Global Horizon
TRAINING CENTER

Training Course:
Heating, Ventilation & Conditioning (HVAC)

21 - 25 December 2026
London (UK)

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Training Course code: HE234676 From: 21 - 25 December 2026 Venue: London (UK) - Training Course Fees: 6300 Euro

Introduction

Heating, Ventilation, and Air Conditioning HVAC is a critical system used to control the indoor environment of residential, commercial, and industrial buildings. Its primary goals are to maintain optimal indoor air quality IAQ and thermal comfort. HVAC systems are essential for regulating air quality, temperature, humidity, and pressurization, which can impact the health and productivity of occupants. The HVAC industry also focuses on energy efficiency, sustainability, and maintaining a clean environment, especially in medical and computer rooms where precise control of air and temperature is paramount.

This training program will provide participants with a comprehensive understanding of HVAC systems, their components, energy efficiency, and real-world solutions for their design and implementation.

Objectives

- Provide participants with an in-depth understanding of HVAC systems and their applications in various environments.
- Equip learners with the fundamentals of HVAC system design, operation, and maintenance.
- Introduce essential testing equipment and provide practical knowledge of mechanics, electricity, and electronics in HVAC systems.
- Enable participants to pursue a professional career in the HVAC industry, offering skills to design and implement HVAC systems that meet global standards.

Target Audience

- HVAC Engineers
- Facility Managers
- Maintenance Technicians
- Contractors and Builders
- Students pursuing a career in mechanical engineering or HVAC
- Anyone involved in the installation, operation, and maintenance of HVAC systems

Course Outline

Day 1: First Cost, Energy Efficiency / O&M Cost

- Maintainability and Reliability
    - Understanding system longevity and ease of maintenance.

    - Ensuring systems meet operational demands with reliability.
- Redundancy and Flexibility
    - Designing systems with backup and flexibility for changing requirements.
- Change in Occupancy
    - Adjusting HVAC systems based on the number and types of building occupants.
- Partial Controllability
    - Allowing users to control their immediate environment e.g., temperature and air quality.
- Temperature, Humidity, Pressurization
    - The role of HVAC in maintaining consistent and comfortable indoor conditions.
- Air Quality and Infection Control
    - Strategies for controlling airborne contaminants and infection prevention.

Day 2: The Selection of HVAC Systems

- Packaged Air Handling Units, Direct Expansion
    - Overview of packaged air handling units and their efficiency.
- Chilled Water and Local Special Systems
    - Using chilled water systems and specialized HVAC solutions.
- Medical Equipment and Computer Rooms
    - Designing HVAC systems for sensitive environments.
- Terminal Units and Heat Pumps
    - Types of terminal units and the use of heat pumps in HVAC.
- Water-Source Heat Pump
    - Understanding water-source heat pumps in HVAC systems.
- Fan Coil Systems
    - Configuration and types of fan coil systems 4-pipe, 2-pipe.
- Air-Cooled Chiller, Fan-Coil System
    - Integrating air-cooled chillers with fan-coil systems for better efficiency.
- Small Chilled-Water System
    - Understanding the components and functioning of small chilled-water systems.

Day 3: Traditional HVAC Systems

- All Air Systems
    - Types of all-air HVAC systems and their applications.
- Central Heating and Cooling
    - Understanding centralized systems for large buildings.
- Single Zone and Multiple Zones Systems
    - Balancing energy efficiency and control in single vs. multiple zone systems.
- HVAC Filtration
    - Different filters used in HVAC Primary, Secondary, HEPA, etc..
- Sources of Chilled Water
    - Different ways to source and circulate chilled water within HVAC systems.
- Cooling Sources and Chiller Plant
    - Detailed operation of chiller plants for cooling.
- Primary-Secondary Flow Systems
    - Configuration of primary-secondary flow systems in HVAC.
- Variable-Speed Drives and Pumps
    - Importance of variable-speed drives in enhancing energy efficiency.

Day 4: LEED for Healthcare and Energy Conservation

- ASHRAE 90.1 for Base Performance
    - How ASHRAE standards influence HVAC system performance.
- LEED for Healthcare
    - Energy conservation methods specifically tailored for healthcare facilities.
- Energy Modeling
    - The process of modeling energy usage for HVAC systems to achieve sustainability goals.
- Non-All Air Systems
    - Exploring alternatives to all-air HVAC systems.
- Ventilation Energy Recovery
    - Techniques for recovering and reusing energy in ventilation systems.
- Building Envelope Improvements
    - Ways to enhance building envelope design for energy efficiency.
- Heat Recovery Chillers
    - Using heat recovery chillers to improve system efficiency.

Day 5: Advanced HVAC Systems and Strategies

- Chiller, Heat Recovery, Solar, Hydronic
    - Integrating advanced technologies like heat recovery chillers and solar-powered HVAC.
- PV Strategies to Reduce Energy Consumption
    - Use of photovoltaic systems to support HVAC energy needs.
- Ground Source Heat Pumps and Trigeneration
    - Exploiting geothermal sources for energy-efficient HVAC systems.
- Reducing Energy Consumption in HVAC
    - Strategies for reducing energy consumption through innovative designs.
- Fan Coil Units and Hybrid VAV Systems
    - Exploring alternative configurations like hybrid VAV Variable Air Volume and fan coil systems.
- Active and Passive Chilled Beams
    - A comparison of active vs. passive chilled beam systems for heating and cooling

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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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.