

ADVANCED MAINTENANCE & RELIABILITY STRATEGIES IN PROCESS INDUSTRY

"Optimize Maintenance and Enhance Reliability for Superior Operational Efficiency"

Schedule

Date	Venue	Fees (Face-to-Face)
02 - 06 Aug 2026	Doha, Qatar	USD 3495 per delegate

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

Introduction

This 5-day course is designed for professionals in the process industry seeking to enhance their maintenance and reliability strategies. The program will cover best practices in predictive maintenance, asset management, and risk-based approaches that increase the reliability of machinery and systems. Participants will gain an in-depth understanding of the latest strategies in maintenance and how they can be applied to achieve long-term operational efficiency.

Through hands-on exercises, case studies, and expert-led sessions, the course will equip participants with the necessary tools and methodologies to develop and implement a robust maintenance strategy that aligns with the overall business objectives and maximizes asset performance.

Objectives

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

- Understand and apply advanced maintenance and reliability strategies in the process industry
- Utilize predictive and preventive maintenance techniques to optimize equipment performance
- Develop and implement a comprehensive reliability strategy for their organization
- Analyze and mitigate risks to improve operational uptime and reduce downtime
- Foster a culture of continuous improvement in maintenance practices

Why Attend

- Gain a comprehensive understanding of advanced maintenance strategies and their benefits
- Learn how to implement predictive and preventive maintenance to enhance asset reliability
- Explore best practices for improving asset management and reducing operational costs
- Build expertise in risk-based approaches to maintenance and reliability
- Enhance your ability to manage and lead maintenance teams effectively

Target Audience

This program is designed for:

- Maintenance managers and engineers in the process industry
- Reliability professionals and asset managers
- Operations managers and team leaders
- Anyone responsible for the maintenance and reliability of process systems

Individual Benefits

Key competencies that will be developed include:

- Expertise in predictive and preventive maintenance strategies
- Skills in developing and implementing reliability-based maintenance plans
- Ability to assess and mitigate maintenance-related risks
- Proficiency in leveraging data to drive decision-making for improved maintenance outcomes
- Stronger leadership and communication skills for managing maintenance teams

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved operational efficiency and reduced downtime across systems
- Enhanced ability to implement cost-effective maintenance strategies
- Increased reliability and performance of critical assets
- Stronger risk management capabilities in maintenance planning
- Enhanced alignment between maintenance operations and overall organizational objectives

Instructional Methodology

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

- Strategy Briefings - In-depth exploration of advanced maintenance and reliability strategies
- Case Studies - Real-world examples of successful maintenance strategies in the process industry
- Workshops - Practical exercises in developing and implementing maintenance plans
- Peer Exchange - Group discussions on challenges and best practices in the field
- Tools - Templates and tools for predictive maintenance, risk analysis, and asset management

MAWA EVENTS

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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 Maintenance & Reliability in Process Industry

- Module 1: Overview of Maintenance Strategies (07:30 – 09:30)
- Understanding the role of maintenance in process industry operations
- Key principles of reliability-centered maintenance (RCM)
- Types of maintenance: corrective, preventive, and predictive
- Module 2: Predictive Maintenance Techniques (09:45 – 11:15)
- Overview of predictive maintenance technologies
- Condition monitoring and diagnostic techniques
- Data-driven approaches for maintenance decision-making
- Module 3: Developing a Maintenance Strategy (11:30 – 01:00)
- Aligning maintenance strategy with business goals
- Developing a comprehensive maintenance plan
- Integration of reliability principles into maintenance strategy

Day 2: Asset Management and Risk-Based Maintenance

- Module 1: Asset Lifecycle Management (07:30 – 09:30)
- Managing assets from installation to decommissioning
- Asset performance management and continuous improvement
- Key metrics for asset performance tracking
- Module 2: Risk-Based Maintenance (09:45 – 11:15)
- Understanding risk management in the context of maintenance
- Risk-based approaches to prioritizing maintenance tasks
- Reliability analysis techniques for risk mitigation
- Module 3: Asset Criticality and Failure Mode Analysis (11:30 – 01:00)
- Identifying critical assets and failure modes
- Failure mode effects analysis (FMEA)
- Tools for assessing asset risks and impacts

Day 3: Advanced Techniques in Preventive and Predictive Maintenance

- Module 1: Advanced Predictive Maintenance Techniques (07:30 – 09:30)
- Vibration analysis, thermography, and ultrasonic testing
- Leveraging AI and IoT for predictive maintenance
- Case studies of predictive maintenance in action
- Module 2: Preventive Maintenance Optimization (09:45 – 11:15)
- Developing a preventive maintenance schedule
- Performance-based preventive maintenance planning
- Reducing maintenance costs through optimization
- Module 3: Maintenance Data Management (11:30 – 01:00)
- Effective management and analysis of maintenance data
- Using computerized maintenance management systems (CMMS)
- KPIs and metrics for evaluating maintenance performance

Day 4: Implementing Reliability-Centered Maintenance

- Module 1: RCM Process Overview (07:30 – 09:30)
- Key principles and methodologies of RCM
- Benefits of RCM in process industries
- Steps for implementing RCM effectively
- Module 2: Root Cause Analysis and Failure Analysis (09:45 – 11:15)
- Techniques for root cause analysis (RCA)
- Failure analysis methods and tools
- Corrective actions based on analysis outcomes
- Module 3: Building a Reliability Culture (11:30 – 01:00)
- Creating a culture of reliability within your team
- Training and developing staff for reliability excellence
- Managing change in maintenance operations

Day 5: Final Review and Integration

- Module 1: Integrating Maintenance Strategies with Overall Operations (07:30 – 09:30)
- Aligning maintenance and operations for maximum efficiency
- Collaboration between maintenance, production, and management teams
- Continuous improvement through feedback loops
- Module 2: Case Study Review and Group Discussion (09:45 – 11:15)
- Review of successful case studies
- Group discussions on lessons learned and challenges faced
- Best practices for overcoming obstacles in maintenance strategies
- Module 3: Course Recap and Action Plan Development (11:30 – 01:00)
- Key takeaways from the course
- Developing an action plan for implementing learned strategies
- Final Q&A and feedback

Certification

Upon successful completion of the course, participants will receive a Certificate of Completion in Advanced Maintenance & Reliability Strategies, recognizing their expertise in advanced maintenance and reliability practices in the process industry.

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