

€ TRAINING

HVAC Air Conditioning & Refrigeration



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Introduction

The upkeep of cooling and refrigeration systems is covered by our air conditioning and refrigeration courses. The training curriculum covers troubleshooting and the quick fixes needed to fix problems as they arise, as well as how effective preventive maintenance may cut down on the frequency of difficulties and extend equipment life.

In a hands-on setting that mimics maintenance challenges that arise in the real world, this training program assists technicians with the two aforementioned scenarios. The test equipment used in the industry will be used for practice by participants in this air conditioning course.

Course Objectives

- Air conditioning principles
- Refrigeration system operation
- Safe handling and use of new refrigerants
- Energy conservation measures
- How to troubleshoot and repair the most common types of domestic and commercial AC and refrigeration systems

Targeted Audience

- Electricians
- Mechanics
- Environmental health & safety personnel
- Owners & managers
- Maintenance Technicians
- Energy management personnel
- Plant & facility maintenance technicians
- Building engineers
- Building managers & superintendents
- Plant & facility managers
- Stationary engineers
- Safety directors

Course Outline

Unit 1: CONDITIONING & REFRIGERATION OVERVIEW

- Theory of refrigeration
- Compression refrigeration cycle

Unit 2: TOOLS AND TEST EQUIPMENT

- Gauge manifold assembly
- Electronic leak detector
- Multimeter

- Clamp-on meter

Unit 3: REFRIGERANTS & REFRIGERANT OILS

- Characteristics of refrigerants
- Importance of refrigeration tables
- Handling and storing refrigerants
- Section 608 of the Clean Air Act
- Regulatory requirements
- Recovery, recycling, and reclaiming

Unit 4: COMPRESSORS

- Types of compressors
- Principles of operation

Unit 5: EVAPORATORS

- Types of evaporators
- Operation of the evaporator in a refrigeration or air-conditioning system

Unit 6: METERING DEVICES

- Effects of capillary tube length and size
- Thermostatic expansion valves

Unit 7: CONDENSERS

- Types of condensers
- Operation of the condenser in a refrigeration or air-conditioning system

Unit 8: PIPING AND ACCESSORIES

- Tubing
- Liquid receivers
- Sight glass
- Filter driers

Unit 9: HEAT PUMP THEORY AND COMPONENTS

- Compressor
- Evaporator
- Condenser
- Reversing valve