



*Training Course:
Steam Turbines, Gas Turbines & Combined Power
Plants*

*29 August - 2 September 2027
Cairo (Egypt)*

Training Course: Steam Turbines, Gas Turbines & Combined Power Plants

Training Course code: EN6068 From: 29 August - 2 September 2027 Venue: Cairo (Egypt) - Training Course Fees: 4410 € Euro

Introduction

Steam turbines, gas turbines, and combined cycle power plants are the backbone of modern power generation systems. Understanding their operation, performance characteristics, and integration is essential for achieving high efficiency, reliability, and optimal energy output.

This program, designed by Global Horizon Training Center, equips participants with comprehensive knowledge and practical skills to operate, maintain, and optimize turbine-based power generation systems, including combined cycle configurations.

Course Objectives

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

- Understand the principles of steam and gas turbine operation
- Identify key components and systems of turbines and power plants
- Analyze thermodynamic cycles Rankine and Brayton
- Operate and monitor turbine systems effectively
- Apply maintenance and troubleshooting techniques
- Understand combined cycle power plant integration
- Improve efficiency and performance of power generation systems
- Ensure safe and compliant operation

Target Audience

This program is designed for:

- Mechanical and Power Engineers
- Power Plant Operators and Supervisors
- Maintenance and Reliability Engineers
- Energy Sector Professionals
- Technical Staff involved in turbine operations
- Engineers working in power generation facilities

Outline

Day 1: Fundamentals of Power Generation and Turbine Systems

- Overview of power generation technologies
- Introduction to steam and gas turbines
- Basic thermodynamics and energy conversion
- Rankine and Brayton cycles
- Power plant components and layout

Day 2: Steam Turbines and Rankine Cycle

- Steam turbine types and configurations
- Boiler and steam generation systems
- Condensers and feedwater systems
- Operation and control of steam turbines
- Performance analysis and efficiency

Day 3: Gas Turbines and Brayton Cycle

- Gas turbine components compressor, combustor, turbine
- Operation principles and performance
- Fuel systems and combustion control
- Cooling systems and emissions control
- Maintenance and troubleshooting

Day 4: Combined Cycle Power Plants

- Combined cycle configuration and integration
- Heat Recovery Steam Generator HRSG
- Efficiency improvement and optimization
- Load management and control strategies
- Environmental considerations

Day 5: Maintenance, Optimization, and Case Studies

- Preventive and predictive maintenance
- Condition monitoring techniques
- Troubleshooting turbine systems
- Performance optimization and KPIs
- Case studies and real-world applications

Registration form on the Training Course: Steam Turbines, Gas Turbines & Combined Power Plants

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