

BIM for Project Management

Target Audience

This course is designed for project managers, engineers, architects, consultants, and construction professionals involved in planning, coordination, execution, and monitoring of infrastructure and building projects. It is ideal for professionals who want to understand BIM workflows, digital collaboration, and project information management without focusing heavily on advanced model authoring. Beginners and decision-makers seeking practical BIM implementation knowledge will also benefit from the training.

Course Objective

The objective of this course is to provide participants with a practical understanding of Building Information Modeling (BIM) and its application in project management throughout the project lifecycle. The training aims to develop knowledge of BIM standards, coordination workflows, scheduling, cost management, collaboration, and digital handover processes while enabling participants to effectively use BIM tools for better decision-making, communication, and project delivery.

Course Outcome

By the end of the course, participants will be able to understand BIM concepts, apply ISO 19650 information management principles, and develop basic BIM Execution Plans for projects. They will gain practical skills in model review, coordination, clash detection, 4D scheduling, and digital collaboration using BIM tools. Participants will also be able to support project monitoring, risk management, and digital handover processes in real construction projects.

Course Outline

The course comprises 40 hours of interactive theory sessions, demonstrations, and practical exercises, structured into 10 comprehensive chapters delivered over 10 days. Each chapter focuses on key BIM concepts and project management applications, including information management, coordination, scheduling, risk management, and digital handover. Guided hands-on activities, group discussions, and real-world case studies are included throughout the course to reinforce learning and support practical application of BIM workflows and tools.

Chapter 1: BIM Fundamentals & Value for Project Management

- What is BIM? Differences from CAD, BIM dimensions (3D–7D), and maturity levels
- Key benefits and challenges for project managers
- Overview of ISO 19650 and its relevance to PMs
- Navigating a sample BIM model and extracting information
- Traditional vs. BIM project outcomes

Chapter 2: ISO 19650 Information Management & Common Data Environment

- Core concepts of ISO 19650
- Information requirements and Level of Information Need (LOIN)
- Common Data Environment (CDE): workflows and states
- Sample CDE structure and information exchange
- Project information flow exercise

Chapter 3: BIM Execution Plan (BEP) Development

- Purpose and structure of a BIM Execution Plan
- Defining BIM uses, roles, responsibilities, and deliverables
- Working with simplified BEP templates
- Prioritizing BIM uses for projects

Chapter 4: Model Authoring & Review for Project Managers

- Understanding Architectural, Structural, and MEP models
- Levels of Development (LOD)
- Model review using Revit
- Assessing constructability and compliance

Chapter 5: Collaboration, Coordination & Clash Detection

- Multi-disciplinary coordination workflows
- Clash detection process and issue resolution
- RFI workflows in the CDE
- Running basic clash detection on federated models
- Effective BIM coordination meetings

Chapter 6: 4D Scheduling & 5D Cost Management

- 4D simulation and scheduling integration
- Quantity takeoff and cost estimation basics
- Progress tracking and forecasting using BIM
- Simple 4D simulation workflow
- Delay forecasting and value engineering

Chapter 7: Risk Management, Quality & Field BIM

- Risk identification and mitigation using BIM
- Field BIM and mobile/cloud collaboration
- Issue tracking and reality capture overview
- Developing a BIM-based risk register

Chapter 8: Construction Phase & Digital Handover

- BIM during construction and subcontractor coordination
- Digital handover and COBie basics
- Extracting asset information from models
- Operations and maintenance best practices

Chapter 9: Implementation, Automation & Legal Aspects

- BIM adoption and change management
- Automation, visualization, and sustainability
- Legal and contractual considerations
- Implementation barriers and solutions

Chapter 10: Capstone, Review & Next Steps

- Group presentations and BIM insights
- Course review and Q&A
- Applying BIM on real projects
- Feedback, assessment, and certification