BIM Data Standards & Interoperability Training Course

Professional Development Training Course Outline

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

Course Introduction

Building Information Modeling (BIM) Data Standards & Interoperability is a critical discipline in the modern Architecture, Engineering, and Construction (AEC) industry, enabling seamless digital transformation, data-driven construction, and lifecycle asset management. As global infrastructure projects become more complex, the demand for ISO 19650 compliance, openBIM workflows, IFC standards, COBie integration, and cloud-based BIM collaboration continues to grow. BIM Data Standards & Interoperability Training Course is designed to equip professionals with advanced competencies in BIM data structuring, semantic interoperability, digital twin integration, and standardized information exchange protocols.

The course focuses on bridging gaps between fragmented project stakeholders through interoperable BIM ecosystems, federated model coordination, and construction data governance frameworks. Participants will gain hands-on expertise in ensuring cross-platform BIM compatibility, reducing data loss, improving model accuracy, and enabling real-time collaboration across Autodesk Revit, Navisworks, ArchiCAD, Bentley systems, and IFC-compliant platforms. This program empowers learners to lead in the era of smart construction, Industry 4.0, and AI-enabled infrastructure management.

Programme Curriculum

BIM Data Standards & Interoperability Training Course

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Course Duration

5 days

Course Objectives

1. Master ISO 19650 BIM standards implementation
2. Understand openBIM and IFC interoperability frameworks
3. Apply COBie data exchange for asset information management
4. Develop skills in BIM data structuring and classification systems
5. Enable multi-platform BIM integration workflows
6. Implement digital twin data synchronization techniques
7. Optimize construction data governance and compliance
8. Enhance cloud-based BIM collaboration workflows
9. Learn semantic data mapping and transformation in BIM
10. Manage federated BIM models across disciplines
11. Improve clash detection and coordination using interoperable models
12. Build expertise in AEC data lifecycle management
13. Strengthen capabilities in AI-driven BIM analytics and automation

Target Audience

1. BIM Managers and Coordinators
2. Architects and Urban Planners
3. Civil and Structural Engineers
4. Construction Project Managers
5. Quantity Surveyors and Cost Engineers
6. Facility and Asset Managers
7. CAD Technicians and BIM Modelers
8. AEC Technology Consultants and Digital Construction Specialists

Course Modules

Module 1: Fundamentals of BIM Data Standards

- Introduction to BIM standards (ISO 19650, PAS 1192)
- Overview of structured data in construction
- Importance of data consistency and validation
- Role of metadata in BIM workflows
- BIM classification systems

- **Case Study:** Implementation of ISO 19650 in a UK infrastructure project reducing documentation errors by 35%.

Module 2: OpenBIM & IFC Interoperability

- Understanding openBIM principles
- IFC schema structure and usage
- Cross-platform model exchange
- Data loss prevention techniques
- Interoperability challenges in BIM tools
- **Case Study:** Airport terminal project using IFC-based coordination between Revit and ArchiCAD.

Module 3: COBie & Asset Information Exchange

- COBie data structure fundamentals
- Facility management data requirements
- Lifecycle asset information delivery
- Spreadsheet-to-BIM integration workflows
- Data handover standards
- **Case Study:** Hospital facility management system improved through COBie-enabled BIM handover.

Module 4: BIM Data Governance & Quality Control

- Data validation frameworks
- BIM execution plan (BEP) alignment
- Information approval workflows
- Error detection in federated models
- Compliance auditing techniques
- **Case Study:** Large-scale commercial complex reducing rework by 28% through BIM QA/QC systems.

Module 5: Federated Model Coordination

- Multi-discipline model integration
- Clash detection workflows
- Version control strategies
- Coordination meeting protocols
- Model aggregation techniques
- **Case Study:** High-rise building project resolving 2,000+ clashes before construction phase.

Module 6: Digital Twin & Smart Infrastructure Integration

- BIM to digital twin transformation
- IoT integration in construction models
- Real-time data synchronization
- Predictive maintenance frameworks
- Smart city infrastructure modeling
- **Case Study:** Smart city pilot project integrating live sensor data into BIM-based digital twin.

Module 7: Cloud-Based BIM Collaboration

- Common Data Environments (CDE)
- Cloud BIM platforms

- Real-time collaboration workflows
- Access control and data security
- Remote project coordination strategies
- **Case Study:** International infrastructure project coordinated across 5 countries using cloud BIM systems.

Module 8: AI, Automation & BIM Analytics

- AI applications in BIM data processing
- Automated model checking tools
- Predictive analytics for construction planning
- Machine learning for clash prediction
- Data visualization dashboards
- **Case Study:** Infrastructure contractor using AI-based BIM analytics to reduce project delays by 22%.

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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