

# APSM 110: SMQ-10 BASICS OF ARCHITECTURAL SHEET METAL

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	2
Hours:	18 lecture, 22 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 layout, fabricate and solder basic gutters, with miters, end caps, expansion joints and outlets.
- A successful student will be able to layout, fabricate and solder basic gutter downspouts.

## Description

This course focuses on essential skills used in architectural sheet metal work, including joint design for water flow, caulking and soldering applications, miters, and expansion joints. Discussion of use of architectural sheet metal in order to protect buildings from moisture and mold damage. Roof and scaffold safety is discussed.

## Course Objectives

The student will be able to:

- Describe architectural sheet metal principles and safety
- Identify the most common types of caulking and their uses
- Identify the different types of architectural sheet metal and materials
- Lay out, fabricate, and solder basic field miters
- Identify function and fabrication of expansion joints per SMACNA standards

## Course Content

- Be aware of architectural sheet metal principles and safety
  - Water movement
  - Roof, scaffold, and soldering safety
- Identify the most common types of caulking and their uses
- Identify the different types of architectural sheet metal and materials
  - Architectural sheet metal materials
  - Joint design for water flow
- Lay out, fabricate, and solder basic field miters
  - Utilize ITI calculator for alternative miter calculations
  - Forming, laps and miter assembly techniques

E. Identify function and fabrication of expansion joints per SMACNA standards

- SMACNA guidelines and field sketching

## Lab Content

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

- Demonstration of caulking and soldering applications
- Practice of soldering and expansion joints
- Demonstration and practice of fabricating and mitering architectural sheet metal items
- Demonstration and practice of water flow and water proofing design and techniques

## 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. [Architectural Sheet Metal, International Training Institute for the Sheet Metal and Air Conditioning Industry, Vols. 1 and 2. 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

- Reading assignment, from textbook:
  - Read Introduction Unit 1 Overview of Architectural Sheet Metal, pp. 1-33
- Homework assignment, from textbook:
  - Complete Materials Unit 1 Review, Properties of Metals

## Discipline(s)

Sheet Metal