XCELERATE TRAINING INSTITUTE

your learning & development partner

MECHANICAL ENGINEERING

Heating, Ventilation and Air Conditioning (HVAC) Systems Technician Training Course

DURATION	LANGUAGE	FORMAT
5 days	**English**	**Classroom / Online**

Upcoming dates

Dates	Venue	Format	Fee
18 – 22 Jan 2027	Live online	Online (live)	**€1,200**
26 – 30 Jul 2027	Live online	Online (live)	**€1,200**
23 – 27 Aug 2027	Geneva	Classroom	**€4,800**

Register or ask a question

Online: x8ti.com/course/heating-ventilation-and-air-conditioning-hvac-system…

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Heating, Ventilation and Air Conditioning (HVAC) Systems Technician Training Course

Introduction

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Heating, ventilation and air conditioning (HVAC) is an advanced technique ensuring vehicular and indoor environmental comfort. HVAC systems are designed to provide thermal comfort and acceptable indoor air quality. HVAC is an important consideration in residential as well as industrial and official structures.

The heating system generates heat for the building, the ventilator changes or replaces the air in a given space to control temperature and remove moisture, odor, smoke, etc., while the air conditioner provides cooling and humidity control. Efficient HVAC systems have several benefits, including lower electricity bills, better temperature variability, cleaner air, remote access, etc.

However, these systems could pose issues because of various reasons, including lack of maintenance, dirty/clogged filters, leaking refrigerant, thermostat malfunctions, dirty coils, outdated designs, etc.

This Xcelerate Training Institute course will empower you with complete information and knowledge about HVAC systems, including their operation, inspection, maintenance and repair.

The course content is aimed to provide all relevant information and knowledge to effectively work with or oversee the working of HVAC systems. Undertaking this course will not only provide you with the required knowledge but also the necessary experience and confidence to effectively carry out responsibilities related to installation, functioning, maintenance and repair of HVAC systems.

Learning Objectives

- detailed information and knowledge of HVAC systems, including their installation, operation, inspection, maintenance and repair
- experience and knowledge to inspect HVAC systems to check for issues or gaps and ensure functioning at optimal efficiencies
- the confidence and exposure to handle malfunctions and troubleshooting situations without letting these impact the environment or people
- the required understanding and awareness of expected standards of safety as well as environmental conservation to ensure that all operations are within these standards and benchmarks
- the skill and ability to foresee a challenge or issue in the functioning of HVAC systems and undertake early measures to minimize damage or prevent inconvenience
- the adequate knowledge and experience to work with HVAC systems to ensure optimal levels of operation, maintenance, reduced wear and tear, in turn increasing life or longevity
- the confidence and knowledge to help groom other professionals to work with HVAC systems within the expected standards of quality and safety
- the ability to contribute to reducing costs and eventually contributing to organizational growth and

development

Training Methodology

Xcelerate Training Institute offers training on a variety of topics. The courses are completely customizable as per the intended audience. Thus, the course content is thoroughly checked before each training session to ensure that it is relevant to the intended audience. Lectures are delivered by a highly experienced professional from the relevant domain, using audio-video presentations.

Trainee participation is encouraged through group assignments, projects, etc. Role-plays help relate practical application to the theoretical training content delivered through lectures. Case studies also help add relevance to theoretical and practical scenarios.

Benefits for Your Organization

- Enhanced performance and functioning of HVAC systems handled by trained professionals
- Regular inspection and maintenance activities to ensure the HVAC systems are working optimally
- Increased system longevity and reduced wear and tear because of greater care and maintenance of HVAC systems
- Reduced organizational costs for repair and replacements
- Adherence to expected standards of human and environmental health and safety
- Organizational growth and development because of greater system efficiency and reduced maintenance costs
- Regular trainings and workshops to ensure that all employees work with the systems as per expected guidelines and standards
- Effective risk assessment and management, resulting in minimal loss to the organization
- Minimal downtime because of experienced and trained professionals overseeing management of these HVAC systems

Benefits for You

- Thorough understanding and increased knowledge of HVAC systems, including their installation, operation, maintenance and repair
- Increased confidence and experience to troubleshoot for any issues with HVAC systems in the least time possible
- Greater skill and understanding to work with HVAC systems and ensure proper maintenance to reduce shutdowns or down times
- Increased confidence and experience to guide other professionals regarding all critical aspects of HVAC systems
- Better strategic skills and foresight to predict possible challenges and hindrances and address these in time, before they have grave impact
- Greater understanding and awareness of international standards of human and environmental safety and conservation
- Increased ability and potential to contribute to organizational growth through various avenues
- Enhanced skills and capabilities to work and assume higher roles and responsibilities related to HVAC systems across any organization, thereby increasing avenues for growth and progression

Target Audience

- Engineers and other professionals involved in installation, operation, maintenance or repair of HVAC systems
- Vendors, suppliers and manufacturers of HVAC systems who need to understand the criticality of maintenance and good quality systems
- Top management of the organization responsible for strategic plans and decision making for the organization
- Managers and leaders overseeing all operations related to HVAC systems
- Internal and external auditors responsible for ensuring adherence to all required standards and guidelines
- Any other professional interested in knowing more about HVAC systems

Course Outline

Overview of HVAC Systems

- Definition
- Heating
- Generation
- Distribution
- Dangers
- Ventilation
- Mechanical or forced ventilation
- Natural ventilation
- Air conditioning
- Refrigeration cycle
- Free cooling
- De-humidification

Types of HVAC Systems

- Split systems
- Hybrid systems
- Duct-free systems
- Packaged heating and air systems

Components of an HVAC System

- Heat ex-changer
- Blower motor
- Combustion chamber
- Condenser coil or compressor
- Evaporator coil
- Thermostat

Benefits of Installing HVAC Systems

- Lower electricity bills
- Better temperature variability
- Cleaner air
- Remote access

Symptoms of HVAC System Issues

- Odors or poor indoor air quality
- Strange, unfamiliar sounds
- Inconsistent airflow/uneven heating and cooling
- Loss of system efficiency
- Unexpected rise in heating and cooling costs

Causes of HVAC System Issues

- Lack of maintenance
- Dirty or clogged filters
- Leaking refrigerant
- Thermostat malfunctions
- Improvement air balance
- Sluggish fan
- Dirty coils
- Outdated design

Aspects of Energy Efficiency

- Heating energy
- Ground source heat pump
- Ventilation energy recovery
- Air conditioning energy

Maintenance Checklist for HVAC Systems

- Cleaning or replacement of filters
- Cleaning of evaporator and condenser coils
- Cleaning of drain lines
- Clearing of drain pans
- Replacement of worn pulleys and belts
- Inspection of ducts for molds, dust, debris
- Observation of humidity levels

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Registration Form

Heating, Ventilation and Air Conditioning (HVAC) Systems Technician Training Course

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

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City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

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Register online
Open the course page