

HVACR

Service Technicians
Training Center

ADVANCED EDUCATION PROGRAMS

SPRING 2004



The Service Fitters' Industry
Educational Trust Fund
Enterprise Association,
Metal Trades Branch
Local Union 638
United Association
AFL-CIO
Website: www.sttc-hvacr.com



"Highest Level of
Quality Service"

ADVANCED EDUCATION PROGRAM ~ SPRING 2004 ~

The Trustees of the Service Fitters Educational Fund, its Executive Committee and the Staff of the HVACR Service Technicians Training Center are pleased to announce various courses in a planned series of advanced education programs for HVACR service technicians.



- PLACE:** HVACR Service Technicians Training Center
48-03, 32nd Place
Long Island City, New York 11101
- TIME:** All courses commence at 6:00 p.m. and end at 9:00 p.m. Please note that some seminars have a different day/time schedule.
- COST:** A refundable registration fee of \$50.00 is required to assure enrollment for every course you enroll in. The registration fee will be refunded upon attendance. Cancellations on the day of the course will forfeit the registration fee. Checks should be made payable to:
Service Fitters' Industry Educational Fund.
- ENROLL:** Space is limited and registrations will be accepted in order of receipt. To register, call Emma Tan at (718) 472-0404/14 or fax your registration form at (718) 433-0676. Enrollment must be confirmed by completing and sending the attached registration form along with your registration fee.

NATIONAL CERTIFICATIONS

The following national certifications for Local 638 HVACR Service Technicians are being conducted at the Industry Training Center.

EPA SECTION 608 (Technician Certification Test as approved by the Environment Protection Agency)

The following summary points are reminders of some of the key issues concerning compliance with EPA Rule-608. This is not a complete list but should help candidates before taking the certification examination.

The passing score of the closed-book proctored examination for the Core, Types I, II and III is 70%. It is not necessary to pass all types of certifications, only the one specific to technician's type of work within the air conditioning and refrigeration industry.

The examination is divided into four (4) sections. Core, Type I, Type II and Type III. If you successfully pass all sections, you will receive the Universal Certification (which means you can work on all systems).

There are twenty-five (25) questions for each part or type. You must correctly answer eighteen (18) of the twenty-five (25) questions to receive a passing score.

Preparatory Course: February 23, 24, 2004, - 6:00 a.m. - 9:00 p.m.

Test Date: Saturday, February 28, 2003 - 9:00 a.m. - 12:00 p.m.

Preparatory Course: March 8, 9, 2004 - 8:30 a.m. - 2:00 p.m.

Test Date: Saturday, March 13, 2004 - 9:00 a.m. - 12:00 p.m.

Preparatory Course: March 15, 16, 2004 - 8:30 a.m. - 2:00 p.m.

Test Date: Saturday, March 20, 2004 - 9:00 a.m. - 12:00 p.m.

Preparatory Course: March 22, 23, 2004 - 8:30 a.m. - 2:00 p.m.

Test Date: Saturday, March 27, 2004 - 9:00 a.m. - 12:00 p.m.

Preparatory Course: March 29, 30, 2004 - 8:30 a.m. - 2:00 p.m.

Test Date: Saturday, April 3, 2004 - 9:00 a.m. - 12:00 p.m.

Preparatory Course: April 5, 6, 2004 - 8:30 a.m. - 2:00 p.m.

Test Date: Saturday, April 10, 2004 - 9:00 a.m. - 12:00 p.m.

Test Date: Saturday, April 17 and April 24, 2004 - 9:00 a.m. - 12:00 p.m.

**Completed applications must be received
two weeks before test date.**



UNITED ASSOCIATION HVAC SERVICE TECHNICIAN CERTIFICATION (UA STAR UNIVERSITY MASTERY EXAMINATION)



- ★ Develop jointly by the United Association and Ferris State University, Big Rapids, Michigan.
- ★ All Service Technicians are eligible (applicants must have at least five years experience).
- ★ The examination consist of 199 questions in the following categories:

Mechanical (18)	Ventilation (9)	Heating (19)
Electrical (30)	Piping (12)	Controls (37)
Customer Services (3)	Lifting Equipment (4)	Mathematics (15)
Steam Systems (5)	AC & Refrigeration (39)	Safety (8)

- ★ The cost is \$100.00 (**non-refundable**) per examination.
Money Order payable to NTC.
- ★ Applicants who are unsuccessful must retake the **entire** examination.
- ★ Qualified UA members will earn 30 college credits upon passing the examination.
- ★ Washtenaw Community College issues the credits through the UA University.
- ★ The credits are applied to an Associate Degree in HVACR or Construction Supervision.
- ★ The remaining 30-35 credits needed to complete the degree can be obtained from the UA regional training system.
(For more information visit www.uarts.org)
- ★ Program endorsed by the Mechanical Service Contractors of America (MSCA).

Certification cards and patches will be provided to service technician upon satisfactory completion of UA STAR Certification exam.

An application form, schedule of review classes, examination dates for UASTAR are enclosed.

If you need more information regarding the UA STAR certification program, please call Emma at (718) 472-0404 ext. 11.



OUTREACH TRAINING COURSE ON SAFETY

A Two (2) Session Course on:

Dates: Fridays, April 2, April 9 (12 hours)

Saturdays, April 3, April 10 (12 hours)

Time: 8:00 a.m. - 4:00 p.m.



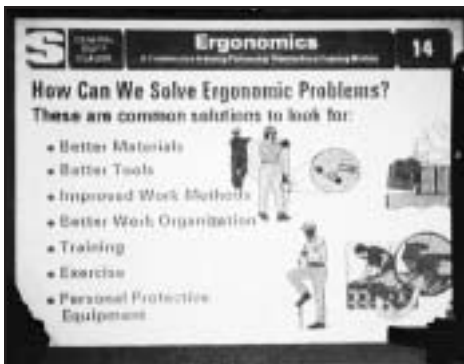
Who Should Attend: This (12) hour outreach-training course is designed for service technicians. The course will give the service technicians an in-depth look at the importance and value of safety and health in the workplace. This course will emphasize hazard identifications, avoidance, control and prevention.

Testing: Quizzes and tests will be given at the end of each session to ensure technicians understand key objectives.

Evaluations: Technicians will evaluate the course at the end of the two-day sessions. Feedback will help the Center determine whether the course is accomplishing its goals.

Completion Cards: Students will receive an OSHA course completion cards. It will take approximately two weeks to process the completion cards.

Enroll: The class is limited to 30 students. To register your technicians, call Emma Tan at (718) 472-0404/14





PRESENTS
**CARBON MONOXIDE SAFETY,
VENTING, DRAFT
AND COMBUSTION ANALYSIS**

A One (1) Session Course on:
Wednesday, March 31 and Thursday, April 18
6:00 - 9:00 p.m.

Bacharach has worked closely with the HVAC industry for over 95 years, engineering the first truly portable combustion analyzer in 1932. The HVAC industry has changed tremendously in the recent past, providing much more efficient HVAC systems operation. Part of insuring safe, reliable and efficient performance requires testing and measuring to verify the equipment is operating as designed and engineered.

Course Objectives and Topics:

This seminar is designed to provide information that will be useful to all technicians responsible for the installation, maintenance & service of combustion equipment.

IF YOU DON'T TEST, YOU DON'T KNOW!

- ★ Diagnosis of flue gases
- ★ Combustion testing procedures
- ★ Measuring carbon monoxide
- ★ Using reporting forms and documentation
- ★ Reporting and referring CO atmospheres
- ★ Excess air, draft, condensation, and safety
- ★ NOx emissions and standards of compliance
- ★ Trouble shooting combustion problems
- ★ Ensuring safety without jeopardizing efficiency
- ★ Working with Authorities of Jurisdiction
- ★ Sources of CO, CO poisoning, and its health effects
- ★ Saving lives and enhancing service
- ★ Customer savings, company profits

Each session utilizes lecture, field examples, demonstrations, slides, hand-outs, materials and encourages audience participation. Each attendee is given a technical training binder, and **a registered certificate of attendance. A non-refundable registration** fee of \$50.00 is required to assure enrollment to this course.

To register:

Please fax your registration to 718-433-0676 or call 718-472-0404

Make check payable to:

Service Fitters' Industry Educational Fund

Mail to:

Service Technicians Training Center
Attn. Emma
48-03 32nd Place
Long Island City, NY 11101

ADVANCED COMMERCIAL REFRIGERATION

A Two (2) Session Course on:
Saturdays, March 6, March 13
9:00 a.m. – 3:30 p.m.

Michael McFarland, Instructor
Service Technicians Training Center

Technicians in teams of two will work on individual stations and will follow a step-by-step, state-of-the-art, hands-on learning process that will introduce them to:

- ★ Understanding & installing, adjusting of evaporator pressure reg values; crankcases pressure reg valves; and TXV values, oil separators, accumulators.
- ★ Adjusting pressure controls, technology of controls settings, and refrigeration temp and coils, coil to air temp, desire relative humidity
- ★ Defrosting, setting, types of defrost and controls
- ★ Refrigeration: Piping, sizing, trapping

Technicians are required to bring their tools. They will be working on the following units: Blower and bare tube using 409A, 134A and R-22. A literature-education package will be distributed.



A/C UNIT ELECTRICAL SYSTEMS

A One (1) Session Course on:
Saturday, March 27
9:00 a.m. – 3:30 p.m.

Michael McFarland, Instructor
Service Technicians Training Center

Technicians will learn:

Air conditioning systems, electrical installation survey, circuit tracing and component testing and wiring including electronic controls. Lots of hands-on live equipments and Hampden A/C trainer.

Participants are required to bring their own gauges and meters.



A/C SYSTEMS MECHANICAL DIAGNOSIS

A One (1) Session Course on:

Saturday, April 10, 17

Michael McFarland, Instructor

Service Technicians Training Center

Technicians will learn: System survey, operational diagnosis and troubleshooting procedures, determine a system cooling capacity in 30 mins. or less and establish correct operating pressures and temperatures including sub-cooling and superheat conditions. Lots of hands-on live equipments. Participants are required to bring their own gauges and meters.

Registration is limited.



PRACTICAL OIL & GAS HEATING TECHNOLOGY

A Four (4) Session Course on:

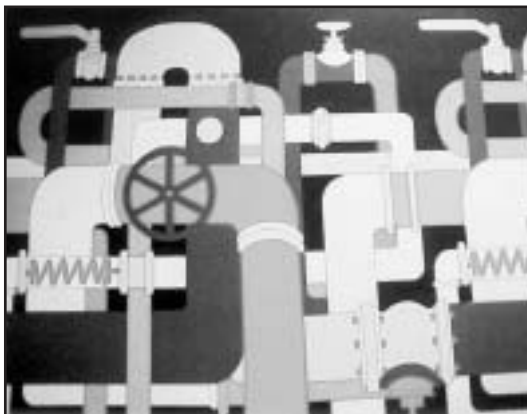
Saturdays, April 3, 10, 17, 24

9:00 a.m. - 3:30 p.m.

Bob Bieder, Instructor

Service Technicians Training Center

This seminar is designed for the service technicians who require/desire an overview or review of oil and gas heating technology from a practical perspective - based on the fundamentals of troubleshooting, maintenance and making service calls for oil-and-gas fired hydronic boilers and hot air furnaces. The seminar will be an intense study and requires participant's interaction both in and outside of the classroom. The student will be responsible for learning/reviewing approximately 50% of the course material outside of the classroom.



INTRODUCTION TO THE HONEYWELL LIGHT COMMERCIAL BUILDING SYSTEM (LCBS) DDC CONTROLS

An Eight (8) Session Course on:
Thursdays, March 11, 18, 25 April 1, 8, 15, 22, 29
6:00 p.m. – 9:00 p.m.

Leonard Zimmerman, Sales Engineer

Universal Supply Group

Tom Berman, Applied Systems Specialist

Honeywell

Course is based on the Honeywell DDC rapid zone control system and on the Honeywell light commercial building system (LCBS).

The following topics will be covered:

PART 1

- ★ HVAC Control System Fundamentals for LCBS
- ★ System Overview
- ★ T7300/Q7300 Communicating Thermostat
- ★ Configuration (Hands on)
- ★ LCBS System Communication
- ★ Introduction to LonSpec (Configuration Software) (Hands on)
- ★ Component Description

PART 2

- ★ Constant Volume Air Handler Controller (CVAHU)
- ★ CVAHU (Hands on)
- ★ Building Manager
- ★ Building Manager (Hands on)
- ★ Command Display Module
- ★ Command Display Module (Hands on)
- ★ LonStation (Monitoring software)
- ★ Rapidzone
- ★ Rapidzone (Hands on)
- ★ Configure a zoning system to meet a basic spec



HANDS-ON PNEUMATIC CONTROL TRAINING LAB-CENTERED

Maximum Class Size: 16

A One (1) Session Course on:

Saturday, March 20, 27

9:00 a.m. - 3:00 p.m.

Wes Fagan, Sales Engineer

Industrial Controls

Technicians will work on individual stations and will follow a step-by-step, state-of-the-art, hands-on learning process that will introduce them to: Air Source Station; Thermostats; Controllers; Sensors; Actuators; Electric To Pneumatic Control and Final Control Devices.

Honeywell Control Pro Learning Manual - A rich literature education package will be distributed to all participants.



PUMPS: APPLICATION FOR AIR CONDITIONING & HEATING SYSTEM

A One (1) Session Course on:

Tuesdays March 16, April 13

6:00 p.m. - 9:00 p.m.

Gene Geyer, President

Dolphin Equipment Corporation

With the exception of electric motors, there are more pumps in use than any other industrial machine. This course will give the service technicians an understanding of pump types used in air conditioning and heating systems.

Topics Will Include:

How pumps operate; installation; troubleshooting techniques; pump sizing; and the use of pumps in water towers, chillers and hydronic systems.



LIEBERT HVAC COMPUTER ROOM EQUIPMENT

A One (1) Session Course on:

Tuesday, March 16

6:00 p.m. - 9:00 p.m.

Robert Visich, Service Manager

Liebert

Topics will include:

Troubleshooting and design of Liebert System 3; Challengers, Mainframe chillers; dry coolers; and minimate plus. DDC Integration will be discussed and rare Liebert literature will be distributed.



INTRODUCTION TO COMPUTERS (WITH INTRODUCTION TO INTERNET ACCESS)

A Six (6) Session Course on:

Wednesdays

March 3

March 24

April 7

March 10

March 31

April 14

6:00 p.m. – 9:00 p.m.

Steve Mavrikis

Computer Consultant

This course is designed for entry-level users. It will familiarize students to different types of personal computers and their components. It covers both hardware and software installation and use. Learn about Microsoft Windows, Microsoft Office and Antivirus programs. Discover the Internet and email in an on-line classroom. Find manufactures' websites and technical information on the products you service. Perform maintenance tasks to keep your computer running smoothly and hands on projects that will provide you with confidence in using computers in your professional and personal lives.



VVT CONTROLS & TROUBLESHOOTING

A Three (3) Session Course on:

Wednesdays, March 3, 10, 17

6:00 p.m. - 9:00 p.m.

Basil Needham III, Control Specialist

Carrier Training Service

Topics Will Include:

VARIABLE VOLUME AND VARIABLE TEMPERATURE (VVT)

An overview, familiarization, and preferred operation of a zoned, constant volume HVAC system with VAV terminals. Methods of energy management, auto-changeover, pressure regulation and local monitoring discussed and adapted to typical HVAC applications and designs in the tri-state area.

VVT INSTALLATION, START-UP, CONFIGURATION & SERVICING

The necessary steps to the installation of a VVT system; the initial power-up and programming of the controls and troubleshooting of any detected system errors. The VVT zoned, communicating systems are outlined for teaching easy solutions to a typical installation and maintaining the required operation of a HVAC system.

VVT SYSTEM MONITORING THRU THE PC

Application, installation and interpretation of the Carrier software packages through either a site PC, or remotely through telephone systems to a central service management office. The initial steps to analyzing an entire VVT system through software, with minimal site exposure to the customer.



WIRING DIAGRAM CLASS

A Two (2) Session Course on:

February 25 March 3 March 16 April 14

February 26 March 4 March 18 April 15

6:00 p.m. - 9:00 p.m.

Anwar Abdullah, Instructor

HVAC Service Technicians Training Center

DAY ONE: Wiring diagrams - meaning of symbols, how to read a switch, what is a relay, contractor, and motor starter.

DAY TWO: Ladder diagrams - schematic diagrams, the making of, and the reading of 5 steps to schematic diagrams. Trouble-shooting of controls, controllers and fuses, and circuit breakers.

ADVANCED CONTROL COURSE

A Eight (8) Session Course on:

Tuesdays, March 9, 16, 23, 30, April 6, 13, 20, 27
6:00 a.m. - 9:00 p.m.

Leonard Zimmerman, Sales Engineer

Universal Supply Group

Tom Berman, Applied System Specialist

Honeywell

T7300/Q7300 Programmable non-communicating & communicating thermostat

- ★ General Features of the T7300
- ★ T7300/Q7300 model differentiation
- ★ Features determined by Q7300
- ★ Installation procedures (Remote sensing, Averaging)
- ★ Configuration chart for T7300 setup
- ★ T7300/Q7300 wiring configuration
- ★ Parts and accessories discussion
- ★ Advantages of a communicating T7300 Network
- ★ Layout and installation of Communication (Network) wiring
- ★ LonStat and LonSpec Configuration tools for the communicating thermostat
- ★ Configuration of T7300/Q7300 utilizing configuration charts and software

Configuration (Hands On)

- ★ Configure T7300/Q7300 using keypad on thermostat
- ★ Configure T7300/Q7300 using LonStat software
- ★ Configure T7300/Q7300 using LonSpec software to meet a basic specification

Student will receive a free copy of the LonStat Software for configuring T7300 thermostats

Introduction to the New T7350 Programmable modulating thermostat

- ★ Overview of T7350 Programmable Modulating

Economizers

- ★ What is an economizer?
- ★ Definitions
- ★ Economizer History
- ★ Economizer Types
- ★ Dry Bulb
- ★ Enthalpy (Single)
- ★ Economizer Setpoints
- ★ Using modified psych chart for econ setpoints

Rapidzone

- ★ Zoning fundamentals
- ★ Supported control devices
- ★ VAV controllers
- ★ Zone thermostat types
- ★ Building manager in RapidZone
- ★ Excel 15 C Plant Controller

Students will receive a copy of the RapidZone Configuration Software and the RapidZone Estimating Software.

RapidZone (Hands on)

Configure a zoning system to meet a basic spec

- ★ Using RapidZone estimating software (PC based)
- ★ Configure RapidZone software to meet a basic spec
- ★ Download and commission RapidZone project in RapidZone software
- ★ Download and commission an expanded RapidZone project
- ★ Using LonSpec software
- ★ Troubleshooting
- ★ Restore project in LonSpec
- ★ Commission controller
- ★ Use web to perform estimation schedule



A SHORT COURSE ON MOLD FOR HVAC TECHNICIANS

Wednesdays, March 3, 10

6:00 p.m. - 9:00 p.m.

David B. Rimberg, Ph.D., President

The Environmental Consulting Group, Inc.

This course has been developed to provide the HVAC service technician with background and information to identify the presence of mold, working safely around it and methods for minor remediation.

Course Topics include:

- ★ What is mold growth?
- ★ Methods for testing and identification
- ★ Safety & Health working around mold
- ★ Establishing Standards
- ★ Inspection for mold in HVAC Systems
- Recent litigation
- Insurance Issues



CUSTOMER SERVICE EXCELLENCE

How to Win and Keep Customers

Wednesday, March 31 and Thursday, April 1 (2 sessions)

6:00 p.m. - 9:00 p.m.

Saturday, April 3 (1 session)

9:00 a.m. - 3:30 p.m.

Michael Mahoney, President

Mahoney & Associates

"People" skills are critical for personal and organizational success. How you handle your customers can directly affect your individual goals as well as your team's and company's performance.



REGISTRATION FORM

Course:.....

Date:.....

Full Name:.....

Company:.....

Company Contact Name:.....

Mailing Address:

.....

.....

City:.....

State, Zip:.....

Telephone#.....

My Full Registration Fee In The Amount Of \$50.00 Is Enclosed.

**Please Make Checks Payable To
Service Fitters' Industry Educational Fund**

Please mail to:

**HVACR Service Technicians Training Center
48-03 32nd Place, Long Island City, NY 11101**

**For information, please call
Emma at
(718) 472-0404**