

# Nance Universal HVACR Technical School

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# 2024 - 2025 Seminar Schedule

BASIC

EPA CERTIFICATION AND
REFRIGERATION RECOVERY

ADVANCED

TROUBLESHOOTING HVACR AND UNDERSTANDING CHILLED WATER SYSTEMS

BRAZING AND BONDING LAB

ELECTRICAL

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NANCE HVACR Services NANCE SHEET METAL

Nance International 877-626-2322

Nance Sheet Metal 877-626-2322



#### **BASIC HVACR**

**RECOMMENDATION:** Class is appropriate for electricians or mechanics who are going to maintain air conditioning and refrigeration systems, but who have only limited experience or traininging HVACR. Twenty-five (25%) percet of this seminar is "hands on" experience in the laboratory COST: \$2070.00 - Four Day Seminar (lab and study materials included)

- Defi nitions
- 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 and
- Leak detection
- · Recovery and charging of systems and other service

techniques

Scheduled maintenance

# **EPA Certification & Refrigeration Recovery**

**RECOMMENDATION:** 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. COST: \$405.00 - One Day Seminar (lunch, study guide, EPA exam included)

- General Information Review of available equipment Laws and directives
- Safety precautions
   Practice test
  - - Examination for certification
- Refrigerant pumpdown
- Recovery and recycle, reclaiming
- Review of available

## **ADVANCED**

**RECOMMENDATION:** Class is appropriate for those already involved in repair and maintenance of air conditioning and refrigeration equipment. Fifty (50%) percent of this seminar is "hands on". EXPERIENCE IN THE LABORATORY.

PREREQUISITE: BASIC A/C. COST: \$2175.00 - FIVE DAY SEMINAR

- · Review of refrigeration systems
- · Superheat and subcooling calculation
- Refrigerant oils

· Defi nitions

- Accessories where they are used and how they work
- · Cycle controls mechanical, electrical and electronic
- · Refrigerant system cycle controls - compressor system
- · Pump-down and repair of system components on low pressure side including refrigerant flow controls Dehydration and evacuation procedures.
- Water-cooled condensers and cooling towers
- · Advanced electrical schematic reading
- · Airside problems, psychometrics, capacity calculation
- · Troubleshooting the system

# **Troubeshooting HVACR & Chilled Water Systems**

**RECOMMENDATION**: 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 and Advanced courses. COST: \$2445.00 - Five Day Seminar (lab and training materials 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 fl oodback and slugging problems
- Tuning up your system for maximum

- 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

## **ELECTRICAL**

**RECOMMENDATION:** 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: \$1720.00 - Three Day Seminar (lab and training materials included)

- Electrical safety
- Electrical fundamentals
- Use of electrical instruments
- 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
- Troubleshooting fan and pump motors
- Troubleshooting compressor motors
- Troubleshooting HVACR systems
- Learning to apply Ohm's Law
- Wiring basic air conditioning circuits

#### **BONDING & BRAZING**

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: \$1200.00 - Two Day Seminar (lab and training materials included)

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



#### **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 reflect 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 demon-strated 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

TUITION: Is due on or before the first day of class.

Tuition 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 for the class. Overseas cancellations must be made 21 days prior to the first day of class. Anytime after this, you will be billed for the class. • Minimize Repair Cost and Reduce "Downtime" • Maximize Equipment Efficiency • Meet EPA Requirements



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