

ASSET LIFE EXTENSION AND STRUCTURAL REHABILITATION

“Prolonging Asset Performance and Integrity Beyond Design Life”

Schedule

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

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

Introduction

This course provides a detailed framework for evaluating, maintaining, and extending the service life of critical infrastructure and industrial assets, with a special focus on structural rehabilitation. Participants will gain insight into the engineering, inspection, maintenance, and risk management strategies essential for ensuring safe operation beyond original design life. The course covers industry best practices, applicable international standards, and real-world case studies from energy, infrastructure, and manufacturing sectors.

Objectives

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

- Assess structural fatigue, degradation, and life-limiting mechanisms
- Apply inspection and monitoring techniques to aging infrastructure
- Develop rehabilitation strategies for critical components and systems
- Evaluate risks and determine feasibility of life extension programs
- Implement planning, execution, and documentation of repair projects
- Align asset extension efforts with regulatory, safety, and operational goals

Why Attend

- Understand how to cost-effectively extend the life of high-value assets
- Learn structural rehabilitation techniques that minimize downtime
- Gain confidence in making decisions about repairs, upgrades, or retirements
- Protect safety, environment, and business continuity through informed engineering
- Get hands-on exposure to risk-based approaches and integrity modeling

Target Audience

- Structural Engineers & Asset Integrity Engineers
- Maintenance and Reliability Managers
- Plant Managers & Operations Supervisors
- Civil Engineers working in infrastructure, oil & gas, energy, and marine sectors
- HSE and Risk Management Professionals
- Project Engineers and Facility Engineers

Individual Benefits

- Improve engineering decision-making in life extension scenarios
- Enhance your technical expertise in inspection and structural rehabilitation
- Boost your professional profile in high-risk asset environments
- Learn how to optimize cost, performance, and risk over extended lifecycles

Organizational Benefits

- Extend asset life safely and economically
- Reduce CAPEX by delaying new builds through smart rehabilitation
- Improve asset reliability, safety compliance, and risk profile
- Strengthen internal capabilities for managing aging assets proactively

Instructional Methodology

- Interactive instructor-led modules with real examples
- Case studies of aging infrastructure and successful rehabilitation projects
- Structured group activities and scenario-based workshops
- Use of international standards (API, ISO, ASME, ACI, EN)
- Q&A sessions, planning templates, and reference tools provided

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: Aging Infrastructure and Life-Limiting Mechanisms

- Module 1 (07:30 – 09:30): Overview of Asset Degradation and Life Cycle Stages
- Module 2 (09:45 – 11:15): Failure Modes, Corrosion, Fatigue, and Environmental Effects
- Module 3 (11:30 – 01:00): Introduction to Structural Integrity Assessments

Day 2: Inspection and Monitoring of Aging Assets

- Module 4 (07:30 – 09:30): NDT, Structural Health Monitoring, and Visual Inspection
- Module 5 (09:45 – 11:15): Residual Life Assessment Methods
- Module 6 (11:30 – 01:00): Risk-Based Inspection (RBI) for Life Extension Decisions

Day 3: Engineering Assessment and Rehabilitation Techniques

- Module 7 (07:30 – 09:30): Engineering Analysis for Structural Rehabilitation
- Module 8 (09:45 – 11:15): Repair Methods: Concrete, Steel, Composite, and Coatings
- Module 9 (11:30 – 01:00): Welding, Cladding, Jacketing, and Reinforcement Solutions

Day 4: Project Planning and Execution

- Module 10 (07:30 – 09:30): Planning and Permitting for Structural Rehab Projects
- Module 11 (09:45 – 11:15): Quality Control, Safety, and Execution Practices
- Module 12 (11:30 – 01:00): Case Studies: Pipelines, Offshore, Plants, and Bridges

Day 5: Strategic Framework for Life Extension

- Module 13 (07:30 – 09:30): Life Extension Programs: Cost-Benefit and Feasibility
- Module 14 (09:45 – 11:15): Standards and Governance (API 579, ISO 55000, ASME PCC-2)
- Module 15 (11:30 – 01:00): Final Workshop: Asset Extension Planning & Certification

Certification

All participants will receive a Certificate of Completion in "Asset Life Extension and Structural Rehabilitation" upon successful participation.

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?

Please contact us:

TEL:

+601116373203

EMAIL:

info@mawaevents.net