



# Air Conditioning

Certificate (42 SCH\*)

\*Semester Credit Hour

5/2024

## First Semester - 12 SCH

HART 1301 - Basic Electricity for HVAC  
HART 1303 - Air Conditioning Control Principles  
HART 1307 - Refrigeration Principles  
HART 1310 - HVAC Shop Practices and Tools

## Second Semester - 12 SCH

HART 1341 - Residential Air Conditioning  
HART 1345 - Gas and Electric Heating  
HART 2338 - Air Conditioning Installation & Startup  
HART 2349 - Heat Pumps

## Third Semester - 9 SCH

HART 2331 - Advanced Electricity for HVAC  
HART 2336 - Air Conditioning Troubleshooting  
HART 2345 - Residential Air Conditioning Systems Design

## Fourth Semester - 9 SCH

HART 1356 - EPA Recovery Certification Preparation  
HART 2341 - Commercial Air Conditioning  
HART 2334 - Advanced Air Conditioning Controls

## Marketable Skills

- Test electrical circuits or components for continuity, using electrical test equipment.
- Repair or replace defective equipment, components, or wiring.
- Discuss heating or cooling system malfunctions with users to isolate problems or to verify that repairs corrected malfunctions.
- Connect heating or air conditioning equipment to fuel, water, or refrigerant source to form complete circuit.
- Install, connect, or adjust thermostats, humidistats, or timers.
- EPA recovery and certification.
- HVAC and Refrigeration controls.
- Troubleshooting air conditioning and refrigeration systems.
- Installation and service of residential and commercial cooling and heating systems.
- Heat load calculation and duct design.

## Program Outcomes

- Install, troubleshoot and repair refrigerators, freezers, and window air conditioners.
- Install, troubleshoot and repair split or package residential air conditioning systems, including electric furnaces, gas furnaces and heat pumps.
- Install, troubleshoot and repair split and package commercial air conditioning and refrigeration systems.
- Install, program, troubleshoot and repair residential, commercial and industrial Distributed Digital Control Systems.
- Become certified to handle CFC's, HCFC's, and HFC's.

## High School Endorsements

Business and Industry

## Expected Salary

**Texas wage data:** workers on average earn \$48,030; 10% of workers earn \$30,190 or less; 10% of workers earn \$72,010 or more.

## Additional Educational Opportunities

Associate of Applied Science in Air Conditioning

## Career Opportunities

Consulting; Controls Technician; Customer Service; Dispatcher/ Coordinator; Distributor; Distributor Counter Sales; Energy Auditor; Equipment Performance Testing Specialist; Estimator; Field Technical Specialist; Field Supervisor; HVAC Equipment Dealer; IAQ Inspector; Inside Sales and Outside Sales; Installer; Product Technical Support; Project Manager; Public Relations; Purchasing; Sheet Metal Fabrication; Parts Store Manager; Technical Training Instructor; Shop Maintenance; Service Technician; Contractor.