MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

RELIABILITY ENGINEERING FOR INDUSTRIAL PLANTS

"Design, Maintain, and Optimize Plant Systems to Maximize Reliability and Minimize Downtime"

Schedule

Date	Venue	Fees (Face-to-Face)
14 – 17 Apr 2026	Dubai, UAE	USD 2995 per delegate

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

Introduction

In today's competitive industrial environment, unplanned downtime and frequent failures are unacceptable. Reliability Engineering provides a systematic approach to identifying, analyzing, and resolving failures to improve plant availability, reduce costs, and ensure safe operations.

This intensive 4-day course equips plant engineers, maintenance professionals, and reliability specialists with the tools and strategies necessary to enhance asset performance. Participants will gain hands-on skills in reliability analysis, failure mode identification, performance benchmarking, and improvement planning—all based on global best practices.

Objectives

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

- Apply core reliability engineering principles to plant assets and systems
- Analyze failure modes and implement effective prevention strategies
- Use key tools like FMEA, RCM, and reliability block diagrams
- Measure and improve asset performance using reliability KPIs
- Develop and sustain a plant-wide reliability improvement culture

MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

Why Attend

- Learn proven methods to eliminate chronic equipment failures
- Enhance operational uptime, safety, and efficiency
- Use data to proactively manage risk and reliability in plant systems
- Reduce maintenance costs through condition-based and reliability-centered practices
- Build in-house capability to lead plant reliability initiatives

Target Audience

This program is designed for:

- Reliability and maintenance engineers
- Plant and operations managers
- Asset integrity and mechanical engineers
- Production supervisors and planners
- Professionals responsible for plant performance, safety, and cost control

Individual Benefits

Key competencies that will be developed include:

- Failure mode identification and risk prioritization
- Application of root cause analysis and reliability models
- Use of RCM, FMEA, and Weibull analysis techniques
- Development of performance dashboards and improvement plans
- Leadership in reliability and asset management

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced equipment failures and unscheduled downtime
- Higher asset availability and OEE (Overall Equipment Effectiveness)
- Lower maintenance and replacement costs
- Better decision-making based on failure data and predictive insights
- Stronger culture of safety, discipline, and continuous improvement

Instructional Methodology

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

- **Strategy Briefings** – Principles of reliability engineering and plant system design
- **Case Studies** – Industry examples of failure analysis and reliability interventions
- **Workshops** – Hands-on FMEA, RCM planning, and risk ranking
- **Peer Exchange** – Discussion of plant-specific reliability challenges
- **Tools** – Templates for failure tracking, reliability plans, and performance KPIs

MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

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 Reliability Engineering

Module 1: Reliability Engineering Fundamentals (07:30 – 09:30)

- Definitions, history, and key principles

Module 2: Failure Mechanisms and Modes (09:45 – 11:15)

- Mechanical, electrical, and operational failure types

Module 3: Workshop – Failure Mapping Exercise (11:30 – 01:00)

- Identify and categorize failure modes in plant equipment

Module 4: Performance Measurement (02:00 – 03:30)

- MTBF, MTTR, OEE, and other reliability KPIs

Day 2: Analytical Tools for Reliability Management

Module 1: Root Cause and Failure Mode Analysis (07:30 – 09:30)

- RCA, 5-Why, Fishbone, Pareto methods

Module 2: FMEA and Risk Prioritization (09:45 – 11:15)

- Creating and using failure mode and effects analysis

Module 3: Workshop – FMEA Case Study (11:30 – 01:00)

- Analyze equipment failures and suggest controls

Module 4: Reliability Block Diagrams and Simulation (02:00 – 03:30)

- Using system models to assess reliability

Day 3: Reliability-Centered Maintenance (RCM)

Module 1: Introduction to RCM (07:30 – 09:30)

- Philosophy, process, and benefits

Module 2: Maintenance Strategy Selection (09:45 – 11:15)

- Preventive, predictive, and condition-based options

Module 3: Workshop – RCM Planning Session (11:30 – 01:00)

- Apply RCM principles to a selected asset

Module 4: Condition Monitoring Techniques (02:00 – 03:30)

- Vibration, thermography, oil analysis, ultrasound

Day 4: Reliability Leadership and Program Implementation

Module 1: Developing a Reliability Strategy (07:30 – 09:30)

- Asset criticality ranking and prioritization

Module 2: Reliability Culture and Team Engagement (09:45 – 11:15)

- Roles, KPIs, and behaviors of high-performing teams

Module 3: Workshop – Reliability Improvement Plan (11:30 – 01:00)

- Build a plant-wide reliability roadmap

Module 4: Wrap-Up – Review and Action Planning (02:00 – 03:30)

- Q&A, feedback, and implementation checklist

MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

Certification

Participants will receive a Certificate of Completion in Reliability Engineering for Industrial Plants, validating their expertise in identifying, analyzing, and resolving failures to improve the reliability and performance of plant assets and systems.

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.

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