



Civil Engineering

# Engineering Materials For Buildings and Bridges

## Course Introduction

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The goal of this course is to provide participants with an advanced understanding of the properties of traditional and emerging materials used in buildings and bridges. Upon completion of the course.

## Target Audience

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- Chief Engineer
- Civil Engineer
- Commissioning Engineer
- Construction Engineer

## Learning Objectives

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- Recognize and understand the engineering properties of materials used in the construction of bridges and buildings
- Select the appropriate material to achieve particular design goals
- Understand the advantages, disadvantages and limitations of such materials
- Make informed design decisions to select materials for enhancing the structural performance, serviceability and durability of buildings and bridges
- Use such materials in optimal combination in hot and humid environments

# Course Outline

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- **DAY 01**

- High-performance concrete**

- Self-consolidating concrete
    - Fibre-reinforced concrete

- **Day 02**

- Lightweight concrete**

- Polymer modified concrete
    - Sprayed concrete (shotcrete)

- **Day 03**

- Epoxy-coated steel reinforcement**

- Galvanized steel reinforcement
    - Emerging corrosion resistant steel reinforcement
    - Fibre-plastic reinforcement (FRP)
    - Hybrid reinforcement new technology

- **Day 04**

- Specifications and standards for engineering materials**

- Laboratory and field testing
    - Smart materials and smart structures
    - Novel materials and emerging applications

- **Day 05**

- Examples and case studies**

# Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 5, 2025	May 9, 2025	5 days	4250.00 \$	UAE - Dubai
July 21, 2025	July 25, 2025	5 days	4950.00 \$	France - Paris
Dec. 29, 2025	Jan. 2, 2026	5 days	4250.00 \$	UAE - Dubai
Dec. 21, 2025	Dec. 25, 2025	5 days	4250.00 \$	Oman - Muscat