Artificial Intelligence for Construction

Venue Information

Venue: London UK

Place:

Start Date: 2025-07-14

End Date: 2025-07-18

Course Details

Net Fee: £4750.00

Duration: 1 Week

Category ID: CACETC

Course Code: CACETC-84

Syllabus

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