Global Horizon
TRAINING CENTER

Training Course:
Heating, Ventilation & Conditioning (HVAC)

31 March - 4 April 2025
Manchester (UK)

Training Course:
Heating, Ventilation & Conditioning (HVAC)

Training Course code: HE234676 From: 31 March - 4 April 2025 Venue: Manchester (UK) - Training Course Fees: 5775 Euro

Introduction

HVAC is a method for providing comfort in both indoor and outdoor environments in vehicles. High indoor air quality and thermal comfort are the goals of the technique. Mechanical, forced, and natural ventilation are a few types of ventilation systems that can be used to ventilate a building and maintain an ideal temperature throughout the day and at night.
Nowadays, HVAC systems can be found everywhere, in both household and business settings. HVAC systems provide pressure regulation and ventilation for vacuum spaces. Room air distribution is a technique for removing air from areas and providing air.

Course Objectives Of Heating, Ventilation, and Conditioning HVAC

- Provide a deep understanding of real-world solutions and have been tailored with simple yet realistic modules for effective and holistic implementation.
- Equip the learner with all the fundamentals of AC systems and design
- Use of testing equipment, and the principles of mechanics, electricity, and electronics.
- Enabling the learners to start with a great professional career in this field.

Course outlines Of Heating, Ventilation, and Conditioning HVAC

Day 1

First Cost, Energy Efficiency / O&M Cost

- Maintainability. Reliability. Redundancy. Flexibility
- Change in Occupancy
- Partial Controllability
- Temperature
- Humidity
- Pressurization
- Air Quality
- Infection Control

Day 2

The Selection of HVAC Systems

- Packaged Air Handling Units, Direct Expansion
- Chilled Water, Local Special Systems
- Medical Equipment, Computer Rooms
- Terminal Units, Unitary or Served by a Central Plant
- Fan Coil Units, Incremental Units
- Heat Pumps

- Induction Traditional Hospital HVAC Systems Decentralized Systems

Packaged Terminal Air Conditioner filter

- Water-Source Heat Pump
- Fan-Coil Unit cooling coil supply fan return-air inlet supply-air outlet filter
- Fan Coil Systems 4 pipe 2 pipe Central ventilation unit
- Induction Units 4 pipe 2 pipe Central ventilation unit
- Air-Cooled Chiller, Fan-Coil System
- Small Chilled-Water System

Day 3

Traditional HVAC Systems

- All Air Systems
- Central Heating
- Central Cooling
- Single Zone
- Multiple Zones & Constant Volume cooling
- Multiple Zones & Variable Volume

HVAC Filtration

- Primary panel filter Secondary filter HEPA or tertiary filter
- Sources of Chilled Water
- Cooling Sources Chiller Plant
- Constant or Variable Flow-Primary-Flow Systems bypass two-way valve variable-flow pumps control valve check valves optional bypass with three-way valve
- Primary-Secondary Configuration production pumps
- Variable-Speed Drives
- Boiler Plant Steam vs. Hot Water Fire tube vs. water tube Full size vs. Modular Hot Water

Day 4

LEED for HealthCare

- Energy Conservation is a significant part
- Establish ASHRAE 90.1 for base performance
- LEED forces early consideration of all measures
- Energy modeling required
- ASHRAE Standard 189.2P
- Non-All Air Systems
- Ventilation- Energy Recovery
- High-Performance Healthcare Facilities

Guidelines for Construction

- Building Envelope Improvements
- Reduce Building Volume Height
- Reduce Fan Horsepower's
- BIM as a resource

- Requires less external static pressure
- Dedicated ventilation air systems
- Heat Recovery Chillers
- Using the rejected condenser heat

Day 5

Chiller, Heat Recovery, Solar, Hydronic

- PV Strategies to Reduce Energy Consumption
- Heat Pumps Heat Recovery, Laundry, Data Centers, Ground Source Heat Pumps, Cogeneration
- Trigeneration Strategies to Reduce Energy Consumption Continued
- Ground-Source Heat-Pump System geothermal heat exchanger heat pump pumps
- Reducing building height and horizontal duct lengths
- Non-All Air Alternatives
- Fan Coil Units
- Chilled Beams
- Positive Displacement Ventilation
- Hybrid VAV Systems
- Active Chilled Beams in Cooling and Heating Mode
- Passive Chilled Beams
- Active Chilled Beams
- Displacement Ventilation

Registration form on the Training Course: Heating, Ventilation & Conditioning (HVAC)

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

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Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): .....
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Payment Method

☐ Please find enclosed a cheque made payable to Global Horizon

☐ Please invoice me

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Easy Ways To Register

Telephone: +201095004484 to provisionally reserve your place.	Fax your completed registration form to: +20233379764	E-mail to us : info@gh4t.com or training@gh4t.com	Complete & return the booking form with cheque to:Global Horizon 3 Oudai street, Aldouki, Giza, Giza Governorate, Egypt.