Existing Structures Condition Assessment Course

4 – 8 January 2027
Addis Ababa

AGILE LEADERS
Training Center

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Ref: 563_223781 **Date:** 4 – 8 January 2027 **Location:** Addis Ababa **Fees:** 6000 Euro

Overview

Existing Structures Condition Assessment Course is a one-week intermediate course for structural and civil engineers, asset teams, inspectors, consultants, and reviewers who leave with a Structural Condition Assessment Report. Participants connect records, field observations, distress mapping, material deterioration, test selection, load-path checks, preliminary capacity screening, monitoring, risk classification, and repair priorities. The course turns scattered evidence into a traceable assessment pathway. Agile Leaders Training Center presents existing structures condition assessment through decision-ready engineering artifacts.

Who Should Attend

- Teams responsible for planning assessments and reviewing existing-structure records
- Functions conducting visual inspection, defect mapping, and material condition surveys
- Personnel selecting tests, samples, instruments, and monitoring approaches
- Groups screening load paths, stability observations, capacity concerns, and immediate hazards
- Reviewers prioritizing investigation, monitoring, repair, and reporting decisions

The course assumes participants can interpret structural drawings and engineering records, and it leaves out detailed forensic analysis, code-specific member design, laboratory instruction, and final structural certification.

Departments and Industries

The course supports departments and industries responsible for structural safety, asset condition, maintenance planning, and engineering assurance.

- Structural engineering, civil engineering, inspection, and design review
- Facilities, asset integrity, maintenance, and capital planning
- Buildings, industrial facilities, utilities, and transport infrastructure
- Property portfolios, healthcare facilities, education campuses, and commercial assets
- Engineering consultancy, project delivery, risk, and technical assurance

Learning Objectives

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

- Build an assessment scope, records register, and structural system map
- Apply inspection methods and produce a defect and distress map
- Evaluate deterioration evidence and select proportionate tests and monitoring
- Analyze load-path, stability, and preliminary capacity concerns
- Prioritize hazards, investigations, monitoring, and repair actions by risk
- Develop a Structural Condition Assessment Report

Course Agenda

Day 1: Assessment Scope and Records

- Assessment Purpose and Decision-Need Brief
- Existing Drawing and Document Review Register
- Use, Alteration, Incident, and Exposure History
- Structural System and Load-Path Map
- Inspection Safety, Access, and Constraint Plan

Day 2: Inspection and Distress Mapping

- Visual Inspection Route and Field Checklist
- Crack, Deflection, Displacement, and Movement Survey
- Concrete, Steel, Masonry, and Timber Deterioration Atlas
- Defect Location, Extent, and Severity Map
- Immediate Hazard Recognition and Escalation Protocol

Day 3: Testing and Monitoring Evidence

- Information-Gap and Test-Selection Matrix
- Nondestructive Testing Application Plan
- Sampling and Laboratory Test Register
- Monitoring Instrument and Baseline Schedule
- Evidence Reliability and Uncertainty Log

Day 4: Screening and Risk Decisions

- Preliminary Load and Capacity Screening Worksheet
- Stability, Robustness, and Load-Path Observation Review
- Condition, Likelihood, and Consequence Risk Matrix
- Investigation, Monitoring, and Repair Priority Table
- Structural Condition Rating and Decision Record

Day 5: Condition Assessment Practice

- Exercise: Define Assessment Scope and Review Records
- Exercise: Map Distress and Escalate Immediate Hazards
- Exercise: Select Tests and Build a Monitoring Baseline
- Exercise: Screen Capacity, Classify Risk, and Prioritize Actions
- Capstone Exercise: Structural Condition Assessment Report

Practical Exercises

The course uses suggested activities to connect documentary evidence, field findings, screening judgments, and reporting.

- Suggested activity: define the decision need, review drawings and history, map the structural system, and record access and evidence constraints.
- Suggested activity: plan an inspection route, classify representative cracks and deterioration, map severity, and identify conditions requiring immediate escalation.
- Suggested activity: match information gaps with nondestructive tests, sampling, laboratory work, monitoring instruments, and uncertainty controls.
- Suggested activity: integrate observations, preliminary screening, risk ratings, action priorities, limitations, and recommendations in a Structural Condition Assessment Report.

FAQs

Who suits the existing structures condition assessment course and what does it assume?

It suits engineering and asset teams responsible for assessment, inspection, maintenance, or review, and assumes participants can interpret structural drawings, records, and common engineering information.

How does existing structures condition assessment differ from forensic engineering?

Condition assessment organizes available records, observations, tests, screening, risk, and next actions, while forensic engineering normally investigates a specific failure, damage mechanism, or dispute through deeper causal analysis.

Which evidence supports a structural condition assessment?

Useful evidence combines drawings, change and incident history, inspection observations, defect maps, measurements, test results, monitoring trends, load-path observations, assumptions, and documented limitations.

How are tests selected for existing structures condition assessment?

Tests are selected from the decision need, suspected deterioration, material, accessibility, required confidence, consequence of error, and the information gap that the result must close.

What belongs in a Structural Condition Assessment Report?

The report records scope, references, structural system, history, inspection findings, distress maps, tests, monitoring, screening results, uncertainty, risk ratings, immediate actions, investigation and repair priorities, limitations, and recommendations.

Conclusion

Participants take back a Structural Condition Assessment Report linking records, field evidence, tests, screening judgments, risk ratings, and prioritized actions. It changes disconnected observations into a documented basis for investigation, monitoring, maintenance, and repair decisions. The report supports professional judgment without replacing detailed analysis, project-specific verification, or final certification.