



Construction, Maintenance, and Restructuring of Building and Structures

Course Introduction:

This course is designed to equip professionals with a comprehensive understanding of the principles and practices involved in the lifecycle management of buildings and structures. As urbanization and infrastructure development continue to rise, the need for effective construction techniques, ongoing maintenance strategies, and restructuring methodologies becomes increasingly critical. This course will cover essential topics, from initial planning and construction to maintenance practices and the principles governing structural modifications.

Course Objectives:

By the end of the training, participants will be able to:

- Understand the fundamental principles of construction, maintenance, and restructuring of buildings and structures.
 - Identify the stages of the construction process and relevant regulatory requirements.
 - Evaluate maintenance strategies and their impact on building longevity.
 - Analyze methods for effective restructuring and renovation of existing structures.
 - Explore sustainable practices in construction and maintenance.
 - Develop skills in project management and risk assessment related to building projects
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Who Should Attend?

This course is designed for all:

- Construction managers and site supervisors
- Civil and structural engineers
- Architects and design professionals
- Facility managers and maintenance personnel

Course Outline:

Day 1: Fundamentals of Construction

- **Overview of the Construction Process**
 - Phases of Construction: Planning, Design, and Execution
 - Key Players in the Construction Industry: Roles and Responsibilities
- **Regulatory Compliance and Standards**

- Building Codes and Zoning Regulations
- Environmental and Safety Regulations in Construction
- **Project Planning and Management**
 - Developing Project Timelines and Budgets
 - Resource Allocation and Scheduling Techniques

Day 2: Construction Materials and Techniques

- **Types of Construction Materials**
 - Traditional vs. Modern Building Materials
 - Properties and Applications of Concrete, Steel, Wood, and Masonry
- **Construction Techniques**
 - Methods: Traditional, Modular, and Prefabricated Construction
 - Quality Control and Assurance in Material Selection
- **Sustainable Building Practices**
 - Green Building Certifications (LEED, BREEAM)
 - Energy-Efficient Construction Techniques

Day 3: Maintenance Strategies for Buildings and Structures

- **Importance of Maintenance in Building Lifespan**
 - Types of Maintenance: Preventive, Predictive, and Corrective
 - Developing a Maintenance Plan for Buildings
- **Common Maintenance Issues and Solutions**
 - Identifying Structural Deficiencies and Damage
 - Best Practices for Routine Inspections and Repairs
- **Technology in Maintenance Management**
 - Use of Building Information Modeling (BIM) for Maintenance
 - Implementing Computerized Maintenance Management Systems (CMMS)

Day 4: Restructuring and Renovation

- **Principles of Structural Assessment**
 - Evaluating Structural Integrity and Safety
 - Methods for Assessing Existing Buildings
- **Planning and Executing Renovation Projects**
 - Strategies for Minimizing Disruption During Renovation
 - Managing Stakeholder Expectations and Communication
- **Adaptive Reuse of Buildings**
 - Benefits and Challenges of Repurposing Existing Structures

Day 5: Risk Management and Future Trends

- **Risk Assessment in Construction and Maintenance**
 - Identifying and Mitigating Risks in Building Projects
 - Developing Contingency Plans and Safety Protocols
- **Emerging Trends in Construction and Maintenance**
 - Innovations in Construction Technologies (3D Printing, Drones)
 - The Role of Smart Buildings and IoT in Building Management
- **The Future of Construction and Maintenance**
 - Sustainability Trends and Their Impact on the Industry
 - Preparing for Changes in Regulations and Market Demands

Course Methodology:

A variety of methodologies will be used during the course that including:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work

- Discussion
- Presentation

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Fees:

To be advised as per course location. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session

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