MAWA EVENTS

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

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CORROSION CONTROL AND PREVENTION

"Protecting Critical Infrastructure and Equipment through Proactive Corrosion Management"

Schedule

Date	Venue	Fees
16 – 20 Feb 2026	Istanbul, Turkey	USD 3495 per delegate

Introduction

Corrosion is a leading cause of asset degradation and failure across industries—impacting safety, environmental compliance, operational performance, and lifecycle costs. Without proper corrosion management, organizations face rising maintenance costs, unplanned outages, and structural integrity issues.

This intensive 5-day training course equips engineers, inspectors, and maintenance professionals with the knowledge and tools to identify, evaluate, prevent, and manage corrosion across various environments. From understanding corrosion mechanisms to implementing protective strategies, the course covers essential practices based on global industry standards (ISO, NACE, API).

Objectives

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

- Identify different types of corrosion and their underlying causes
- Evaluate corrosion risk and select appropriate control strategies
- Design and implement protective systems including coatings, cathodic protection, and materials selection
- Conduct inspections and interpret corrosion monitoring data
- Develop and maintain a comprehensive corrosion management program

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Why Attend

- Learn how to reduce corrosion-related failures and maintenance costs
- Improve safety and reliability of equipment and structures
- Gain hands-on knowledge of monitoring tools, mitigation systems, and inspection techniques
- Understand material selection and environmental factors influencing corrosion
- Comply with industry codes and standards for corrosion protection

Target Audience

This program is designed for:

- Maintenance and reliability engineers
- Mechanical, process, and materials engineers
- Plant operators and supervisors
- Asset integrity and inspection professionals
- Anyone involved in equipment, piping, tanks, or structural asset management

Individual Benefits

Key competencies that will be developed include:

- Ability to diagnose and assess corrosion risks in various settings
- Practical skills in selecting and applying prevention methods
- Proficiency in interpreting corrosion data and inspection results
- Knowledge of international standards and best practices
- Confidence in developing corrosion control plans and strategies

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced downtime and asset replacement costs
- Improved operational safety and compliance
- Extended service life of infrastructure and equipment
- Stronger preventive maintenance and asset integrity systems
- Better-informed capital planning and material selection

Instructional Methodology

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

- Strategy Briefings – Key concepts, standards, and failure mechanisms
- Case Studies – Real-world corrosion failures and prevention strategies
- Workshops – Corrosion risk assessments, mitigation planning, and inspection data analysis
- Peer Exchange – Industry examples and group experience sharing
- Tools – Corrosion rate calculators, material selection guides, inspection checklists

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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 Types

- Module 1: Introduction to Corrosion Science (07:30 – 09:30) • Electrochemical principles of corrosion • Thermodynamic and kinetic factors • Environmental and operational drivers
- Module 2: Forms and Mechanisms of Corrosion (09:45 – 11:15) • Uniform, pitting, crevice, galvanic, and microbiologically influenced corrosion (MIC) • Atmospheric, soil, and high-temperature corrosion • Case examples from oil & gas, water, and infrastructure sectors
- Module 3: Materials and Metallurgical Considerations (11:30 – 01:00) • Material compatibility and corrosion resistance • Role of metallurgy and welding • Coating-substrate interactions
- Module 4: Workshop – Corrosion Type Identification (02:00 – 03:30) • Hands-on case analysis and classification

Day 2: Corrosion Risk Assessment and Monitoring

- Module 1: Risk-Based Assessment of Corrosion (07:30 – 09:30) • Identifying high-risk areas and failure modes • Risk matrices and criticality rankings • Integration into asset management plans
- Module 2: Inspection and Monitoring Techniques (09:45 – 11:15) • Visual inspection, ultrasonic testing, radiography, eddy current • Corrosion coupons and probes • Online vs. offline monitoring
- Module 3: Interpreting Inspection Data (11:30 – 01:00) • Corrosion rate calculations • Trend analysis and remaining life estimation • Defect acceptance and mitigation thresholds
- Module 4: Workshop – Corrosion Monitoring Plan (02:00 – 03:30) • Participants develop a monitoring strategy for a sample system

Day 3: Protective Coatings and Surface Treatments

- Module 1: Protective Coating Systems (07:30 – 09:30) • Types: epoxy, polyurethane, zinc-rich primers, fluoropolymers • Coating selection criteria • Surface preparation standards (SSPC, NACE, ISO)
- Module 2: Application and Inspection of Coatings (09:45 – 11:15) • Application methods: brush, spray, dip • Wet film and dry film thickness testing • Holiday detection and adhesion testing
- Module 3: Other Surface Protection Methods (11:30 – 01:00) • Plating, anodizing, passivation • Inhibitors and sealants • Challenges in aggressive or marine environments
- Module 4: Workshop – Coating System Selection (02:00 – 03:30) • Teams evaluate coating solutions for given service conditions

Day 4: Cathodic Protection and Material Selection

- Module 1: Basics of Cathodic Protection (07:30 – 09:30) • Galvanic and impressed current systems • Design and operation principles • CP criteria and effectiveness
- Module 2: CP for Pipelines, Tanks, and Structures (09:45 – 11:15) • Field application and retrofitting • Soil resistivity, anode placement, current distribution • Maintenance and troubleshooting
- Module 3: Material Selection and Design for Corrosion Resistance (11:30 – 01:00) • Choosing materials for corrosive service • Composite materials and non-metallics • Designing out corrosion
- Module 4: Workshop – CP System Evaluation (02:00 – 03:30) • Case review and team-based solution proposal

Day 5: Corrosion Management Programs and Standards

- Module 1: Building a Corrosion Management Plan (07:30 – 09:30) • Roles, responsibilities, and training • Budgeting and lifecycle integration • Corrosion control in design, operation, and decommissioning
- Module 2: International Codes and Compliance (09:45 – 11:15) • Overview of ISO, NACE, API, ASME standards • Regulatory and industry expectations • Audit readiness and documentation

- Module 3: Final Case Study – Systematic Corrosion Management (11:30 – 01:00) • Developing a full plan for a plant or facility • Presentation and peer review
- Module 4: Wrap-Up and Certification (02:00 – 03:30) • Key takeaways and lessons learned • Individual action plans • Certification ceremony

Certification

Participants will receive a Certificate of Completion in Corrosion Control and Prevention, verifying their competence in identifying, managing, and mitigating corrosion risks across industrial assets using internationally accepted standards and practical methods.

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**