BIM Fundamentals Training Course

Professional Development Training Course Outline

Category	Construction Institute	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Building Information Modeling (BIM) is a transformative digital construction technology that integrates 3D modeling, data-driven workflows, collaboration platforms, and smart project management to revolutionize the Architecture, Engineering, and Construction (AEC) industry. BIM Fundamentals Training Course provides a strong foundation in BIM concepts, BIM processes, information management, parametric modeling, and collaborative project delivery. Participants will gain practical knowledge of BIM lifecycle management, Industry 4.0 construction practices, digital transformation strategies, and integrated project workflows to improve efficiency, accuracy, and sustainability in modern construction projects.

This comprehensive BIM certification training program is designed to develop essential skills in BIM software applications, model coordination, clash detection, Common Data Environment (CDE), construction data management, and virtual design & construction (VDC). Through real-world BIM case studies, hands-on exercises, and industry-focused learning, professionals will understand how BIM supports cost optimization, sustainable design, smart buildings, infrastructure development, and digital project delivery across global construction environments.

Programme Curriculum

BIM Fundamentals Training Course

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Course Objectives

1. Understand the core principles of Building Information Modeling (BIM) and its role in digital construction transformation.
2. Learn the complete BIM project lifecycle from concept design to operation and maintenance.
3. Develop knowledge of 3D BIM modeling, parametric components, and intelligent building data.
4. Understand BIM standards, ISO 19650 workflows, and information management frameworks.
5. Learn effective BIM collaboration strategies using Common Data Environment (CDE) platforms.
6. Gain awareness of BIM coordination, clash detection, and model quality control techniques.
7. Understand the integration of BIM with sustainability, green building, and smart city initiatives.
8. Explore the relationship between BIM, Digital Twins, IoT, and Industry 4.0 technologies.
9. Learn the fundamentals of BIM execution planning and project information requirements.
10. Understand the importance of BIM data analytics and construction intelligence.
11. Develop skills for improving project efficiency, productivity, and risk management through BIM.
12. Analyze global BIM implementation strategies and construction technology trends.
13. Prepare participants for advanced BIM roles and future-ready digital engineering careers.

Target Audience

1. Architects and Architectural Designers
2. Civil Engineers and Structural Engineers
3. MEP Engineers and Building Services Professionals
4. Construction Managers and Project Managers
5. Quantity Surveyors and Cost Consultants
6. BIM Coordinators and BIM Modelers
7. Facility Management Professionals
8. Students and Graduates in AEC Disciplines

BIM Fundamentals Training Course Modules

Module 1: Introduction to BIM and Digital Construction

- Understanding **BIM concepts, principles, and industry evolution**
- Difference between traditional CAD workflows and **BIM-based processes**
- Overview of **3D, 4D, 5D, 6D, and 7D BIM dimensions**
- Role of BIM in **smart construction and digital transformation**
- BIM adoption trends across global construction industries

- **Case Study:** Implementation of BIM for a large-scale commercial development project to improve coordination, reduce errors, and enhance project delivery.

Module 2: BIM Lifecycle and Project Information Management

- Understanding BIM workflows from design to facility operation
- Introduction to **BIM lifecycle management**
- Managing project information requirements and data exchange
- Understanding **Employer Information Requirements (EIR)**
- Role of BIM in asset management and operational efficiency
- **Case Study:** BIM implementation in a hospital project to manage complex building systems and long-term facility operations.

Module 3: BIM Modeling Fundamentals

- Principles of **parametric modeling and intelligent components**
- Understanding BIM objects, families, and model structures
- Introduction to architectural, structural, and MEP modeling concepts
- Model accuracy, standards, and documentation practices
- Best practices for creating coordinated BIM models
- **Case Study:** Development of a multidisciplinary BIM model for a high-rise building project.

Module 4: BIM Collaboration and Common Data Environment (CDE)

- Understanding collaborative BIM project environments
- Introduction to **Common Data Environment workflows**
- File management, version control, and information sharing
- BIM coordination between project stakeholders
- Improving communication through cloud-based BIM platforms
- **Case Study:** Using CDE workflows for international construction teams working on a large infrastructure project.

Module 5: BIM Coordination and Clash Detection

- Fundamentals of BIM coordination processes
- Identifying design conflicts using clash detection methods
- Coordination between architecture, structure, and MEP systems
- Model review, validation, and quality assurance
- Improving construction efficiency through coordinated models
- **Case Study:** BIM clash detection used in a complex airport project to minimize construction delays and rework.

Module 6: BIM Standards, ISO 19650, and Project Delivery

- Understanding global BIM standards and frameworks
- Introduction to **ISO 19650 information management**
- BIM Execution Plan (**BEP**) fundamentals
- Roles and responsibilities within BIM projects
- Implementing standardized BIM workflows
- **Case Study:** Application of ISO 19650 principles in a government infrastructure development project.

Module 7: Advanced BIM Applications and Future Technologies

- Introduction to **Digital Twins and smart asset management**
- Integration of BIM with IoT and artificial intelligence
- Understanding BIM analytics and data visualization
- BIM applications in sustainable construction
- Future trends in automated and intelligent construction
- **Case Study:** Digital Twin implementation for smart building monitoring and energy optimization.

Module 8: BIM Industry Applications and Career Development

- BIM applications across architecture, engineering, and construction
- Understanding BIM career pathways and professional roles
- Developing BIM project management capabilities
- Reviewing global BIM success stories
- Preparing for advanced BIM certification pathways
- **Case Study:** BIM-enabled construction management approach used in a major urban development project.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

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Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com