

Damage Assessment & Rehabilitation of Concrete Structures

2026 29 - 25
Jeddah (KSA)

UK Traininig

PARTNER



Damage Assessment & Rehabilitation of Concrete Structures

R20262979 | 23285525 **Location:** Jeddah (KSA) **Fees:** 4200 GBP

Course Description

This intensive 5-day course provides comprehensive training on damage assessment and rehabilitation of concrete structures. Participants will learn advanced techniques for evaluating structural integrity, identifying deterioration causes, and implementing effective repair strategies. The course combines theoretical knowledge with practical applications to equip professionals with the skills needed to restore and maintain concrete structures.

Learning Objectives

- Understand the mechanisms of concrete deterioration and failure
- Master various non-destructive and destructive testing methods for concrete assessment
- Develop skills in designing and implementing appropriate repair and rehabilitation techniques
- Learn to select suitable materials and methods for concrete structure restoration
- Gain practical experience through case studies and hands-on exercises

Course Modules

Day 1: Introduction to Concrete Deterioration and Assessment

- Overview of concrete structure deterioration mechanisms
- Visual inspection techniques and documentation
- Non-destructive testing methods for concrete assessment
- Destructive testing and core sampling procedures

Day 2: Structural Analysis and Damage Evaluation

- Structural analysis of damaged concrete elements
- Crack pattern analysis and interpretation
- Load-carrying capacity assessment
- Risk assessment and prioritization of repairs

Day 3: Repair Materials and Techniques

- Selection criteria for repair materials
- Concrete removal and surface preparation methods
- Patching, grouting, and crack injection techniques
- Corrosion mitigation and protection strategies

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A graphic illustration of a chessboard with several chess pieces. A large gold king piece is prominent in the foreground, with a silver pawn and a gold pawn nearby. The background shows concentric circles emanating from behind the king piece.

Day 4: Structural Strengthening and Rehabilitation

- Strengthening techniques for beams, columns, and slabs
- FRP applications for concrete rehabilitation
- Seismic retrofitting of concrete structures
- Durability enhancement strategies

Day 5: Project Planning and Case Studies

- Repair project planning and execution
- Quality control and assurance in concrete rehabilitation
- Life cycle cost analysis for repair alternatives
- Real-world case studies and practical exercises

Practical Wins for Participants

- Ability to conduct comprehensive damage assessments of concrete structures
- Proficiency in selecting and implementing appropriate repair techniques
- Skills to develop cost-effective rehabilitation strategies for concrete structures
- Hands-on experience with state-of-the-art assessment and repair technologies

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A decorative graphic at the bottom right of the page shows a chessboard with several chess pieces. A large gold king piece is prominent in the foreground, with a silver pawn and a gold pawn nearby. The board extends into the background with concentric circles radiating from behind the king piece.