

# € TRAINING

Air Conditioning and Refrigeration Systems



11 - 15 August 2024  
Online



# Air Conditioning and Refrigeration Systems

REF: O2241 DATE: 11 - 15 August 2024 Venue: Online - Fee: 2500 Euro

## Introduction:

This training program is designed to equip participants with comprehensive knowledge and practical skills necessary for the design, installation, maintenance, and troubleshooting of HVAC Heating, Ventilation, and Air Conditioning and refrigeration systems. It empowers them to implement sustainable and energy-efficient solutions in various environments.

## Program Objectives:

By the end of this program, participants will be able to:

- Gain a thorough understanding of HVAC and refrigeration principles and components.
- Learn installation techniques and best practices for HVAC and refrigeration systems.
- Develop skills in diagnosing and troubleshooting common issues in HVAC and refrigeration equipment.
- Optimize the performance and energy efficiency of air conditioning and refrigeration systems.
- Ensure compliance with safety regulations and industry standards.

## Target Audience:

- HVAC technicians and engineers.
- Maintenance personnel responsible for air conditioning and refrigeration systems.
- Facility managers and building operators.
- Contractors involved in HVAC and refrigeration installation and maintenance.
- Energy efficiency professionals seeking to enhance their knowledge in HVAC systems.

## Program Outline:

### Unit 1:

#### Fundamentals of HVAC Systems:

- Overview of HVAC Technology.
- Basic Principles of Air Conditioning and Refrigeration.

- Components of HVAC Systems.
- Types of Refrigerants and Their Applications.
- Environmental Impact and Sustainability Considerations.

## Unit 2:

### Air Conditioning Systems:

- Air Conditioning Cycle and Process.
- Types of Air Conditioning Units Window, Split, Central.
- Principles of Heat Transfer and Psychrometrics.
- Energy Efficiency in Air Conditioning Systems.
- Maintenance and Service Requirements.

## Unit 3:

### Refrigeration Systems:

- Basic Refrigeration Cycle.
- Types of Refrigeration Systems Vapor Compression, Absorption.
- Refrigeration Components Compressors, Condensers, Evaporators.
- Industrial Refrigeration Applications.
- Safety Practices in Refrigeration Systems.

## Unit 4:

### Installation and Commissioning:

- Planning and Designing HVAC and Refrigeration Systems.
- Installation Techniques for Air Conditioning Units.
- Refrigerant Handling and Charging Procedures.
- System Testing and Commissioning.
- Compliance with Building Codes and Regulations.



## Unit 5:

### Operation and Maintenance:

- Operational Strategies for Efficient HVAC Systems.
- Preventive Maintenance Practices.
- Troubleshooting Common Issues in HVAC and Refrigeration Systems.
- Energy Management and Optimization.
- Emergency Response and Contingency Planning.