

2018 TECHNICAL TRAINING *schedule*

TRAINING INFORMATION

We are an approved Training Agency of the Ohio Construction Industry Licensing Board (OCILB). All of our Technical Training Courses in this brochure are approved for 8 Continuing Education Units (CEUs) by the OCILB.

All courses start at 8:30 AM and end at 4:30 PM

Training will be held at the Gardiner Training Center - 31300 Bainbridge Road, Solon, OH 44139

Breakfast, lunch and course materials will be provided

TRAINING SCHEDULE

SPRING 2018

Tuesday, February 06, 2018
Cooling Towers & Water Treatment

Wednesday, February 07, 2018
Pump Basics

Thursday, February 08, 2018
Hydronics

Tuesday, March 27, 2018
Basic Combustion

Wednesday, March 28, 2018
HVAC Compressors for Commercial Application

Thursday, March 29, 2018
Large Commercial Rooftops

FALL 2018

Tuesday, August 28, 2018
Variable Frequency Drives

Wednesday, August 29, 2018
Boiler Operations & Maintenance

Thursday, August 30, 2018
Heat Pumps / WSHP / Geothermal

Friday, August 31, 2018
Variable Air Volume

Tuesday, November 13, 2018
Electricity for HVAC & Buildings

Wednesday, November 14, 2018
Schematics & Wiring Diagrams

Thursday, November 15, 2018
Light Commercial Rooftops

2018 TECHNICAL TRAINING

SPRING SCHEDULE

FEB 06 • COOLING TOWERS & WATER TREATMENT

This course provides an extensive exploration of cooling towers and its functions. Students will examine cooling tower designs, components, installations, operations and maintenance. In addition, a review and discussion will be conducted on both open and closed circuit designs. Active participants will also have the opportunity to develop a comprehensive maintenance program for towers.

FEB 07 • PUMP BASICS

This course is designed to familiarize students with the basics and build to provide a full understanding of pump applications and the efficiency of heat pump systems. The lesson focuses on exploration of pump types, installation, selection, as well as service and maintenance. Students will look at position, placement and piping and will learn to calculate the resistance and capacity selections. Challenges of variable frequency drives, fluid issues and the velocity response will also be explored.

FEB 08 • HYDRONICS

This course establishes a foundation in hydronic concepts and its application. Students will examine all systems associated with water loops, types, classifications as well as piping of the system. There will be a focus on single and dual pipe systems, direct and reverse return piping and loops. This discussion also looks at pump systems, water balancing, treatment and expansion.

MAR 27 • BASIC COMBUSTION

This course focuses on the basic principles of gases, fuels, burners and the overall combustion process. Students will explore the concept of mixtures and classifications, and learn how to tune systems for the highest efficiency. Upon completion, students will have a better understanding of how to improve their burner's overall performance.

MAR 28 • HVAC COMPRESSORS FOR COMMERCIAL APPLICATIONS

This course is designed to acquaint students with the types of compressors used in HVAC systems. Students will examine operation and support concepts, operating requirements associated with suction, as well as compression and discharge of each type. There will be a heavy focus on the installation, power support, oil, structure, lubrication and troubleshooting techniques.

MAR 29 • LARGE COMMERCIAL ROOFTOPS

This course will explore installation, starting up, setting up, troubleshooting and maintaining the large commercial rooftops from multiple manufacturers. There will be a strong focus on the ability to monitor and control the equipment and how newer machines compare to older versions in terms of refrigerant and operation.

INSTRUCTOR(S) QUALIFICATIONS

Nelson B. Warthan

Nelson has over 45 years of experience as a technician in the HVAC sciences. He's recognized nationally as a trainer in both environmental and regulatory issues, as well as refrigeration.

Bill Marshall

Bill has been a service technician with GARDINER for over 25 years. He plays an active leadership role in the development and training for both our technicians and customers.

FALL SCHEDULE

AUG 28 · VARIABLE FREQUENCY DRIVES

This course presents students with the basic foundation and application of variable frequency drives and the energy savings associated with drives. Students will review and discuss the equipment requirements that take priority over drives. Upon completion, students will have a better understanding of the dilemmas of drives, energy relationships and cooling requirements.

AUG 29 · BOILER OPERATIONS & MAINTENANCE

This course is designed to look at externally fired devices, installation and components. Students will examine operation passes, fire tubes, atomization, fuel lines, tubes, stacks, smokeboxes, burners and more. In addition, this course will also cover make-up water and associate water treatment, compare hot water and steam boilers. Topics covered will enable students to build a maintenance program for their own boiler and building support.

AUG 30 · HEAT PUMPS/WSHP/GEOTHERMAL

This course provides an insight to the principles of heat pumps for commercial and residential applications, components and operations. This course will also cover WSHPs and their zone marriage to smaller spaces, individual comfort requirements, boiler and cooling tower connections, installation, as well as maintenance and service. In addition, students will examine geothermal technology, the future of larger applications and the support to energy conservation and efficiency with the use of underground coils.

AUG 31 · VARIABLE AIR VOLUME

This course looks at building and VAV selection, as well as the rooftop source and the marriage to the VAV network. Students will learn about what controls VAV, VAV setup, boxes, actuators, controls, duct work, sensors and more. In addition, this course will also cover control and troubleshooting a VAV system.

NOV 13 · ELECTRICITY FOR HVAC & BUILDINGS

This course provides a comprehensive study on the applications of electricity in buildings. Students will review the principles of electricity, including electrical characteristics and troubleshooting. Other topics that will be discussed include: motors, diagrams, voltage issues, balances, HVAC systems electrical support, power distribution and more.

NOV 14 · SCHEMATICS & WIRING DIAGRAMS

This course introduces the concept of schematics and wiring diagrams using the universal step by step approach and symbol identification techniques. Students will participate in group discussion covering topics such as electrical accessories, the latest ANSI diagram and how to develop troubleshooting techniques from diagrams.

NOV 15 · LIGHT COMMERCIAL ROOFTOPS

This course is designed to familiarize students with the principles, operation and maintenance of light commercial (3-25 ton) rooftops from multiple equipment manufacturers. Students will learn the capabilities and limitations of different RTUs. The class will also include discussion on how to control and troubleshoot those units from a service perspective.

****Certificates of Completion will be distributed to all attendees by the instructor before dismissal.***

TRAINING REGISTRATION

COST

\$325 per student per seat for each individual course

We also offer discount packages which allows you to purchase five or ten seats (*Discounts can be found below*)

HOW TO REGISTER

Complete the following editable form and email to to Morgan Owens at mowens@whgardiner.com or call 440-248-3400 x1534

CANCELLATION / NO SHOW POLICY

You must notify us of your class cancellation seven business days prior to the scheduled class date to avoid being changed for the class. If you cancel less than seven days prior to the class or fail to attend class, you will be charged for the full amount.

COMPANY INFORMATION

COMPANY NAME

CONTACT NAME

BILLING ADDRESS

CITY

STATE

ZIP

TELEPHONE

EMAIL ADDRESS

REGISTRATION INFORMATION

I WOULD LIKE TO PURCHASE THE FOLLOWING PACKAGE:

INDIVIDUAL SEAT

\$325 / FULL DAY CLASS PLUS 8% TAX

5 SEAT PACKAGE

\$243 / FULL DAY CLASS PLUS 8% TAX

10 SEAT PACKAGE

\$215 / FULL DAY CLASS PLUS 8% TAX

STUDENT NAME

COURSE NAME

STUDENT NAME

COURSE NAME

STUDENT NAME

COURSE NAME

STUDENT NAME

COURSE NAME

STUDENT NAME

COURSE NAME

PAYMENT INFORMATION

FORM OF PAYMENT:

CREDIT CARD NUMBER

NAME ON CARD

EXPIRATION

CVV NUMBER

CHECK NUMBER

PURCHASE ORDER

PLEASE CONTACT MORGAN OWENS FOR ANY QUESTIONS AND/OR FOR FURTHER ASSISTANCE REGARDING REGISTRATION.