

PHCC Academy®

HVACR 101 Syllabus

Course Contact for Registration and Non-LMS Questions

State Chapter Partner

Refer to <https://phccacademy.org/state-chapter-partner-contacts/>

Course Contact for Technical Problems in Absorb LMS

PHCC Academy® Staff - AcademySupport@naphcc.org

Prerequisites

None

Welcome to the PHCC Academy® Online Apprenticeship-Related Technical Instruction program for HVACR 101!

The PHCC Educational Foundation's HVACR program is designed to provide students with the opportunity to learn the textbook fundamentals of the HVACR trade in a self-paced online format. This training course must be supplemented by employers, through both technical assistance and on-the-job training in each area of instruction to meet the apprenticeship training requirements.

HVACR 101 covers fundamentals of the HVACR trade including: tools & safety; systems & components; basic electricity; mathematic principles related to HVACR; thermodynamics; the refrigeration cycle; maintenance & inspection of HVACR equipment and systems; systematic problem solving; and energy efficiency.

Course Goals

- Introduce students to the fundamental principles and practices necessary in the field
- Provide students with an understanding of HVACR equipment and systems
- Provide students with an understanding of math and science principles related to HVACR
- Familiarize students with installation, maintenance, troubleshooting, repair, and efficiency of HVACR systems

Required Textbook (Purchased Separately)

Refrigeration and Air Conditioner Technology (RACT), 9th Edition. Copyright 2021.

Assignments

The HVACR 101 course is comprised of 30 modules including a course introduction and 29 learning content modules with supplementary resources, as well as 29 module assessments and a comprehensive final exam.

In each module you will be required to do the following:

- Read Chapter
- Watch Lesson
- Take Exam

Module Titles:

- Module 1 - HVACR Industry Overview
- Module 2 - Basic Business Practices in HVACR
- Module 3 - Safety Practices & Basic First Aid
- Module 4 - Tools of the Trade
- Module 5 - Fasteners & Materials
- Module 6 - Tubing & Piping
- Module 7 - Calibrating Instruments
- Module 8 - Heating Systems & Components
- Module 9 - Cooling Systems & Components
- Module 10 - Airflow Distribution Systems
- Module 11 - Fundamentals of Electricity
- Module 12 - Electricity & Magnetism
- Module 13 - Electrical Safety
- Module 14 - Electrical Troubleshooting
- Module 15 - Introduction to Automatic Controls
- Module 16 - Mathematical Foundations for HVACR
- Module 17 - Measurements in HVACR
- Module 18 - Heat, Temperature, and Pressure
- Module 19 - Matter and Energy
- Module 20 - Basic Refrigeration Cycle
- Module 21 - Refrigeration System Components
- Module 22 - Refrigerants and Lubricants
- Module 23 - Maintenance and Inspection Program Overview
- Module 24 - Leaks and Leak Detection
- Module 25 - System Evacuation and Cleanup
- Module 26 - Installation and Repair Best Practices
- Module 27 - Systematic Problem Solving
- Module 28 - Troubleshooting Case Studies
- Module 29 - Measures of Efficiency in HVACR
- Comprehensive Final Exam