HVAC FUNDAMENTALS
OF REFRIGERATION AND AC

Classes will be held on Tuesdays only from 4 to 8pm starting September 2 through December 16, 2014.

All classes and labs will be held at Rhodes State College.

Class size is limited. Preregistration is required.

COURSE OVERVIEW
This course is designed to introduce fundamentals of refrigeration in commercial, institutional and industrial applications. Topics include science of refrigeration, heat/gain loss, thermodynamics, refrigeration cycle, system performance, and refrigerants and recycling.

SUMMARY OF TOPICS
- Universal 608 certification for refrigerant
- Hands-on with DDC controls
- Proper refrigeration techniques
- Classroom, as well as lab exercises
- Real-life situations
- Real-life application
- Tour actual equipment in day-to-day operation

STUDENT LEARNING OUTCOMES
- Demonstrate understanding of the basic science that applies to refrigeration.
- Illustrate the basic principles in the development of the vapor compression cycle.
- Identify and apply the techniques for the proper use and care of hand tools connected with the repair, servicing and installation of refrigeration and air conditioning equipment.
- Explain the function of refrigerant expansion devices and classify the different types.
- Describe the different methods of refrigerant recovery and recycling.
- Explain refrigerant conservation
- Summarize the EPA regulations regarding intentional venting of CFCs (Chlorofluorocarbons) and HCFCs (Hydrochlorofluorocarbons).
- Outline service procedures and practices used in the conservation and containment of refrigerants.

COURSE OUTLINE
Fall Semester 2014

- Chapter 1  Comfort
- Chapter 2  Safety
- Chapter 3  Thermodynamics and Heat
- Chapter 4  Combustion and Fuels
- Chapter 5  Electricity
- Chapter 6  Psychrometrics
- Chapter 7  Forced-Air Heating Systems
- Chapter 8  Steam and Hydronic Heating Systems
- Chapter 9  Refrigeration Principles
- Chapter 10  Management of Refrigerants and Refrigeration Systems
- Chapter 11  Pressure — Enthalpy Diagrams
- Chapter 12  Compression System: Low Pressure System
- Chapter 13  Compression System: High Pressure System
- Chapter 14  Air Conditioning Systems
- Chapter 15  Heat Pump
- Chapter 16  Control Systems
- Chapter 17  Heating and Cooling Loads
- Chapter 18  Load Calculations
- Chapter 19  HVAC Unit Selection
- Chapter 20  Forced-Air Systems Design
- Chapter 21  Hydronic System Design
- Chapter 22  Distribution System Balance
HVAC Fundamentals

Name: ________________________________
Company: ________________________________
O Home O Company Address or Box #: ________________________________

City, State and Zip Code: ________________________________
County of Residence: ________________________________
Daytime Phone #: ________________________________
Home or Cell Phone #: ________________________________
Email Address: ________________________________

CHECK WORKSHOP(S) TO ATTEND:

HVAC Fundamentals of Refrigeration and AC
O #L9170A  9/2/14 through 12/16/14  4 to 8pm

Registration deadline is August 22, 2014
Registration confirmations, including class location, maps and directions, will be sent via U.S. mail at least one week prior to the listed start date.

PAYMENT INFORMATION

Total payment due: ________________________________
O Check Enclosed (payable to Rhodes State College)
O Purchase Order #: ________________________________
(Or attach PO to registration form. Read our invoicing policy!)
O Credit Card: VISA MasterCard Discover Card
Name on card: ________________________________
Card Number: ________________________________
Expiration Date: ________________________________
3-digit security code: ________________________________

REGISTRATION FEE

All prices listed are per person, per workshop and include training materials, textbook and refreshments.

All workshops subject to cancellation if minimum enrollment is not met.
Credit cards are not processed until just before listed class start date.

HVAC Fundamentals:
$1,895.00  Participant fee
$1,705.50  WCOMC member discounted fee

REGISTRATION FORM

Make checks payable to Rhodes State College

O MAIL: Rhodes State College, c/o WEDCE
4240 Campus Drive, Lima OH 45804.

O FAX: (419) 995-8096

O PHONE: (419) 995-8406 (8:30am to 4:30pm, weekdays)

O EMAIL: Sybert.A@RhodesState.edu (April Sybert)

REFUND, INVOICING & CANCELLATION POLICIES

• You can withdraw from a workshop up to 3 days before its start date. A fee of $85 applies to any such cancellation for this course.
• You will be charged 50% of the fee paid for cancellation within 3 days of the respective start date.
• No refunds are issued for no-shows. Substitutions are welcome.
• A full refund will be issued if a course cancels.
• A $25 late payment charge will be imposed for non-payment of an invoice within the payment terms given on the invoice. Typical payment terms are net 30 days.
• WEDCE reserves the right to adjust these policies as needed.

Rhodes State College is a Tobacco-free Campus