MAWA EVENTS

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

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

STRUCTURAL INTEGRITY ASSESSMENT AND REPAIRS

"Evaluate, Strengthen, and Extend the Life of Structures with Proven Integrity Management Techniques"

Schedule

Date	Venue	Fees (Face-to-Face)
06 – 10 Jul 2026	Istanbul, Turkey	USD 3495 per delegate

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

Introduction

As infrastructure and industrial assets age, structural integrity becomes a critical concern for safety, performance, and regulatory compliance. Structural failures not only pose a significant risk to personnel and operations but also lead to major financial losses.

This 5-day intensive training course equips participants with essential knowledge and practical techniques to assess structural integrity and apply effective repair strategies. Covering steel, concrete, and composite structures, this course introduces international codes, risk-based inspection principles, and real-world assessment tools to ensure structures remain safe, serviceable, and compliant.

Objectives

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

- Identify deterioration mechanisms and assess structural risks
- Apply NDT and visual inspection techniques to evaluate integrity
- Interpret and apply relevant standards (API 579, ISO, EN, ASME)
- Perform failure analysis and root cause identification
- Recommend appropriate repair methods and long-term solutions

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

- Learn practical approaches for structural assessment and life extension
- Enhance your understanding of international repair codes and methodologies
- Reduce failure risk and unplanned shutdowns through proactive strategies
- Gain hands-on tools to plan, justify, and manage repair projects

Target Audience

This program is designed for:

- Structural and civil engineers
- Asset integrity managers and inspectors
- Maintenance and reliability professionals
- Plant engineers and technical supervisors
- QA/QC and safety officers involved in infrastructure oversight

Individual Benefits

Key competencies that will be developed include:

- Structural health monitoring and damage classification
- Interpretation of inspection and test data
- Repair planning for various structural materials
- Application of RBI and fitness-for-service methodologies
- Use of failure investigation techniques

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced operational downtime and safety incidents
- Improved structural performance and regulatory compliance
- Cost savings through early detection and timely repairs
- Greater confidence in the integrity of critical structures
- Strengthened internal maintenance and inspection protocols

Instructional Methodology

The course follows a blended methodology with both theoretical and applied sessions:

- Strategy Briefings – Core principles, standards, and deterioration mechanisms
- Case Studies – Real-world examples of structural failure and remediation
- Workshops – Hands-on sessions to interpret defects, assess risk, and plan repairs
- Peer Exchange – Discussions on industry challenges and experiences
- Tools – Templates for inspection checklists, risk matrices, and repair reports

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

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: Introduction to Structural Integrity

- Module 1: Structural Integrity Principles (07:30 – 09:30)
- Importance of structural health in industrial settings
- Failure consequences and case examples
- Module 2: Damage Mechanisms and Degradation (09:45 – 11:15)
- Fatigue, corrosion, creep, cracking, vibration effects
- Module 3: Inspection Planning and Risk-Based Approaches (11:30 – 01:00)
- Module 4: Workshop – Asset Risk Prioritization Matrix (02:00 – 03:30)

Day 2: Assessment Methods and International Standards

- Module 5: Non-Destructive Testing (NDT) Techniques (07:30 – 09:30)
- Visual, ultrasonic, radiographic, magnetic particle, dye penetrant
- Module 6: Fitness-for-Service Evaluation (09:45 – 11:15)
- API 579 and related standards overview
- Module 7: Workshop – Evaluating Sample NDT Results (11:30 – 01:00)
- Module 8: Case Study – Risk Grading a Structural System (02:00 – 03:30)

Day 3: Structural Failure Modes and Monitoring

- Module 9: Common Structural Failures and Root Causes (07:30 – 09:30)
- Structural collapse, buckling, fatigue cracks, anchorage failure
- Module 10: Condition Monitoring and Predictive Tools (09:45 – 11:15)
- Sensors, strain gauges, load testing, deformation monitoring
- Module 11: Workshop – Damage Mapping and Analysis (11:30 – 01:00)
- Module 12: Root Cause Analysis Techniques (02:00 – 03:30)

Day 4: Repair Strategies and Materials

- Module 13: Concrete Structure Repairs (07:30 – 09:30)
- Spalling, delamination, rebar corrosion treatments
- Module 14: Steel and Composite Structure Repairs (09:45 – 11:15)
- Welding, bracing, composite wrap, bolt replacements
- Module 15: Workshop – Selecting the Right Repair Method (11:30 – 01:00)
- Module 16: Case Study – Structural Rehabilitation Planning (02:00 – 03:30)

Day 5: Implementation and Assurance

- Module 17: Repair Documentation and Quality Control (07:30 – 09:30)
- Post-repair inspection, QA/QC, acceptance criteria
- Module 18: Repair Project Planning and Budgeting (09:45 – 11:15)
- Cost estimation and downtime mitigation
- Module 19: Workshop – Repair Execution Plan (11:30 – 01:00)
- Module 20: Final Review and Individual Action Planning (02:00 – 03:30)

MAWA EVENTS

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

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

Certification

Participants will receive a Certificate of Completion in Structural Integrity Assessment and Repairs, confirming their proficiency in evaluating structural risks and applying proven methodologies for inspection, failure prevention, and repair planning.

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**