

# MAINTAINABILITY & RELIABILITY METHODOLOGIES & STRATEGIES

*“Maximize Asset Uptime and Optimize Maintenance through Proven Reliability Strategies”*

## Schedule

Date	Venue	Fees (Face-to-Face)
20 - 24 Apr 2026	Dubai, UAE	USD 3495 per delegate
05 - 09 Jul 2026	Kuwait	USD 3495 per delegate
22 - 26 Nov 2026	Manama, Bahrain	USD 3495 per delegate

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

## Introduction

Maintainability and reliability are critical to ensuring the long-term performance and cost-efficiency of physical assets and plant operations. Organizations that adopt structured reliability and maintenance strategies can drastically reduce downtime, extend asset life, and improve operational efficiency.

This 5-day in-depth training equips maintenance professionals, engineers, and reliability leaders with a comprehensive framework for implementing world-class reliability-centered methodologies. The course covers key tools such as FMEA, root cause analysis, reliability engineering, and predictive maintenance planning.

## Objectives

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

- Apply maintainability and reliability principles in asset-intensive industries
- Design and implement reliability improvement strategies
- Use tools such as FMEA, RCM, and RCA to reduce failures
- Analyze maintenance data to optimize asset performance
- Align maintenance practices with international best standards (ISO, SMRP)

## Why Attend

- Increase asset availability and reduce maintenance costs
- Gain practical techniques to improve system reliability
- Learn to use failure analysis and condition monitoring tools effectively
- Shift from reactive to proactive maintenance practices
- Establish KPIs and metrics to track maintenance performance

## Target Audience

This program is designed for:

- Maintenance and reliability engineers
- Plant and facility managers
- Mechanical, electrical, and process engineers
- Asset and operations managers
- Quality, safety, and performance improvement officers

## Individual Benefits

Key competencies that will be developed include:

- Reliability engineering fundamentals
- Predictive and preventive maintenance planning
- Failure data analysis and reporting
- Root cause failure analysis (RCFA) and risk reduction
- Maintenance strategy alignment with business goals

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Optimized asset performance and reduced operational risks
- Standardized maintenance workflows and documentation
- Improved uptime and equipment effectiveness (OEE)
- Better cost forecasting and maintenance budgeting
- A more proactive and safety-focused maintenance culture

## Instructional Methodology

The course follows a blended learning approach combining theory with real-world applications:

- Strategy Briefings - Reliability-centered principles, standards, and planning tools
- Case Studies - Industry applications from energy, utilities, oil & gas, and manufacturing
- Workshops - Exercises in FMEA, MTBF/MTTR analysis, and maintenance modeling
- Peer Exchange - Group discussions on field implementation experiences
- Tools - Templates for RCA, FMEA, criticality assessments, and maintenance plans

## MAWA EVENTS

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## Course Outline

### Detailed 5-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 Maintainability & Reliability

- Module 1: Fundamentals of Reliability Engineering (07:30 – 09:30)
  - Definitions: Reliability, maintainability, availability
  - Key standards and methodologies
- Module 2: Maintenance Strategy Development (09:45 – 11:15)
  - Reactive vs. proactive maintenance
  - Strategy selection criteria
- Module 3: Reliability Metrics and KPIs (11:30 – 01:00)
  - MTBF, MTTR, availability, and OEE
- Module 4: Workshop – Reliability Benchmarking (02:00 – 03:30)

#### Day 2: Failure Analysis and Maintenance Planning

- Module 5: Failure Modes and Effects Analysis (FMEA) (07:30 – 09:30)
  - Identifying failure modes and causes
  - Risk priority number (RPN) ranking
- Module 6: Root Cause Failure Analysis (RCFA) (09:45 – 11:15)
  - RCA tools: 5 Whys, fishbone diagrams, fault tree
- Module 7: Workshop – Conducting a Real FMEA (11:30 – 01:00)
- Module 8: Case Study – Avoiding Recurring Equipment Failures (02:00 – 03:30)

#### Day 3: Reliability Improvement Tools

- Module 9: Condition-Based and Predictive Maintenance (07:30 – 09:30)
  - Infrared, vibration, oil analysis, and ultrasonic tools
- Module 10: RCM and TPM Overview (09:45 – 11:15)
  - Integrating reliability into total plant maintenance systems
- Module 11: Workshop – Maintenance Task Optimization (11:30 – 01:00)
- Module 12: Peer Review – Sharing Reliability Strategies (02:00 – 03:30)

#### Day 4: Data-Driven Reliability and CMMS Integration

- Module 13: Maintenance Data Collection and Analysis (07:30 – 09:30)
  - Reliability modeling and forecasting
- Module 14: Integrating with CMMS and ERP Systems (09:45 – 11:15)
  - Capturing and utilizing maintenance performance data
- Module 15: Workshop – Reliability Dashboard Design (11:30 – 01:00)
- Module 16: Simulation – Asset Strategy Optimization (02:00 – 03:30)

#### Day 5: Implementing Reliability Strategies

- Module 17: Organizational Change and Reliability Culture (07:30 – 09:30)
  - Building cross-functional maintenance teams
- Module 18: Reliability Roadmap and KPIs (09:45 – 11:15)
  - Strategic rollout and continuous improvement cycles
- Module 19: Final Presentations – Reliability Plan Proposals (11:30 – 01:00)
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Module 20: Wrap-Up and Personal Action Planning (02:00 – 03:30)

### Certification

Participants will receive a Certificate of Completion in Maintainability & Reliability Methodologies & Strategies, certifying their proficiency in designing and applying structured reliability approaches to improve plant and equipment performance.

### Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

<b>In-House / Customized Training</b> Interested in running this course for your team? Please contact us:	TEL: <b>+601116373203</b>	EMAIL: <b>info@mawaevents.net</b>
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