MAWA EVENTS

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

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

OFFSHORE STRUCTURAL INTEGRITY AND MAINTENANCE

"Safeguard Offshore Assets Through Proactive Structural Integrity Management and Targeted Maintenance Strategies."

Schedule

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

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

Introduction

This comprehensive 5-day training program equips engineers, inspectors, and maintenance professionals with the essential knowledge and practical skills to ensure the structural integrity of offshore facilities. Covering jacket platforms, subsea structures, FPSOs, and topsides, the course provides an in-depth understanding of deterioration mechanisms, inspection methods, repair planning, and integrity assessment frameworks in harsh marine environments. Special focus is given to international standards, risk-based approaches, and digital integrity monitoring tools.

Objectives

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

- Understand the key structural components and loads acting on offshore assets
- Identify failure modes such as fatigue, corrosion, scour, and mechanical damage
- Conduct inspections using proven NDT and structural assessment tools
- Develop effective maintenance and repair strategies for marine structures
- Apply international codes such as API RP 2A, ISO 19901, and DNV standards
- Utilize risk-based integrity management and digital monitoring systems

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Why Attend

Operating in offshore environments demands maximum reliability and safety. Structural failures not only cause operational disruptions but pose catastrophic risks. This course ensures participants can make informed decisions, plan timely interventions, and meet regulatory and safety requirements for offshore infrastructure.

Target Audience

- Offshore Structural and Civil Engineers
- Asset Integrity and Maintenance Managers
- Inspection Engineers and QA/QC Personnel
- Marine and Naval Architects
- Offshore Construction and Repair Supervisors

Individual Benefits

- Strengthen capabilities in structural assessment and offshore NDT
- Learn to detect early-stage deterioration and implement controls
- Enhance decision-making confidence regarding offshore repairs
- Prepare for advanced roles in asset integrity and risk engineering

Organizational Benefits

- Extend service life of offshore platforms and reduce downtime
- Improve compliance with industry codes and safety regulations
- Optimize inspection frequency and resource allocation
- Strengthen risk-based maintenance and reliability practices

Instructional Methodology

- Interactive lectures and real offshore case studies
- Structural simulation tools and damage scenario analysis
- Hands-on workshops in inspection planning and reporting
- Group-based failure investigations and repair strategy design
- Final exam and personal action plan

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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: Offshore Structures & Integrity Frameworks

- Module 1: Overview of Offshore Structures – Fixed, Floating, Subsea (07:30 – 09:30)
- Module 2: Environmental Loads – Waves, Currents, Wind, Ice, and VIV (09:45 – 11:15)
- Module 3: Structural Integrity Management Systems (SIMS) (11:30 – 01:00)
- Module 4: International Codes – API RP 2SIM, ISO 19902, DNV-RP-C203 (02:00 – 03:30)

Day 2: Deterioration Mechanisms and Risk Assessment

- Module 1: Fatigue and Fracture Mechanics in Offshore Structures (07:30 – 09:30)
- Module 2: Corrosion – External, Internal, and Cathodic Protection (09:45 – 11:15)
- Module 3: Scour, Settlement, and Soil-Structure Interaction (11:30 – 01:00)
- Module 4: Risk-Based Inspection (RBI) and Prioritization Models (02:00 – 03:30)

Day 3: Inspection Techniques & Monitoring Systems

- Module 1: In-Service Inspection Planning & NDT Methods (07:30 – 09:30)
- Module 2: Underwater Inspection – ROV, Divers, and Sonar (09:45 – 11:15)
- Module 3: Structural Health Monitoring (SHM) and Digital Twins (11:30 – 01:00)
- Module 4: Integrity Data Interpretation and Reporting (02:00 – 03:30)

Day 4: Maintenance & Repair Strategies

- Module 1: Structural Repair Methods – Welded, Clamped, Composite (07:30 – 09:30)
- Module 2: Life Extension Assessments and Requalification (09:45 – 11:15)
- Module 3: Emergency Response and Contingency Planning (11:30 – 01:00)
- Module 4: Case Study – Damage to Jacket and Riser Systems (02:00 – 03:30)

Day 5: Reliability & Sustainability in Offshore Maintenance

- Module 1: Reliability-Centered Maintenance (RCM) for Offshore Assets (07:30 – 09:30)
- Module 2: Maintenance Optimization Using FMECA & RCFA (09:45 – 11:15)
- Module 3: Group Workshop – SIM Planning for a Hypothetical Platform (11:30 – 01:00)
- Module 4: Final Exam, Certification Wrap-Up & Action Planning (02:00 – 03:30)

Certification

Participants who successfully complete the course and final assessment will receive a Certificate of Completion – Offshore Structural Integrity and Maintenance. The course supports ongoing professional development and aligns with global best practices in offshore asset integrity.

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**