

# APSM 111: SMQ-11 ARCHITECTURAL SHEET METAL

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	1.5
Hours:	12 lecture, 28 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 a chimney cricket.
- A successful student will be able to layout filed miters and profiles on pre-fabricated architectural materials.

## Description

This architectural sheet metal course seeks to develop an understanding of the common applications and general skills used in architectural sheet metal construction. Chimney saddles, downspouts, flashings and counter flashings, soffits, and scuppers are covered in detail. Students fabricate many of these items.

## Course Objectives

The student will be able to:

- Demonstrate an understanding and utilization of SMACNA industry guidelines for architectural sheet metal
- Practice field measuring and sketching of architectural items for fabrication
- Lay out, fabricate, and solder an upper chimney cricket
- Lay out, fabricate, and solder an upper and lower chimney saddle
- Fabricate drain leaders (downspouts)
- Lay out and fabricate a scupper and leader head
- Demonstrate an understanding of common architectural lay out, seams, and soldering

## Course Content

- Demonstrate an understanding and utilization of SMACNA industry guidelines for architectural sheet metal
- Practice field measuring and sketching of architectural items for fabrication
- Lay out, fabricate, and solder an upper chimney cricket
  - Chimney cricket installation

- Moisture prevention
- Lay out, fabricate, and solder an upper and lower chimney saddle
  - Chimney and skylight flashing
- Fabricate drain leaders (downspouts)
  - Measuring leaders
  - Gutter and downspout installation practices
- Lay out and fabricate a scupper and leader head
  - Roof drainage functions of scuppers and leader heads
  - Leader head lay out and assembly
- Demonstrate an understanding of common architectural lay out, seams, and soldering

## Lab Content

Lab content includes application of accepted industry design standards, practice of pattern development and fabrication techniques used for types of chimney flashings, as well as mitering, fabrication and installation techniques for leader heads and similar architectural sheet metal items.

## 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.

Sheet Metal and Air Conditioning Contractors' Association, Inc.. [Architectural Sheet Metal Manual.](#) 2012.

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:

1. Read the introductory lesson text about industry standards and guidelines for common architectural sheet metal items.

B. Writing assignment:

1. Research published industry standards, as the SMACNA Architectural Manual, and provide written answers to questions about specific sheet metal items, as a review of the lesson on industry guidelines.

## **Discipline(s)**

Sheet Metal