



*Training Course:
Fundamentals of Process Technology*

*18 - 29 October 2026
Cairo (Egypt)*

Training Course: Fundamentals of Process Technology

Training Course code: EN6050 From: 18 - 29 October 2026 Venue: Cairo (Egypt) - Training Course Fees: 6950 € Euro

Introduction

Process technology is at the core of industries such as oil & gas, petrochemicals, power generation, and manufacturing. It involves transforming raw materials into valuable products through controlled physical and chemical processes. A solid understanding of process fundamentals is essential for safe operation, efficiency, and product quality.

This program, designed by Global Horizon Training Center, provides a comprehensive 10-day training that equips participants with foundational and practical knowledge of process systems, equipment, and operations in industrial environments.

Course Objectives

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

- Understand core concepts of process technology and industrial operations
- Identify and operate key process equipment
- Interpret PFDs and P&IDs effectively
- Apply principles of fluid flow, heat transfer, and mass balance
- Understand process control and instrumentation basics
- Identify operational risks and safety measures
- Analyze and troubleshoot basic process issues
- Support efficient and safe plant operations

Target Audience

This program is designed for:

- Entry-level Process and Chemical Engineers
- Plant Operators and Technicians
- Maintenance and Operations Personnel
- Supervisors in industrial facilities
- Engineering Graduates and Students
- Professionals new to process industries

Outline

Day 1: Introduction to Process Technology

- Overview of process industries
- Types of processes physical and chemical
- Process flow diagrams PFDs
- Plant layout and systems
- Safety fundamentals

Day 2: Basic Chemistry and Process Principles

- Chemical reactions and stoichiometry
- Phase behavior and properties
- Material balance basics
- Process inputs and outputs
- Process efficiency concepts

Day 3: Fluid Flow Fundamentals

- Fluid properties density, viscosity
- Flow regimes and Reynolds number
- Pressure drop and flow control
- Pumps and piping systems
- Practical applications

Day 4: Heat Transfer and Energy Systems

- Heat transfer modes conduction, convection, radiation
- Heat exchangers and boilers
- Energy balance concepts
- Thermal efficiency
- Industrial applications

Day 5: Process Equipment Overview

- Pumps, compressors, and turbines
- Reactors and separators
- Valves and control devices
- Storage systems
- Equipment operation basics

Day 6: Process Control and Instrumentation

- Introduction to control systems
- Sensors and measurement devices
- Control loops and PID basics
- SCADA and automation
- Monitoring and data acquisition

Day 7: PFD and P&ID Interpretation

- Reading process flow diagrams
- Understanding piping and instrumentation diagrams

- Identifying equipment and symbols
- Process logic and flow paths
- Practical exercises

Day 8: Safety and Risk Management

- Process safety management PSM
- Hazard identification HAZOP basics
- Risk assessment and mitigation
- Emergency response procedures
- Safety regulations and standards

Day 9: Troubleshooting and Operational Efficiency

- Identifying process deviations
- Root cause analysis
- Performance monitoring
- Process optimization techniques
- Energy efficiency improvement

Day 10: Integration, Case Studies, and Practical Applications

- Integrated process operations
- Real-world industrial case studies
- Best practices in process management
- Continuous improvement strategies
- Final review and assessment

Registration form on the Training Course: Fundamentals of Process Technology

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Payment Method

- Please find enclosed a cheque made payable to Global Horizon
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