

CORROSION ENGINEERINGFUL

“Safeguard Your Assets: Master the Science and Strategies of Corrosion Prevention”

Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

Introduction

Corrosion remains one of the leading causes of infrastructure degradation and asset failure across industries like oil & gas, power generation, marine, and water treatment. This intensive course equips engineers, inspectors, and maintenance professionals with a deep understanding of corrosion mechanisms and practical techniques to prevent, mitigate, and manage corrosion effectively. From material selection to protective coatings and cathodic protection systems, the course provides an end-to-end view of how to maintain structural integrity and reduce operational risks.

Objectives

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

- Identify different types and causes of corrosion.
- Apply appropriate corrosion mitigation strategies including coatings, inhibitors, and cathodic protection.
- Select suitable materials based on environment and operational conditions.
- Conduct corrosion risk assessments and interpret monitoring data.
- Implement best practices in corrosion management aligned with international standards.

Why Attend

- Learn to prevent costly asset failures due to corrosion.
- Improve asset life expectancy and operational safety.
- Reduce maintenance costs through proactive corrosion control.
- Understand international codes and standards (e.g., NACE, ISO).
- Gain hands-on knowledge applicable to real-world environments.

Target Audience

This program is designed for:

- Corrosion engineers and specialists
- Mechanical and maintenance engineers
- Integrity and inspection professionals
- Asset managers and reliability engineers
- Facility and operations managers
- Anyone involved in materials selection, design, and asset care

Individual Benefits

- Master key corrosion types (uniform, galvanic, crevice, etc.)
- Learn to interpret corrosion inspection reports
- Gain confidence in recommending mitigation methods
- Stay updated with industry advancements
- Earn a valuable certification to support your professional development

Organizational Benefits

- Reduce downtime and repair costs due to corrosion failures
- Extend equipment and infrastructure life
- Improve regulatory compliance and safety performance
- Enhance team technical capabilities in corrosion control
- Support better capital planning through informed risk-based decisions

Instructional Methodology

- Technical presentations and expert-led lectures
- Case studies from oil & gas, power, and marine sectors
- Interactive group discussions
- Corrosion analysis tools and hands-on examples
- Real-life field failure scenarios and corrective actions

Course Outline

DETAILED 5-DAY COURSE OUTLINE (Customizable) Training Hours: 07:30 AM – 03:30 PM Daily Format: 3–4 Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1 - Fundamentals of Corrosion Science

- Module 1 (07:30 – 09:30): Basics of Corrosion Mechanisms
- Module 2 (09:45 – 11:15): Electrochemical Reactions and Corrosion Cells
- Module 3 (11:30 – 01:00): Common Corrosion Types and Forms

Day 2 - Materials & Environmental Influence

- Module 4 (07:30 – 09:30): Material Selection and Corrosion Behavior
- Module 5 (09:45 – 11:15): Environmental Factors (Soil, Seawater, Chemicals)
- Module 6 (11:30 – 01:00): Galvanic Corrosion and Material Compatibility

Day 3 - Corrosion Prevention Techniques

- Module 7 (07:30 – 09:30): Protective Coatings and Surface Preparation
- Module 8 (09:45 – 11:15): Corrosion Inhibitors – Types and Applications
- Module 9 (11:30 – 01:00): Cathodic Protection (Sacrificial Anode, ICCP)

Day 4 - Monitoring and Inspection

- Module 10 (07:30 – 09:30): Corrosion Monitoring Methods (Online, Offline)
- Module 11 (09:45 – 11:15): Non-Destructive Testing (NDT) Techniques
- Module 12 (11:30 – 01:00): Corrosion Mapping and Data Interpretation

Day 5 - Management Systems and Case Applications

- Module 13 (07:30 – 09:30): Corrosion Management Frameworks (API 580, NACE SP0169)
- Module 14 (09:45 – 11:15): Case Studies in Pipelines, Storage Tanks, and Refineries
- Module 15 (11:30 – 01:00): Group Project & Presentation: Corrosion Audit Plan

Certification

Participants will receive a Certificate of Completion in Corrosion Engineering, validating their skills in corrosion prevention, inspection, and asset integrity management.

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?

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