

Course Information Form (CIF)

Course Code: HVC 113

Course Title: Residential HVAC Installation

Department: Applied Sciences and Technologies

Effective Date: Summer 2026

PCS Code: 1.2 - Occupational/Technical Instruction

CIP Code: 47.0201

Repeatability: 0

Credit Hours

Catalog Notation: 2-2-3

Credit Hour Distribution:

Lecture: 2

Lab: 2

Clinical: 0

Total: 3

General Course Information

Catalog Description

Basic HVAC system components and operation concepts, component installation, gas piping, low voltage wiring, basic tool skills, job safety.

General Course Objectives

- Demonstrate basic knowledge of residential HVAC system components, installation, and operation.
- Perform entry-level component installation tasks using current methods, tools, and equipment.

Minimum Placement Levels

English

None

Reading

None

Math

None

Prerequisites

None

Methods of Evaluation

At least 6 quizzes, 1 mid-term exam, 1 final exam, and at least 10 labs. In-class and/or homework assignments recommended.

Instructional Materials and Additional Supplies

Modern Refrigeration and Air Conditioning, 978-1635638776

Course Content

General Learning Outcomes (GLOs)

- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
HVAC System Components and Operation	1. Identify and discuss major components of residential HVAC systems. 2. Explain operational concepts of residential heating and cooling. 3. Identify critical installation criteria for system components.	12	8	0
Ductwork	1. Discuss appropriate application of duct materials. 2. Install typical duct components.	4	8	0
Gas Piping	1. Measure, cut, and assemble piping for gas supply lines.	4	4	0
Low Voltage Wiring	1. Explain basic electrical control operations in HVAC system components. 2. Install and troubleshoot basic control wiring.	6	6	0
Basic Tool Skills and Safety	1. Properly use current tools and equipment for HVAC installation tasks. 2. Exhibit and explain safe work practices.	4	4	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	30	0