

MAINTAIN BUILDING STRUCTURES



CE150

COURSE TITLE**MAINTAIN BUILDING STRUCTURES****COURSE DATE/ VENUE****05th-09th Jan 2026****Barcelona, Spain****COURSE REFERENCE****CE150****COURSE DURATION****05 Days****DISCIPLINE****Civil Engineering****COURSE INTRODUCTION**

Welcome to **Maintain Building Structures**, a practical course designed to provide you with the essential skills and knowledge to ensure the safety, longevity, and efficiency of building structures. In this course, you will learn the critical aspects of maintaining residential, commercial, and industrial buildings, focusing on both preventive and corrective maintenance.

Building maintenance is key to preserving the structural integrity of a property and ensuring the safety and comfort of its occupants. This course will cover everything from basic inspection techniques to advanced repair methods for foundations, walls, roofs, and other key building components. You will gain hands-on experience and real-world insights into how to identify common issues, perform repairs, and implement sustainable maintenance practices.

COURSE OBJECTIVE**Upon successful completion of this course, the delegates will be :**

equipped with the skills to effectively manage building maintenance projects, ensuring structural safety, minimizing disruptions, and extending the lifespan of buildings.

COURSE AUDIENCE

- ✓ Building Maintenance Managers responsible for overseeing the maintenance and repair of building structures
- ✓ Facility Managers who manage the operations and maintenance of commercial or industrial properties
- ✓ Construction Engineers and Technicians looking to specialize in structural maintenance
- ✓ Civil Engineers involved in the design, inspection, and maintenance of building structures

COURSE CONTENT

Day 1: Introduction to Building Structures and Maintenance Basics

Theme: Understanding the Core of Building Maintenance

- Overview of Building Structures: Types of Buildings (Residential, Commercial, Industrial)
- Key Components of Building Structures: Foundations, Walls, Roofs, Windows, and Doors
- The Role of Building Maintenance in Longevity and Safety
- Common Causes of Wear and Tear: Environmental, Human, and Material Factors
- Introduction to Building Codes and Standards for Maintenance (e.g., OSHA, IBC, ANSI)

Activity: Group discussion on the most common building structure issues and potential solutions.

Day 2: Structural Materials and Diagnostics

Theme: Identifying Issues and Assessing Structural Integrity

- Types of Structural Materials: Concrete, Steel, Wood, Masonry, and Glass
- Methods for Inspecting Structural Integrity: Visual Inspection, Non-Destructive Testing (NDT), and Load Testing

- **Identifying Common Structural Failures: Cracks, Settling, Rust, Corrosion, and Moisture Damage**
 - **Tools and Equipment for Structural Inspection**
 - **Record-Keeping and Documentation for Maintenance**
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Day 3: Maintenance of Foundations, Walls, and Roofs

Theme: Preventive Maintenance and Repairs

- **Foundation Maintenance: Types of Foundations (Slab, Crawl Space, Basement) and Common Issues (Shifting, Cracking)**
 - **Wall Maintenance: Identifying and Repairing Cracks, Water Damage, and Insulation Issues**
 - **Roof Maintenance: Types of Roofs (Flat, Pitched, Green Roofs) and Techniques for Inspection, Leak Detection, and Repair**
 - **Preventive Maintenance Strategies: Ensuring the Longevity of Foundations, Walls, and Roofs**
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Day 4: Maintenance of Windows, Doors, and Other Fixtures

Theme: Repair and Enhancement of Non-Structural Elements

- **Windows and Doors: Inspection and Maintenance of Frames, Seals, Glazing, and Hardware**
 - **Common Issues: Drafts, Rot, Warping, and Rusting**
 - **Maintenance of Stairs, Balconies, and Railings**
 - **Energy Efficiency Considerations: Sealing, Insulation, and Ventilation for Improved Performance**
 - **Replacing Fixtures and Fittings: Best Practices for Minimizing Disruption**
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Day 5: Advanced Structural Maintenance and Sustainability

Theme: Sustainability, Advanced Techniques, and Final Assessment

- **Sustainable Building Maintenance: Green Practices, Energy-Efficient Materials, and Recycling**

- **Advanced Structural Repair Techniques: Structural Reinforcement, Foundation Underpinning, and Masonry Restoration**
- **Managing Long-Term Building Maintenance: Scheduling, Budgeting, and Cost Control**
- **Emergency Repairs: Dealing with Unexpected Structural Failures**

COURSE CERTIFICATE

TRAINIT ACADEMY will award an internationally recognized certificate(s) for each delegate on completion of training.

COURSE FEES

£5,500 per Delegate. This rate includes participant's manual, Hand-Outs, lunch, coffee/tea on arrival, morning & afternoon of each day.

COURSE METHODOLOGY

The training course will be highly participatory and the course leader will present, guide and facilitate learning, using a range of methods including formal presentation, discussions, sector-specific case studies and exercises. Above all, the course leader will make extensive use of real-life case examples in which he has been personally involved. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Case studies & Practical Exercises
- 10% Role Play
- 10% Videos, Software or Simulators (as applicable) & General Discussions