Course Information Form (CIF)

Course Code: HVC 111

Course Title: Basic Air Conditioning

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 47.0201
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 2-2-3
Credit Hour Distribution:

Lecture: 2	Lab: 2	Clinical: 0	**Total: 3**

General Course Information

Catalog Description

Fundamentals of operation for residential and light commercial air conditioning systems. Proper handling of refrigerants.

General Course Objectives

- Demonstrate basic knowledge of residential and light commercial air conditioning system components and operation.
- Perform entry-level component maintenance and troubleshooting tasks using current methods, tools, and equipment.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

Credit or concurrent enrollment in ELT 150

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

Heating and Cooling Essentials, 978-1645649113
Heating and Cooling Essentials Workbook, 978-1645649137

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
Scientific Principles	1. Identify systems components. 2. Diagram and explain the air conditioning process. 3. Diagram and describe basic air conditioning control systems.	8	4	0
Measurement and Evaluation	1. Measure and explain refrigerant system pressures. 2. Measure power and control voltage to evaluate system performance.	8	10	0
Refrigerants	1. Describe and compare refrigerant properties. 2. Reclaim and recover refrigerant. 3. Evacuate air conditioning systems and charge with refrigerant. 4. Detect refrigerant leaks.	8	14	0
Basic Tool Skills and Safety	1. Properly use current tools and equipment for HVAC installation, maintenance, and repair tasks. 2. Exhibit and explain safe work practices. 3. Practice refrigerant safety.	6	2	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	30	0