

# Artificial Intelligence for Construction

## Venue Information

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**Venue:** London UK

**Place:**

**Start Date:** 2025-12-22

**End Date:** 2025-12-26

## Course Details

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**Net Fee:** £4750.00

**Duration:** 1 Week

**Category ID:** CACETC

**Course Code:** CACETC-84

## Syllabus

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### Learning Objectives

- Understand the fundamentals of AI and its relevance to the construction industry.
- Explore how AI enhances planning, design, and construction processes.
- Examine real-world case studies of AI implementation in construction.
- Identify challenges and ethical considerations of AI applications.
- Develop strategic insights into adopting AI in construction organizations.

### Target Audience

This course is intended for civil engineers, construction project managers, architects, consultants, infrastructure planners, and anyone interested in the future of construction technologies.

### Prerequisites

## 5 Days (Theoretical Concept-Based)

### Course Outline

#### Day 1: Introduction to AI in Construction

- What is Artificial Intelligence?
- AI vs Machine Learning vs Deep Learning
- Overview of Construction Challenges AI Can Solve
- Global Trends and Market Impact
- Case Studies: Smart Construction Projects

#### Day 2: Data-Driven Construction

- Role of Big Data in Construction
- Data Sources in Construction Projects
- AI-Based Planning and Forecasting
- Risk Management with Predictive Analytics
- Applications: Safety Predictions, Quality Monitoring

#### Day 3: AI in Design & Planning

- AI in Building Information Modeling (BIM)
- AI Tools for Design Optimization
- Natural Language Processing in Documentation
- Generative Design and AI-based Architecture
- Case Examples: AI-Driven Design Projects

#### Day 4: AI in Construction Management

- AI for Project Scheduling & Budgeting
- Robotics & Automation in Construction
- AI-Powered Monitoring Systems (Drones, IoT)
- Human-AI Collaboration Models

- Digital Twins and AI Integration
- Sustainable and Smart Infrastructure
- AI Policy & Regulation in Construction
- Strategy for AI Adoption in Organizations
- Final Discussion: Barriers, Opportunities & Roadmap