



# SEMINAR SCHEDULE

## January 2009 - December 2009

The following seminars are held at our facility in Beaumont, Texas – “Home of the Spindletop Gusher.” Thousands of students have successfully completed **NANCE** training at our facility and overseas. We can bring the training to you at YOUR LOCATION, or you can send your people to us for extensive classroom and laboratory training.

- **Basic Air Conditioning and Refrigeration**
- **EPA Certification & Refrigerant Recovery**
- **Advanced Air Conditioning and Refrigeration**
- **Troubleshooting Air Conditioning and Refrigeration**
- **Commercial Refrigeration • Refrigerants**
- **Overseas Sessions (see calendar)**
- **Custom Classes Upon Request**

**FACILITIES:** Modern 25x30 classrooms with the latest in audio and visual aids, together with a 1000 sq. ft. laboratory containing working systems to train learners 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:** Normal work clothes for both classroom and lab work.

**CLASS HOURS:** From 7:30 a.m. until 4:30 p.m.

**LOCATION:** **NANCE** 2915 Milam, Beaumont, Texas 77701

**TUITION:** Is due on or before the first day of class. Tuition does not include meals, lodging, or transportation.

**LODGING:** We recommend:

	2355 IH-10 South • Beaumont, TX 77705 Phone: 409-842-3600 Fax: 409-842-0023 Toll Free: 877-842-3606 www.mcmelegante.com
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We can arrange accommodations for you. Call NANCE at 409-838-6127

**NOTE: Cancellation must be made 7 days prior to the first day of class. Any time after this, payment will be applied to any future scheduling. (Except for overseas class cancellation which is 21 days)**

- **Cut Repair Cost • Reduce “Down-Time”**
- **Maximize Equipment Efficiency**
- **Meet EPA Requirements**



**UNIVERSAL HVACR TECHNICAL SCHOOL**  
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## BASIC AIR CONDITIONING AND REFRIGERATION

**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 training in HVACR. Twenty-five (25%) percent of this seminar is “hands on” experience in the laboratory.

**Sessions:** (See schedule)

**Cost:** \$1390.00 – Four Day Seminar (textbook included)

### Job Skills Topics:

1. Definitions
2. Refrigerant pressure - temperature chart analysis
3. Basic refrigeration cycle
4. Compressors - in mechanical refrigeration systems
5. Condensers - construction, characteristics and types
6. Evaporators - construction
7. Refrigerant flow controls - types, functions and adjustments
8. Refrigerants - new EPA Approval
9. Basic electricity for refrigeration
10. Soldering/Brazing - system assembly, procedure and repair
11. Leak detection
12. Recovery and charging of systems and other service techniques
13. Scheduled maintenance

## EPA CERTIFICATION AND REFRIGERANT 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, CHLOROFLUOROCARBON (CFC's R-11, R-12, R-502) or HYDROCHLOROFLUOROCARBON (HCFC's R-22, SUVA 123). The proper method of recovery and recycling of these refrigerants is covered using state-of-the-art equipment.

**Sessions:** (See schedule)

**Cost:** \$275.00 - One Day Seminar (lunch, study guide, EPA exam included)

### Job Skills Topics:

1. General Information
2. Safety precautions
3. Definitions
4. Laws and directives
5. Refrigerant pumpdown
6. Recovery and recycle, reclaiming
7. Review of available equipment
8. Practice test
9. Examination for certification
10. EPA approved wallet cards and certificate for successful participants

## ADVANCED AIR CONDITIONING AND REFRIGERATION

**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 and refrigeration course.

**Sessions:** (See schedule)

**Cost:** \$1475.00 - Five Day Seminar (textbook included)

### Job Skills Topics:

1. Review of refrigeration systems
2. Superheat and subcooling calculation
3. Refrigerant oils
4. Accessories - where they are used and how they work
5. Cycle controls - mechanical, electrical, and electronic
6. Refrigeration system cycle controls - compressor system loading and unloading adjustments
7. Pump-down and repair of system components on low pressure side including refrigerant flow controls
8. Dehydration and evacuation procedures
9. Water-cooled condensers and cooling towers
10. Advanced electrical schematic reading
11. Airside problems, psychometrics, capacity calculation
12. Troubleshooting the system
13. Scheduled maintenance

## TROUBLESHOOTING AIR CONDITIONING AND REFRIGERATION SYSTEMS

**Recommendation:** Those attending this seminar should have prior on-the-job experience, as well as some technical training in HVACR. Seventy-five (75%) percent of this seminar is “hands on” experience in the laboratory. Basic and Advanced classes are prerequisite requirements.

**Sessions:** (See schedule)

**Cost:** \$1475.00 - Five Day Seminar (training material included)

### Job Skills Topics:

1. Review of refrigeration systems, including the refrigeration cycle, accessories, water and air-cooled systems and electrical control
2. Piping layout and oil problems
3. Collecting and analyzing data
4. Troubleshooting the entire system - electrical and refrigeration
5. Cleaning up after a burnout
6. Preventing future compressor failures
7. Systematic ways of eliminating refrigerant and electrical problems
8. Air analysis, problems and measurements
9. Capacity calculation
10. Detecting and eliminating floodback and slugging problems
11. Tuning up your system for maximum efficiency

## COMMERCIAL REFRIGERATION

**Recommendation:** This is a three-day class designed to train maintenance personnel in the operation, maintenance, and troubleshooting of commercial refrigeration equipment normally found on offshore platforms.

**Prerequisite:** Have attended Basic Air Conditioning class.

**Sessions:** (See schedule)

**Cost:** \$850.00 - (training material included)

### Job Skills Topics:

1. Definitions and technical terms
2. Safety precautions
3. Review of available equipment
4. Maintaining and operating ice machines, upright refrigerators, and/or freezers, walk-in coolers and freezers
5. Troubleshooting procedures
6. Electrical diagrams
7. Scheduled maintenance
8. Refrigerants used in commercial refrigeration

## REFRIGERANTS

**Recommendation:** This one-day class will cover the safe use of R-410A and alternate refrigerants that will be used in air conditioning and commercial refrigeration applications. R-410A certification will be offered.

**Sessions:** (See schedule)

**Cost:** \$350.00 - One-Day Seminar (lunch, training material, and test included)

### Job Skills Topics:

1. Installation and conversion practices
2. Learning alternate refrigerants
3. Learn the steps to be taken to make a system conversion
4. How to charge an R-410A system
5. Discuss troubleshooting issues
6. Prepare for R-410A certification exam
7. R-410A exam taken the final hour of the course



## OVERSEAS SESSIONS

**Singapore - March 16-20 and March 23-27**

**Macáe - May 11-15 & May 18-22**

**Dubai - August 3-7 and August 10-14**

**Singapore - September 14-18 and September 21-25**

**Recommendation:** Class is appropriate for anyone involved in the maintenance, troubleshooting and/or repair of air conditioning and refrigeration equipment. This seminar is especially recommended for anyone in the offshore drilling, oil production, marine maintenance, petrochemical, refinery, manufacturing, transportation, and institutional industries. Includes technician training for EPA certification.

**Cost:** \$2250.00 - Five Day Seminar (lunch, studyguide, textbook, EPA exam included)

### Job Skills Topics:

1. Safety, equipment, and products
2. How the refrigeration system works
3. Component function and purpose
4. Processing a system prior to charging
5. Demonstrations of refrigerant recovery, dehydration, and charging
6. Refrigerants used
7. Is the system working as it should
8. Effective ways of leak detection
9. How to troubleshoot compressors
10. Accessories and how they work
11. Pumpdown, repair and replacement of compressors
12. Air and/or water flow requirements
13. Tools and instruments required
14. Scheduled maintenance
15. Practical troubleshooting
16. Collecting and analyzing data
17. Systematically isolating refrigeration problems
18. Eliminating original cause of component failure
19. Clean-up procedures after a compressor burnout
20. Eliminating floodback and slugging problems
21. Problems in air distribution
22. Refrigerant transition and recovery program
23. Alternative refrigerants and conversion procedures

**WE CAN PROVIDE AN HVACR PROGRAM ADAPTED TO YOUR NEEDS... ANYWHERE WORLDWIDE... ANY TIME... AT YOUR CONVENIENCE**

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## A HISTORY

In 1976, recognizing the increasing complexity of HVACR equipment and the cost and time involved in obtaining on-shore contractor service personnel, NANCE created the Nance Universal HVACR Technical School. From the beginning, its charter has been to provide operations personnel within the offshore industry with the tools and training necessary to increase the quality of maintenance, make minor repairs and perform basic diagnostic tests on the equipment for which they are responsible. The school teaches the basic theories of the refrigeration cycle, provides an understanding of the functions of system components and addresses the EPA requirements involved in operating and servicing HVACR equipment.

The school has been a resounding success, with more than 300 students per year having attended the various courses offered. Each of these technicians returned to their jobs better equipped to maximize equipment performance, extend equipment life and reduce operating costs through better maintenance and on-site minor repairs.

The school's training provides an immediate return on investment, and Nance is proud of its role in helping make the offshore industry more profitable and more efficient.