



Air Conditioning Contractors of America  
NATIONAL CAPITAL CHAPTER

2010 - 2011

# Apprenticeship Enrollment Information



## Apprenticeship Training

**Helping You on the Road to Success!**

# **The Air Conditioning Contractors of America National Capital Chapter's Apprenticeship Program in the Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) Industry**

## **Offers to the Apprentices:**

- ◆ The opportunity to receive a Maryland Journeyman's License, without having to sit for the exam, upon completion of the program;
- ◆ A career path;
- ◆ Pride in themselves;
- ◆ Accomplishment in their work;
- ◆ An "Earn-While-They-Learn" philosophy of education;
- ◆ Credits toward an Associates degree from Montgomery College upon graduation;
- ◆ Participation in a nationally recognized apprenticeship program.

## **Offers to the Contractors:**

- ◆ For less than \$6 a day, which includes all books and training materials, an employer can train an employee;
- ◆ A structured four-year training program;
- ◆ The immediate ability to measure increased productivity;
- ◆ Trained employees, which solves the problem of finding skilled workers;
- ◆ Enhanced problem-solving abilities of employees;
- ◆ Participation in a nationally recognized apprenticeship program.

# THE APPRENTICESHIP PROGRAM

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## **THE APPRENTICE**

### **Career Benefits . . .**

In today's society, it is a necessity to have an education and money to survive comfortably, but it is also important that we choose an occupation that is rewarding. This apprenticeship program, when completed, offers competitive lifetime earnings, an education and a career, rather than just a job.

On-the-job training (OJT) and guaranteed wage increases are a couple of the many benefits of this apprenticeship program. This "earn-while-they-learn" philosophy is coupled with additional benefits offered through the contractor. Financially, this apprenticeship program may lead apprentices to earning a higher income.

It is clear that only the most educated and the most skilled people will be able to become successful. In the related-instruction portion of this apprenticeship program the apprentices learn from the best teachers in the heating, ventilation, air conditioning, and refrigeration (HVACR) industry. It is necessary to have an education along with manual skills to do a quality job. Apprentices learn about the latest technology in the HVACR industry that will assist them in becoming skilled workers, and lead them to career advances.

It is very important that individuals pursue a career that will be self-satisfying. The HVACR industry offers apprentices year-round work and the opportunity for promotion as they become more knowledgeable. Once they finish the four years successfully, they will receive a completion certificate that is recognized throughout the HVACR industry, along with being recognized as a Maryland journeyman without having to sit for the required licensing exam. Skilled workers are in demand. The HVACR industry offers a competitive income, an education, a career, but most importantly, a skill that they can take pride in.

Upon completion of the related and on-the-job training the apprentice will be able to apply for their Maryland Journeyman's License without an exam.

## **THE EMPLOYER**

### **Training Benefits . . .**

By being a participating contractor in the Air Conditioning Contractors of America - National Capital Chapter's (ACCA-NCC) Apprenticeship Program, contractors are assuring themselves a supply of skilled workers. Statistics indicate that the nation is facing a shortage of skilled workers. Apprenticeship training gives businesses the opportunity to train their own skilled workers.

Training is an investment with timetables and goals that need to be a part of the contractor's business plan. Such a plan will allow employees to be high-performance workers.

Training is the best investment against the hidden cost of low productivity, dissatisfied consumers, and lost business. The ACCA-NCC Apprenticeship Program can provide to the contractor structured and effective training. For less than \$6 a day, which includes all books and training materials, an employer can train an employee. Can HVACR businesses afford not to train?

# CURRICULUM

This stimulating and exciting four-year program was developed by ACCA-NCC's Apprenticeship Committee after carefully assessing the needs of the HVACR industry. The finest materials and latest textbooks are available for the apprentices and instructors to use.

## HVACR APPRENTICESHIP CURRICULUM 640 Total Hours of Related Instruction

### Year 1 - 160 Hours

### Hours

Basic Elect. I.....	20
Basic Elect. II.....	20
Basic Htg. Cycle.....	20
Basic Math / Shop Math.....	40
Intro. to Trade, Tools & Safety.....	20
Refrigeration Cycles & Basic Refrigeration.....	40

### Year 2 - 160 Hours

AC/DC Circuits, Electric Motors & Starters.....	20
Advanced Refrigeration & Pipe Fitting.....	40
Communication Skills.....	20
Fundamentals of Brazing & Soldering.....	20
HVAC Controls - Start Up & Testing.....	40
Wiring & Testing.....	20

### Year 3 - 160 Hours

Air Distribution Systems - Balancing and Measuring.....	20
Blue Print Reading.....	20
Chilled Water Systems - Cooling Towers & Pumps.....	20
Heat Pumps & Heat Pump Trouble Shooting.....	40
Refrigeration Install. & Svc. Commercial.....	20
Trouble Shooting - Gas, Oil & Elect. Htg/Cool.....	40

### Year 4 - 160 Hours

Boilers and Hydronics.....	40
Heat Loss/Gain Calculations.....	20
Introduction to NEC/HVACR.....	20
Introduction to Electronics/HVACR.....	20
Introduction to International Mech. Code.....	20
Wiring Diagrams.....	40

### Apprentices receive the following as part of their tuition:

- ◆ Year 2 receives the ICE (Industry Competency Exam) Test
- ◆ Year 3 receives the NATE (North American Technician Excellence) Core Test
- ◆ Year 4 receives the NATE (North American Technician Excellence) Heat Pump Test
- ◆ Years 2-4 receives CFC (chlorofluorocarbon; refrigerant recycling) refresher class and test

## ON-THE-JOB TRAINING

The on-the-job training (OJT) the apprentices receive is vitally important. Only experienced journeypersons and technicians, provided by the employer, can furnish the hands-on training necessary to educate apprentices in the skills of the trade. Only through hands-on training will apprentices become skilled in the HVACR trade.

## RECORD KEEPING

Every hour spent training and working, in each of the nine work process areas, is recorded. The OJT, ideally, parallels the related instruction. Throughout the year, the association will inform the employer of the hours accrued from OJT reports submitted by the apprentice. Incremental increases in pay are to be based upon these reports.

## OUTLINE OF WORK PROCESS

<b>Work Process:</b>	<b>Approximate Hours</b>
A. Use and Care of Tools and Equipment.....	400
B. A/C and Refrigeration Systems.....	3000
C. Air Ducting, Movement, and Treatment.....	900
D. Refrigeration Controls.....	900
E. Motors, Controls, and Wiring.....	900
F. Heating and Fuel Burning Equipment.....	800
G. Heat Pumps.....	800
H. Piping, Installation and Service.....	250
I. Safety.....	50
<b>TOTAL HOURS FOR FOUR YEARS.....</b>	<b>8000</b>

## THE EMPLOYER'S RESPONSIBILITIES

All participating employers should familiarize themselves with the Standards of Apprenticeship that are registered with the State of Maryland (available through the association office). In addition to those standards, they are required to:

- ◆ Encourage the apprentice to attend all classes. Vacation, illness and job-related absences are acceptable, but a letter of explanation must be sent to the association office from the employer on company letterhead (see Apprentice's Responsibilities);
- ◆ Submit all required paperwork to the association office;
- ◆ Provide the number of journeypersons and apprentices employed and the average journeyperson's wage rate;
- ◆ Employ and train apprentices according to the rules, regulations, and decisions of the Committee;
- ◆ Assist the Committee in monitoring the apprenticeship classes;
- ◆ Provide OJT in a planned and organized manner using the work process as outlined;
- ◆ Assist the apprentice in submitting monthly OJT reports to the association office;
- ◆ Adhere to the Standard's progressive wage scale;
- ◆ Submit to the Committee, in writing, complaints, disputes, or disagreements involving any phase of the apprenticeship program. Grievance forms are available from the association office;
- ◆ Recruit, select, employ, and train all apprentices without discrimination based on race, color, religion, national origin, or sex;
- ◆ Submit documentation to the Committee if an apprentice is not making satisfactory OJT progress. The Committee will advise the contractor of the appropriate action;
- ◆ Immediately advise the committee if an apprentice leaves their employment.

## THE APPRENTICE'S RESPONSIBILITIES

Apprentices should familiarize themselves with the Standards of Apprenticeship, available from their employer or from the association office. Plus, they are required to:

- ◆ Apply themselves industriously in learning the HVACR trade as directed by the Committee and their employer.
- ◆ Keep daily, accurate records of their OJT hours.
- ◆ Mail monthly OJT reports to the association office by the 10th of the following month. Apprentices are eligible for incremental pay increases when their OJT reports are complete.
- ◆ Report, in writing, to the Committee any job layoffs, insufficient training in the major work experiences, related instruction problems, wage disputes, or any other complaints associated with the apprenticeship program and their employment. The Committee has a formal complaint procedure available to help resolve the disagreement.
- ◆ Consider this to be a four-year commitment to the apprenticeship program and to their employer. Apprentices cannot change employers without the permission of the Committee; doing so will cause a legal investigation and jeopardize their apprenticeship standing.
- ◆ Must maintain a Maryland State Apprenticeship License throughout their enrollment in the apprenticeship program.
- ◆ **SMOKING POLICY:** There is no smoking on campus grounds. That includes all buildings, parking lots, and common outdoor areas. You must leave campus property completely to smoke.

## GRADES

70% (C) or above **MUST** be maintained to pass each 20/40 hour class.

## ATTENDANCE POLICY

**An apprentice must physically attend at least 85% of the course hours to receive credit for the year's related instruction.** This is in addition to earning a minimum of 70% (C) in each 20/40 hour class.

**After the maximum unexcused absences have been reached for a class, the next unexcused absence that follows will result in a full drop in the apprentice's final letter grade. Another grade drop will occur after every third unexcused absence that follows.**

The following table shows the number of total in-class hours required.

<u>Course Hours</u>	<u>In-Class Hours</u>	<u>Max. Unexcused Absences</u>
20 hour class	17 hours in-class	3 hours (1 class)
40 hour class	34 hours in-class	6 hours (2 classes)

Any absence must be made up to get credit for the hours.

### **Excused Absences:**

Excused absences **MUST** be documented by a letter from the employer on company letterhead, thus ensuring that the employer knows of the absence. Acceptable excuses include: vacation, personal illness or injury, or the death of immediate family members. In the occasional work-related emergency an absence may be excused. The written excuse, which must include the employer's signature, should be faxed to ACCA-NCC (301-384-9623) within **two days** of the absence.

### **Make-Up Procedure:**

In all cases the request to make up missed hours and/or class work must be presented to the instructor within two weeks of the absence. Absences that are not made up will not get hours credited.

# FIRST YEAR APPRENTICES

## Unemployed Apprentices

The following will apply to unemployed first year apprentices:

- ◆ They do not need to be employed in the HVACR industry to begin in the apprenticeship program.
- ◆ They must actively seek employment by an ACCA-NCC member that is participating in the apprenticeship program. If working for an ACCA-NCC member, but not a participating contractor member, the apprentice will only audit the program and not be a registered apprentice through the program with the State of Maryland. Auditing apprentices will not receive a Maryland Journeyman's license without having to sit for the exam.
- ◆ The association office will assist them in searching for employment by referring them to ACCA-NCC participating members in the apprenticeship program, along with publishing their name in the association's monthly newsletter.

## All First Year Apprentices

- ◆ MUST attend a first-year orientation. During this process a math assessment test will be given to determine the prospective apprentice's math level.
- ◆ MUST obtain a Maryland issued apprenticeship license by the completion of the first semester to continue in the program.
- ◆ If not employed by the end of their first year by an ACCA-NCC member, they cannot continue in the apprenticeship program.
- ◆ They must follow the same rules, regulations, and attendance policies as other apprentices.

## Working for a Non-ACCA-NCC Contractor Member

- ◆ Apprentices may be employed outside the HVACR industry during the duration of their first year, but must find employment with an ACCA-NCC participating contractor member to enter into the second year of the apprenticeship program.
- ◆ They may be employed by a HVACR contractor that is an ACCA-NCC non-member during their first year. However, for the apprentice to continue into the second year, the contractor must become a member of ACCA-NCC.\*
- ◆ They must follow the same rules, regulations, and attendance policies as other apprentices.
- ◆ Their on-the-job training reports will not be accepted until they are employed by an ACCA-NCC participating contractor member.

\*For information regarding membership in ACCA-NCC, call the association office at 301-384-ACCA.

## REGISTRATION AND YEARLY TUITION

**NO** registrations accepted after August 1, 2010.

### TUITION:

*(includes tuition, books and materials for year)*

**Apprentices working for an ACCA-NCC participating contractor member:**

- \_\_\_\_\_ **\$50 Registration fee applies to all first-time applicants and former apprentices returning to the program. (Nonrefundable)**
- \_\_\_\_\_ \$1,130 postmarked before July 1, 2010
- \_\_\_\_\_ \$1,200 postmarked before July 25, 2010
- \_\_\_\_\_ \$1,275 postmarked before August 1, 2010

**Apprentices working for a non-ACCA-NCC contractor member or unemployed**

**(Can only participate in program for one year if apprentice does not become employed by an ACCA-NCC participating contractor member):**

- \_\_\_\_\_ **\$50 Registration fee applies to all first-time applicants and former apprentices returning to the program. (Nonrefundable)**
- \_\_\_\_\_ \$1,800 postmarked before July 1, 2010
- \_\_\_\_\_ \$1,875 postmarked before July 25, 2010
- \_\_\_\_\_ \$1,950 postmarked before August 1, 2010

Some books are used throughout the four-year program. Apprentices that move into second-year via a credit-by-exam will be responsible to purchase books that are issued in the first year and are required all four years. Replacement books will be at the apprentice's own expense.

90 day financing available - call ACCA-NCC for information.

### Tuition Refund

Before orientation .....	minus \$75
Before first night of scheduled classes (with books returned in new condition*) .....	85%
Before second night of scheduled classes (with books returned in new condition*) .....	75%
Before third night of scheduled classes (no refund on books).....	50%
Before fourth night of scheduled classes (no refund on books).....	25%

\*There will be a charge for books not returned or books that are not in new condition.

An apprenticeship application is included in this handbook. Duplicate as needed.

## CLASS SCHEDULE

- ◆ First and third year classes will be held on Monday and Wednesday evenings from 5:30 p.m. until 8:45 p.m.
- ◆ Second and fourth year classes will be held on Tuesday and Thursday evenings from 5:30 p.m. until 8:45 p.m.

## CLASS LOCATION

Classes will be held at Montgomery College in Rockville, MD.

## NOTICE TO EMPLOYERS AND APPRENTICES

Financial arrangements for the payment of tuition for the apprenticeship program are strictly between the employer and the apprentice. The employer and the apprentice acknowledge that the sponsor of the apprenticeship program - Air Conditioning Contractors of America, National Capital Chapter - assumes no liability whatsoever with respect to those financial arrangements. By participating in the apprenticeship program, the participants agree that all matters concerning financial responsibility are between the employer and the apprentice.

A signed agreement between the employer and the apprentice is encouraged (sample enclosed).



# **ACCA-NCC TRAINS THE HVACR INDUSTRY**

# The Enrollment Deadline is August 1, 2010

To avoid an increase in tuition  
applications must be received by  
**July 1, 2010**



P.O. Box 4268  
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**FIRST CLASS**

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