

OPERATIONS & MAINTENANCE FOR COMPRESSORS & TURBINES

“Maximize Equipment Performance and Reliability through Effective Operations & Maintenance”

Schedule

Date	Venue	Fees (Face-to-Face)
03 - 05 Jun 2026	Dubai, UAE	USD 2,495 per delegate
07 - 09 Jul 2026	Manama, Bahrain	USD 2,495 per delegate
12 - 14 Aug 2026	Dubai, UAE	USD 2,495 per delegate
17 - 19 Nov 2026	Muscat, Oman	USD 2,495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

The Operations & Maintenance for Compressors & Turbines course provides essential training for professionals working with these critical machines in various industries. This 3-day program will focus on the operation, maintenance, troubleshooting, and optimization of compressors and turbines to ensure high performance, efficiency, and reliability. Participants will learn the latest industry best practices and maintenance strategies, as well as how to reduce downtime and increase the longevity of these machines.

The course combines theoretical knowledge with practical applications through case studies and hands-on workshops. It is designed to provide delegates with the expertise needed to manage and maintain compressors and turbines efficiently, minimizing the risk of failures and ensuring smooth operations in industrial settings such as power generation, oil and gas, and manufacturing.

Objectives

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

- Operate and maintain compressors and turbines effectively, improving their performance and longevity
- Understand and apply the principles of compressor and turbine operation, including load management and efficiency optimization
- Identify and resolve common mechanical and operational issues related to compressors and turbines
- Implement best practices for preventative and corrective maintenance of compressors and turbines
- Perform root cause analysis of equipment failures and recommend solutions for improved performance
- Maximize operational uptime by reducing the frequency and duration of breakdowns

Why Attend

- Gain hands-on expertise in operating and maintaining compressors and turbines
- Learn how to optimize the performance and efficiency of critical machinery
- Reduce downtime by applying advanced troubleshooting and maintenance techniques
- Understand the latest technologies and advancements in compressor and turbine systems
- Enhance your career by mastering key skills required for maintaining large-scale equipment
- Network with industry professionals and exchange knowledge on equipment maintenance strategies

Target Audience

This program is designed for:

- Maintenance engineers and technicians working with compressors and turbines
- Operations managers and supervisors responsible for equipment performance
- Reliability engineers focused on minimizing downtime and maximizing equipment efficiency
- Plant engineers and mechanical engineers in the energy, manufacturing, and oil and gas sectors
- Professionals responsible for troubleshooting and optimizing compressor and turbine operations

Individual Benefits

Key competencies that will be developed include:

- Mastery in operating and maintaining compressors and turbines to ensure efficient and reliable operations
- Advanced troubleshooting skills to quickly identify and resolve compressor and turbine issues
- Knowledge of industry best practices for extending equipment lifespan and optimizing performance
- Hands-on experience in implementing preventative maintenance strategies for compressors and turbines
- Ability to carry out root cause analysis to understand and address failures effectively

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Increased operational efficiency and reduced downtime of compressors and turbines
- Improved reliability of critical equipment, leading to enhanced productivity and cost savings
- Implementation of effective maintenance strategies that prolong the life of compressors and turbines
- Ability to handle compressor and turbine failures swiftly and effectively, minimizing operational disruptions
- A deeper understanding of advanced technologies for compressor and turbine maintenance

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – In-depth discussions on compressor and turbine operation principles, maintenance strategies, and troubleshooting methods
- Case Studies – Real-world examples of compressor and turbine failures, maintenance practices, and successful optimization techniques
- Workshops – Interactive exercises where participants will practice troubleshooting, maintenance, and efficiency optimization techniques
- Peer Exchange – Group discussions on challenges faced during compressor and turbine maintenance and sharing solutions
- Tools – Templates and checklists for maintenance planning, failure analysis, and troubleshooting procedures

Course Outline

Detailed 3-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM **Daily Format:** 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to Compressors & Turbines and Operating Principles

- Module 1: Overview of Compressors & Turbines (07:30 – 09:30)
- Types of compressors and turbines used in various industries
- Basic operating principles of compressors and turbines
- Role of compressors and turbines in industrial applications
- Module 2: Key Performance Indicators (KPIs) for Compressors & Turbines (09:45 – 11:15)
- Identifying and measuring key performance metrics for compressors and turbines
- Factors affecting efficiency and performance
- Performance optimization strategies
- Module 3: Maintenance Basics for Compressors & Turbines (11:30 – 01:00)
- Routine maintenance schedules and checklists
- Preventative maintenance strategies for compressors and turbines
- Safety considerations during maintenance

Day 2: Troubleshooting and Fault Diagnosis

- Module 4: Common Issues and Faults in Compressors & Turbines (07:30 – 09:30)
- Identifying common mechanical and operational issues in compressors and turbines
- The most frequent causes of compressor and turbine failure
- Root cause analysis techniques
- Module 5: Troubleshooting and Diagnostic Tools (09:45 – 11:15)
- Tools and methods for diagnosing faults in compressors and turbines
- Vibration analysis, temperature monitoring, and pressure testing
- How to interpret diagnostic data for effective troubleshooting
- Module 6: Hands-On Troubleshooting Exercises (11:30 – 01:00)
- Group exercises focused on troubleshooting real-world issues in compressors and turbines
- Applying diagnostic tools and techniques in simulated scenarios
- Identifying failure modes and recommending corrective actions

Day 3: Advanced Maintenance Strategies and Optimization

- Module 7: Advanced Maintenance Strategies (07:30 – 09:30)
- Predictive and condition-based maintenance techniques
- Monitoring tools and technology for compressor and turbine optimization
- Advanced lubrication and seal management strategies
- Module 8: Performance Optimization Techniques (09:45 – 11:15)
- Implementing efficiency optimization practices for compressors and turbines
- Load management and energy-saving strategies
- Ensuring maximum uptime through optimized performance
- Module 9: Best Practices for Long-Term Compressor & Turbine Management (11:30 – 01:00)
- Developing long-term maintenance plans for compressors and turbines
- Keeping equipment performance at peak levels over time
- Industry standards and regulatory compliance

Certification

Participants will receive a Certificate of Completion in Operations & Maintenance for Compressors & Turbines, demonstrating their proficiency in compressor and turbine maintenance and optimization practices.

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