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 CONTROL AND CATHODIC PROTECTION

"Protect Critical Assets with Advanced Strategies in Corrosion Mitigation and Cathodic Protection."

Schedule

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

► **Available delivery methods:** In-House Training

Introduction

This intensive training program delivers specialized knowledge in corrosion science and advanced cathodic protection (CP) systems. Participants will explore mechanisms of material degradation, CP design and maintenance, coatings, and inspection methodologies to mitigate corrosion in pipelines, tanks, offshore platforms, industrial structures, and other critical assets. The course emphasizes both theoretical principles and hands-on application, aligned with NACE/ISO standards.

Objectives

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

- Understand corrosion processes and material behaviors in various environments
- Design, install, and maintain effective cathodic protection systems (galvanic and impressed current)
- Select appropriate protective coatings and materials to minimize degradation
- Use field inspection tools and techniques to evaluate corrosion risk and CP performance
- Align corrosion control strategies with international standards and lifecycle cost optimization

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Why Attend

This course is essential for professionals involved in asset integrity, corrosion engineering, and infrastructure reliability. Whether in oil & gas, utilities, maritime, or civil infrastructure, understanding corrosion threats and applying CP methods can drastically reduce failures, safety risks, and repair costs.

Target Audience

- Corrosion and Integrity Engineers
- Maintenance and Reliability Professionals
- Pipeline, Offshore, and Plant Engineers
- Coating Inspectors and QA/QC Personnel
- Project Managers and Asset Managers
- Technicians involved in CP and corrosion monitoring

Individual Benefits

- Deepen expertise in corrosion science and prevention
- Gain practical skills in CP design, testing, and troubleshooting
- Strengthen your role in asset integrity and plant reliability
- Prepare for certification programs like NACE CP Level 1 or 2

Organizational Benefits

- Extend asset life and reduce corrosion-related failures
- Lower operational costs and avoid unplanned outages
- Comply with industry and environmental standards
- Build internal capability for corrosion management excellence

Instructional Methodology

- Expert-led sessions with technical visuals and schematics
- Field-based case studies and corrosion simulations
- CP design exercises using real-world scenarios
- Interactive discussions and peer problem-solving
- Hands-on use of inspection tools, test kits, and monitoring systems

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Course Outline

DETAILED 5-DAY COURSE OUTLINE (CUSTOMIZABLE)

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: Fundamentals of Corrosion and Protection Strategies

- Module 1: Introduction to Corrosion Mechanisms and Electrochemical Reactions (07:30 – 09:30)
- Module 2: Environmental Factors and Corrosion Types (Pitting, Crevice, Galvanic, etc.) (09:45 – 11:15)
- Module 3: Overview of Corrosion Protection Methods: Design, Coatings, CP (11:30 – 01:00)
- Module 4: Standards and Codes: NACE, ISO, API, ASTM (02:00 – 03:30)

Day 2: Cathodic Protection Theory and Design

- Module 1: Principles of Galvanic vs. Impressed Current CP Systems (07:30 – 09:30)
- Module 2: CP Design Parameters: Current Requirement, Anode Selection (09:45 – 11:15)
- Module 3: Electrical Circuit Models and CP Design Calculations (11:30 – 01:00)
- Module 4: Design Case Study: CP for Buried Pipelines (02:00 – 03:30)

Day 3: CP Components, Installation, and Field Testing

- Module 1: CP Components: Anodes, Rectifiers, Test Stations, Cabling (07:30 – 09:30)
- Module 2: Installation Best Practices and Field Setup Considerations (09:45 – 11:15)
- Module 3: Field Measurements: Potentials, Current, Resistance Testing (11:30 – 01:00)
- Module 4: Troubleshooting CP Failures and Interference Issues (02:00 – 03:30)

Day 4: Protective Coatings and Corrosion Monitoring

- Module 1: Coating Systems and Surface Preparation Standards (07:30 – 09:30)
- Module 2: Coating Failure Mechanisms and Inspection Techniques (09:45 – 11:15)
- Module 3: Monitoring Tools: ER Probes, Coupons, Remote Monitoring Systems (11:30 – 01:00)
- Module 4: Corrosion Mapping, Data Logging, and Trending (02:00 – 03:30)

Day 5: Asset Integration, Lifecycle Planning & Assessment

- Module 1: Integrating CP into Asset Integrity Programs (07:30 – 09:30)
- Module 2: Lifecycle Costing and Maintenance Planning (09:45 – 11:15)
- Module 3: Field Case Studies: Pipelines, Storage Tanks, Offshore Structures (11:30 – 01:00)
- Module 4: Final Exam, Certification Wrap-Up & Action Planning (02:00 – 03:30)

Certification

Upon successful participation and completion of the assessment, participants will receive a Certificate of Completion – Advanced Corrosion Control and Cathodic Protection. The course content aligns with global certification standards such as NACE CP Level 1/2 and serves as a strong preparatory foundation.

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.

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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**