

RISK-BASED ASSET INTEGRITY MANAGEMENT & ASSURANCE - (PIPELINE, SUBSEA, CORROSION AND STRUCTURAL INTEGRITY MANAGEMENT)

“(Pipeline, Subsea, Corrosion and Structural Integrity Management)”

Schedule

Date	Venue	Fees (Face-to-Face)
13 - 17 Sep 2026	Doha, Qatar	USD 3,495 per delegate
15 - 19 Nov 2026	Manama, Bahrain	USD 3,495 per delegate

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

Introduction

Asset integrity management (AIM) is vital for preventing failures, ensuring safety, and maximizing the lifecycle of critical infrastructure in high-risk environments such as oil & gas, petrochemicals, and marine operations. When approached through a risk-based lens, AIM can prioritize interventions, reduce operational costs, and meet regulatory requirements without compromising reliability.

This comprehensive course equips professionals with the methodologies and tools required to implement risk-based asset integrity programs. Covering pipeline systems, subsea assets, corrosion control, and structural components, participants will learn how to assess threats, mitigate failures, and assure ongoing integrity throughout asset lifespans.

Objectives

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

- Develop and implement a risk-based asset integrity management system
- Assess and mitigate integrity risks across pipeline, subsea, and structural assets
- Conduct corrosion analysis and implement effective protection strategies
- Apply industry standards (API, ISO, DNV, ASME) for inspection and assurance
- Design maintenance and assurance plans based on criticality and lifecycle priorities

Why Attend

- Adopt a structured, risk-prioritized approach to integrity management
- Improve asset availability and reduce unplanned shutdowns
- Gain insight into modern tools for inspection, monitoring, and life extension
- Strengthen compliance with international integrity and safety standards
- Enhance your organization's resilience to asset degradation and failures

Target Audience

This program is designed for:

- Asset integrity and maintenance professionals
- Subsea, pipeline, and structural engineers
- Inspection, corrosion, and reliability specialists
- HSE, QA/QC, and regulatory compliance officers
- Project managers and offshore operations personnel

Individual Benefits

Key competencies that will be developed include:

- Risk assessment, prioritization, and mitigation techniques
- Fitness-for-service (FFS), RBI, and corrosion control strategies
- Design and evaluation of inspection and monitoring programs
- Root cause analysis and failure prevention skills
- Technical understanding of subsea and structural degradation mechanisms

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved risk management of critical infrastructure
- Reduced inspection and maintenance costs through risk-based planning
- Enhanced asset integrity across pipeline, subsea, and structural systems
- Compliance with industry and regulatory integrity expectations
- Stronger asset performance, safety, and operational continuity

Instructional Methodology

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

- **Strategy Briefings** - International codes, AIM frameworks, and risk models
- **Case Studies** - Integrity challenges and solutions in pipelines and offshore structures
- **Workshops** - Threat identification, risk ranking, and mitigation planning
- **Peer Exchange** - Lessons learned and best practices from the field
- **Tools** - Integrity dashboards, corrosion monitoring templates, and FFS analysis models

MAWA EVENTS

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Course Outline

Detailed 5-Day Course Outline

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 Asset Integrity and Risk-Based Approaches

Module 1: Asset Integrity Management Overview (07:30 - 09:30)

- Key concepts, objectives, and regulatory drivers

Module 2: Risk-Based Methodologies and Frameworks (09:45 - 11:15)

- Quantitative and qualitative risk models (API 580/581, ISO 31000)

Module 3: Workshop – Asset Risk Mapping (11:30 - 01:00)

- Build a criticality matrix for pipeline and offshore assets

Module 4: Peer Exchange - Integrity Challenges by Sector (02:00 - 03:30)

- Experience sharing from upstream, midstream, and downstream operations

Day 2: Pipeline and Subsea Integrity

Module 5: Pipeline Integrity Threats and Mitigation (07:30 - 09:30)

- Internal/external corrosion, third-party damage, mechanical failures

Module 6: Subsea Asset Degradation and Monitoring (09:45 - 11:15)

- Fouling, fatigue, cathodic protection, ROV inspections

Module 7: Workshop – Subsea Threat Identification (11:30 - 01:00)

- Map failure modes and inspection strategies

Module 8: Case Study – Subsea Leak Incident (02:00 - 03:30)

- Review of root cause, consequences, and response

Day 3: Corrosion Control and Fitness-for-Service (FFS)

Module 9: Corrosion Mechanisms and Monitoring (07:30 - 09:30)

- Uniform, pitting, microbial, and galvanic corrosion

Module 10: Corrosion Prevention and Mitigation (09:45 - 11:15)

- Coatings, CP systems, inhibitors, and design modifications

Module 11: Workshop – Corrosion Management Plan (11:30 - 01:00)

- Develop a corrosion monitoring and response strategy

Module 12: Peer Discussion – Corrosion Failures and Remedies (02:00 - 03:30)

- Exchange of best practices from different facilities

Day 4: Structural Integrity and Inspection Planning

Module 13: Structural Integrity Management (07:30 - 09:30)

- Degradation in topside, jacket, risers, and supports

Module 14: Inspection Strategy and RBI Planning (09:45 - 11:15)

- Risk-based inspection frequency, NDT techniques, and data management

Module 15: Workshop – RBI Matrix for Offshore Structure (11:30 - 01:00)

- Prioritize inspection based on probability and consequence

Module 16: Case Study – Structural Collapse Avoidance (02:00 - 03:30)

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Analysis of failure warning signs and lessons learned

Day 5: Assurance, Governance, and Continuous Improvement

Module 17: Integrity Assurance and Compliance (07:30 - 09:30)

- Audits, performance indicators, and regulatory submissions

Module 18: Digital Tools and AIM Dashboards (09:45 - 11:15)

- Software platforms, sensors, and predictive analytics

Module 19: Final Project - Integrity Assurance Strategy (11:30 - 01:00)

- Present a full-cycle integrity management and assurance plan

Module 20: Wrap-Up, Feedback, and Certification (02:00 - 03:30)

- Course summary and certificate distribution

Certification

Participants will receive a **Certificate of Completion in Risk-Based Asset Integrity Management & Assurance**, validating their expertise in managing pipeline, subsea, corrosion, and structural assets using a risk-informed integrity framework.

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