**MAWA EVENTS**

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

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

# MATERIALS, CORROSION ENGINEERING & CORROSION MANAGEMENT - ONSHORE, OFFSHORE & SUBSEA ENVIRONMENT

*"Ensuring Long-Term Asset Integrity Through Smart Corrosion Engineering"*

## Schedule

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

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

## Introduction

This course provides a comprehensive understanding of materials selection, corrosion mechanisms, and effective corrosion management across onshore, offshore, and subsea environments. With an increasing focus on asset life extension and operational safety, mastering corrosion control strategies is vital. Participants will explore how materials behave under various environmental and operational stresses and how to apply best practices in monitoring, mitigation, and engineering design to reduce corrosion risk and improve asset reliability.

## Objectives

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

- Understand the causes and types of corrosion in oil & gas environments
- Evaluate material behavior in corrosive conditions
- Apply material selection and design to minimize corrosion risk
- Interpret inspection data and implement corrosion monitoring systems
- Develop cost-effective corrosion management plans

**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

- Prevent catastrophic failures and costly downtime caused by corrosion
- Enhance technical competency in both materials selection and corrosion risk mitigation
- Align with international codes (NACE, ISO, API, ASME) and oil & gas best practices
- Strengthen your ability to manage complex projects in harsh environments

## Target Audience

- Corrosion engineers and specialists
- Integrity and inspection engineers
- Maintenance and reliability engineers
- Project and facilities engineers
- Offshore structural and subsea engineers
- Operations, QA/QC, and asset management professionals

## Individual Benefits

- Master corrosion engineering concepts in practical, real-world contexts
- Improve problem-solving and decision-making in harsh environmental conditions
- Gain confidence to contribute to integrity, maintenance, and risk management projects
- Build a robust professional foundation aligned with global energy sector demands

## Organizational Benefits

- Reduce costs related to unplanned maintenance, failures, and production loss
- Extend the service life of critical infrastructure
- Ensure HSE compliance and minimize environmental risks
- Improve asset integrity planning and cross-functional collaboration

## Instructional Methodology

- Classroom sessions led by industry corrosion experts
- Real-world case studies and failure analysis
- Visual demonstrations and corrosion monitoring tools
- Group activities and design exercises
- Open discussion forums and mini-assessments

**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

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 Materials and Corrosion**

- Module 1 (07:30 – 09:30): Corrosion Mechanisms and Material Behavior
- Module 2 (09:45 – 11:15): Corrosion Types: Uniform, Galvanic, Pitting, Crevice, and Microbiological
- Module 3 (11:30 – 01:00): Environmental Influences: Onshore, Offshore, and Subsea Factors

**Day 2 – Materials Selection for Corrosive Environments**

- Module 4 (07:30 – 09:30): Material Selection Criteria and Life-Cycle Considerations
- Module 5 (09:45 – 11:15): Coatings, Linings, and Surface Treatments
- Module 6 (11:30 – 01:00): Corrosion-Resistant Alloys and Composites

**Day 3 – Corrosion Protection Strategies**

- Module 7 (07:30 – 09:30): Cathodic Protection: Sacrificial Anode vs. Impressed Current
- Module 8 (09:45 – 11:15): Design for Corrosion Control: Piping, Vessels, and Subsea Systems
- Module 9 (11:30 – 01:00): Case Study: Failures Due to Inadequate Corrosion Management

**Day 4 – Monitoring, Inspection & Assessment**

- Module 10 (07:30 – 09:30): Corrosion Monitoring Techniques (Probes, Coupons, Sensors)
- Module 11 (09:45 – 11:15): Non-Destructive Testing (NDT) for Corrosion Detection
- Module 12 (11:30 – 01:00): Interpreting Inspection Reports and Corrosion Data

**Day 5 – Corrosion Management and Industry Standards**

- Module 13 (07:30 – 09:30): Developing and Implementing Corrosion Management Plans
- Module 14 (09:45 – 11:15): NACE, ISO, and API Standards in Corrosion Engineering
- Module 15 (11:30 – 01:00): Final Workshop: Designing an Integrated Corrosion Strategy

## Certification

Participants will receive a Certificate in Corrosion Engineering & Management, endorsed by recognized industry training standards and aligned with international best practices.

## 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**<br>Interested in running this course for your team?<br>Please contact us: | TEL:<br>**+601116373203** | EMAIL:<br>**info@mawaevents.net** |