APPR 188B: RESIDENTIAL COMPONENTS IDENTIFICATION & INSTALLATION (SPECIALIST 1B)

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2025
Units:	1.5
Hours:	6 lecture, 48 laboratory per quarter (54 total per quarter)
Prerequisite:	Per California Code of Regulations, this course is limited to students admitted to the Sheet Metal Specialist Apprenticeship Program.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	None
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- A successful student will be able to demonstrate gutter or flashing miter and soldering skills.
- A successful student will be able to Identify common seams, connections and fasteners used in residential sheet metal.

Description

Continued development of concepts and practices already introduced and used in residential and light commercial installations of sheet metal ductwork. Emphasis on materials information and skills development.

Course Objectives

The student will be able to:

1. Distinguish common residential sheet metal ductwork products.
2. Discuss common seams and fasteners used in residential sheet metal.
3. Demonstrate the safe operation of a manual shear, brake, and other equipment.
4. Express common building terms.
5. Sketch common residential building parts.
6. Demonstrate miter and soldering skills.

Course Content

1. Ductwork components
   a. Ductwork
   b. Outlets and other manufactured components
   c. Filters, flues, and vents
2. Seams and fasteners
   a. Sealants and adhesives
   b. Locks and edges
   c. Review hazardous materials
3. Manual brakes and shears
   a. Safe operation of brakes and shears
   b. Hand and electric tools
4. Common building terms
   a. Basic building terminology
   b. Building layouts
5. Residential buildings
   a. Sketching
   b. Plenum, gutter, and flashing shop projects
   c. Residential building safety
6. Miter and soldering
   a. Use of miter tools
   b. Use of soldering tools
   c. Joints and seams
   d. Cleaning and leak testing

Lab Content

1. Practicing safe use of tools and equipment
2. Measuring
3. Practicing accuracy in layout
4. Fabrication of gutter and downspout products

Special Facilities and/or Equipment

Laboratory equipped with sheet metal tools, materials, and soldering equipment.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Results of written quizzes and final exam
Satisfactory completion of class projects
Maintenance of a student's workbook with questions drawn from text

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture
Discussion
Laboratory
Demonstration

Representative Text(s) and Other Materials

International Training Institute. Residential HVAC Finish Installer, International Training Institute for the Sheet Metal and Air Conditioning Industry Student Manual. 2015.

International Training Institute. Residential HVAC New Construction Installer, International Training Institute for the Sheet Metal and Air Conditioning Industry Student Manual. 2015.

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

1. Reading assignment from the International Training Institute Residential HVAC Installer student manual to identify and explain purpose of HVAC system components.
2. Writing assignment from the International Training Institute Residential Residential HVAC Finish Installer workbook to identify and label duct filters.

Discipline(s)

Sheet Metal