

ON-SITE HVACR TRAINING

RECOMMENDATION: This class is designed around your crews needs and your site-specific equipment. The class is built around your schedule, your equipment and at the location of your choice. We will have the curriculum written to refl ect your equipment which in turn will enhance the learning process and empower your crew. **COST:** Determined Individually

FACILITIES & LOGISTICS

FACILITIES: 25x30 classrooms with the latest in audio and visual aids, together with a 1000 sq. ft. laboratory containing working systems to train students in all types of applications from hermetic type compressors to heavy industrial open types. Working systems, both air and water cooled, are used to provide "hands-on" learning. Air distribution techniques can be fully demonstrated as well.

DRESS: Long pants and closed-toe shoes for both classroom and lab work.

SAFETY: No weapons on our premises.

CLASS HOURS: From 7:30 a.m. - 5:00 p.m. (40 hours)

LOCATION: 2915 Milam, Beaumont, Texas 77701

Does not include meals, lodging, or transportation.

NOTE: If the student does not show up to class, the company will still be billed for that class. This charge will be good for a one-time credit to be used within 90 days. Once the 90 day period is up, the credit is no longer valid. All cancellations should be made 7 days prior to the first day of class. Anytime after this, you will be billed



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HVACR TECHNICAL



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2025 NANCE UNIVERSAL **HVACR TECHNICAL SCHOOL**



DESCRIPTION: Class is appropriate for those already involved in repair and

maintenance of air conditioning and refrigeration equipment. Fifty (50%) percent of this

PREREQUISITE: Basic Air Conditioning & Refrigeration Recovery. COST: \$2,175

BASIC HVACR

4 DAY

DESCRIPTION: Class is appropriate for electricians or mechanics who are going to maintain HVACR systems, but who have only limited experience or training in HVACR. Twenty-fi ve (25%) percet of this seminar is "hands on" experience in the laboratory. COST: \$2,070 (LAB AND STUDY MATERIAL INCLUDED)

- Refrigerant pressure temperature chart analysis
- Basic refrigeration cycle
- Compressors in mechanical refrigeration systems
- Condensers construction characteristics and types
- Evaporators construction

- Refrigerants
- Basic electricity for refrigeration
- Brazing system assembly, procedure & repair
- Leak detection

· Practice test

Laws and directives

Examination for certification

Recovery &recycle, reclaiming

- · Recovery & charging of systems & other service techniques
- · Scheduled maintenance

EPA CERTIFICATION & 1 DAY REFRIGERATION RECOVERY

DESCRIPTION: This seminar in Refrigerant Recovery and Recycling is designed for people who repair, maintain or install equipment that contains or will contain when charged, regulated refrigerants. The proper method of recovery and recycling of these refrigerants is covered using state-of-the-art equipment. Bringing a laptop, tablet, iPad or internet capable device (other than a phone) will allow you to take the exam online. Online allows for immediate results. If only 2 sections are passed, you will have the opportunity to re-test before leaving our facilities. Bring smart device for test. We can accommodate the few that do not have access to a device. **Prerequisite:** Basic AC & Refrigeration Recovery. COST: \$405 (STUDY GUIDE AND EPA EXAM INCLUDED)

- General Information
- Review of available equipment
- Safety precautions
- Definitions
- Refrigerant pumpdown

ELECTRICAL

3 DAY

5 DAY

DESCRIPTION: Most problems in HVACR systems are electrical. This is a class for those that do not have electrical experience. The three-day class begins with electrical fundamentals and advances to basic electrical troubleshooting techniques. The course will discuss how to diagnose, troubleshoot and repair common components found in HVACR systems. The lab portion of the course includes wiring basic circuits; troubleshooting components and troubleshooting operating systems. The course will show the learner how to use troubleshooting tools such as the voltmeter, ohmmeter and ammeter.

COST: \$1,720 (LAB AND MATERIALS INCLUDED)

- Electrical safety
- Electrical fundamentals
- Use of electrical instruments

ADVANCED HVACR

seminar is "hands on". experience in the laboratory.

• Pump-down and repair of system components on low

Water-cooled condensers and cooling towers Advanced

Airside problems, psychometrics, capacity calculation

pressure side including refrigerant flow controls

Dehydration and evacuation procedures.

electrical schematic reading

Troubleshooting the system

- Understanding electrical symbol
- Reading electrical diagrams
- Basic diagnostic, troubleshooting & repair skills
- · Using electrical diagrams to troubleshoot
- Planning the troubleshooting process
- Troubleshooting HVACR components such as fuses, transformers, contactors, relays. capacitors, and thermostats

Superheat and subcooling calculation

• Cycle controls - mechanical, electrical

· Review of refrigeration systems

and electronic

· Refrigerant system cycle

· Refrigerant oils

- Troubleshooting fan and pump motors
- Troubleshooting compressor motors Troubleshooting HVACR systems
- · Learning to apply Ohm's Law
- · Wiring basic air conditioning circuits

TROUBLESHOOTING HVACR & CHILLED WATER SYSTEMS

4 DAY

DESCRIPTION: Those attending this seminar should have prior on-the-job experience, as well as some technical training in HVACR. Seventy (70%) percent of this seminar is "hands on" experience in the laboratory. This class will also include the basic knowledge of chilled water systems. **PREREQUISITE:** Basic & Advanced AC and Refrigeration Recovery. COST: \$2,445 (LAB AND TRAINING MATERIAL INCLUDED)

- Collecting and analyzing data
- Troubleshooting the entire system electrical and refrigeration
- Cleaning up after a compressor burnout
- Preventing future compressor failures
- Systematic ways of eliminating refrigerant and electrical problems
- Air analysis, problems and measurements
- Capacity calculation
- · Detecting and eliminating floodback and slugging problems
- Tuning up your system for maximum efficiency

- Chilled water refrigeration cycle
- Chilled water fluid cycle
- Operation of common refrigeration. fluid and electrical components
- Measuring system cooling capacity
- Measuring system fluid capacity
- Measuring fluid flow
- Electrical sequence of operation
- Refrigerant and oil charging Electrical troubleshooting
- Refrigerant troubleshooting Fluid-side troubleshooting
- Scheduled maintenance

BONDING & BRAZING LAB

2 DAY

DESCRIPTION: This class covers all major types of soldering techniques used commonly in the HVAC industry. Information includes a breakdown of brazing material types and usage, and practical applications. This class is comprised of 75% lab and 25% classroom instruction. Flared fi tting preparation and installation is covered as well as push and press lock fittings. Brazing and soldering various metals. We will work with brass, steel, and aluminum. COST: \$1,200 (LAB AND TRAINING MATERIAL INCLUDED)

- General facts and safety information
- Brazing copper joints and fi ttings
- · The swedging of copper piping
- Usage of torches, reamers, and cutters
- Usage of flaring tools
- Installing fl are fi ttings on copper
- Copper to aluminum using solder and flux
- Pressure test project up to 200 psi
- Repairing copper tubing using brazing rods
- · Repairing aluminum tubing using aluminum fluxed rod