MAWA EVENTS

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

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

ADVANCED CORROSION MANAGEMENT STRATEGIES

""Extending Asset Life and Enhancing Safety Through Proactive Corrosion Control""

Schedule

Date	Venue	Fees (Face-to-Face)
02 – 06 Nov 2026	Istanbul – Turkey	USD 3495 per delegate

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

Introduction

Corrosion is a pervasive and costly threat to industrial infrastructure, with significant implications for safety, asset longevity, environmental protection, and operational costs. Effective corrosion management requires more than routine inspection—it demands a comprehensive strategy combining risk assessment, material science, protection technologies, and predictive maintenance.

This advanced 5-day course is designed for engineers and asset managers seeking to upgrade their corrosion management capabilities. Covering both fundamental mechanisms and sophisticated mitigation techniques, the course integrates international best practices, asset integrity frameworks, and real-world case studies from sectors such as oil & gas, petrochemicals, power, and water utilities.

Objectives

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

- Identify corrosion mechanisms across different materials and environments
- Assess corrosion risks using qualitative and quantitative tools
- Design and implement corrosion control systems (coatings, CP, inhibitors)
- Interpret inspection data and manage predictive corrosion monitoring programs
- Integrate corrosion management into asset integrity and lifecycle planning

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Why Attend

- Reduce unplanned failures and maintenance costs through proactive management
- Protect personnel, the environment, and corporate reputation from corrosion risks
- Extend asset life and improve plant availability and performance
- Meet industry standards and regulatory requirements for corrosion control
- Gain insights into advanced technologies including smart sensors and digital twins

Target Audience

This program is designed for:

- Corrosion Engineers and Specialists
- Asset Integrity and Reliability Engineers
- Inspection and Maintenance Engineers
- Process, Mechanical, and Pipeline Engineers
- Operations Managers and HSE Professionals

Individual Benefits

Key competencies that will be developed include:

- Corrosion mechanism identification and failure diagnosis
- Selection and application of corrosion mitigation techniques
- Use of risk-based inspection (RBI) and fitness-for-service (FFS) tools
- Design of cathodic protection and coatings systems
- Integration of corrosion data into asset management systems

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved asset reliability and reduced lifecycle cost
- Stronger compliance with NACE, API, ISO, and industry regulations
- Better-informed maintenance planning and investment decisions
- Enhanced cross-functional collaboration between inspection, operations, and engineering
- Organizational readiness for digital corrosion monitoring and analytics

Instructional Methodology

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

- Strategy Briefings – Industry frameworks and advanced corrosion principles
- Case Studies – Analysis of corrosion failures and prevention in critical assets
- Workshops – Risk assessment, inspection planning, and mitigation design
- Peer Exchange – Sharing operational experiences and solutions
- Tools – RBI templates, inspection checklists, CP system calculators

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Course Outline

DETAILED 5-DAY COURSE OUTLINE

Training Hours: 07:30 AM – 03:30 PM **Daily Format:** 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Corrosion Fundamentals and Failure Mechanisms

- Module 1: Overview of Corrosion in Industrial Systems (07:30 – 09:30) • Forms of corrosion and their impact on safety and reliability
- Module 2: Electrochemical Principles and Material Behavior (09:45 – 11:15) • Galvanic series, corrosion cells, and materials selection
- Module 3: Corrosion in Specific Environments (11:30 – 01:00) • Offshore, marine, high-temperature, acidic and sour service environments
- Module 4: Workshop – Failure Analysis and Corrosion Diagnosis (02:00 – 03:30) • Participants analyze real-world failure cases

Day 2: Corrosion Risk Assessment and RBI

- Module 5: Corrosion Risk Assessment Tools (07:30 – 09:30) • RBI methodology, API 580/581 overview
- Module 6: Probability and Consequence Modeling (09:45 – 11:15) • Defining degradation rates, damage mechanisms, and inspection intervals
- Module 7: Workshop – Risk Matrix Development (11:30 – 01:00) • Applying RBI to static and rotating equipment
- Module 8: Fitness for Service and Remaining Life Estimation (02:00 – 03:30) • Use of API 579 and related standards

Day 3: Corrosion Monitoring and Inspection Techniques

- Module 9: Non-Destructive Testing (NDT) Methods (07:30 – 09:30) • Ultrasonic, radiographic, magnetic particle, and eddy current testing
- Module 10: Online and Smart Monitoring Systems (09:45 – 11:15) • Corrosion probes, wireless sensors, and digital integration
- Module 11: Inspection Planning and Data Interpretation (11:30 – 01:00) • Interpreting wall loss, pitting, and corrosion rate data
- Module 12: Workshop – Developing a Corrosion Monitoring Program (02:00 – 03:30) • Tailoring inspection schedules for critical assets

Day 4: Corrosion Control Techniques and Technologies

- Module 13: Protective Coatings and Surface Preparation (07:30 – 09:30) • Paint systems, linings, and surface treatment standards
- Module 14: Cathodic Protection (CP) Systems (09:45 – 11:15) • Design, installation, and maintenance of impressed current and galvanic CP
- Module 15: Corrosion Inhibitors and Chemical Treatment (11:30 – 01:00) • Selection criteria, injection systems, and monitoring
- Module 16: Workshop – Selecting and Designing a Mitigation Strategy (02:00 – 03:30) • Group design challenge for multi-technique corrosion control

Day 5: Integration, Governance, and Digital Strategy

- Module 17: Corrosion Management Systems (07:30 – 09:30) • ISO 55000 alignment, asset integrity programs, and KPIs
- Module 18: Governance, Compliance, and Audit Readiness (09:45 – 11:15) • Regulatory requirements and documentation for audit trails
- Module 19: Future Trends – Digital Corrosion Management (11:30 – 01:00) • AI, machine learning, and digital twins in corrosion control
- Module 20: Final Case Study – End-to-End Corrosion Strategy (02:00 – 03:30) • Participants build a comprehensive corrosion plan for a sample facility

Certification

Participants will receive a Certificate of Completion in Advanced Corrosion Management Strategies, certifying their ability to assess, prevent, and manage corrosion threats across industrial assets in compliance with international standards and best practices.

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Why Choose MAWA Events

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