



Air Conditioning

Certificate (42 SCH*)

*Semester Credit Hour

7/2023

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.