
 - Establish a easy-to-follow numbering code
- Reference a detailed equipment schedule including sizes, model numbers, and ratings, to relate to submittals for details needed
 - Locate equipment both in submittals and on equipment schedule
 - Identify information typically included in the schedule versus the submittals
- Provide data needed for computerized fabrication using input sheets
 - Field created sketches for fabrication tickets
 - Typical formats for fabrication orders
- Create shop drawings based on information given
 - Basic shop drawing assignment
 - Advanced shop drawing assignments
- Use submittals and shop drawings in the shop and on the job site
 - Practice reading shop drawings and submittals prepared by others
 - Verify information on shop drawings with job conditions

Lab Content

Students will work individually and in teams to:

- Practice in reading shop drawings
- Practice in understanding manufacturers' submittals and associating details with actual field conditions
- Utilize information from design drawing and manufacturers' submittals to create shop drawings
- Practice communicating fabrication details through the creation of shop drawings

Special Facilities and/or Equipment

- Laboratory with sheet metal tools
- Personal protective equipment

Method(s) of Evaluation

- 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

- 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 book used when teaching this course.

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

A. Reading assignment:

1. Read text in Module 5, Unit 1, as an overview of shop drawings

B. Writing assignment:

1. Complete the Module 5, Activity 1, Shop Drawing Take-Off Activity

Discipline(s)

Sheet Metal