BIM for Smart Cities 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

BIM for Smart Cities Training Course is designed to develop expertise in Building Information Modeling (BIM), Digital Twin technology, Smart Infrastructure, Urban Analytics, and Sustainable City Development. As cities worldwide transform into intelligent ecosystems, professionals require advanced knowledge of integrating BIM workflows, GIS platforms, IoT networks, Artificial Intelligence (AI), cloud collaboration, and data-driven urban planning. This training empowers architects, engineers, planners, government professionals, and technology specialists to design, construct, operate, and manage next-generation smart urban environments using advanced digital solutions.

The course provides practical insights into BIM-enabled smart city frameworks, infrastructure optimization, resilient urban planning, and lifecycle asset management. Participants explore global best practices and real-world case studies covering digital twins for city management, smart transportation networks, sustainable buildings, energy-efficient infrastructure, and connected urban services. Through hands-on learning, industry examples, and collaborative exercises, learners gain the skills required to support smart city transformation, climate resilience, net-zero development, and intelligent infrastructure innovation.

Programme Curriculum

BIM for Smart Cities Training Course

Introduction

BIM for Smart Cities Training Course is designed to develop expertise in Building Information Modeling (BIM), Digital Twin technology, Smart Infrastructure, Urban Analytics, and Sustainable City Development. As cities worldwide transform into intelligent ecosystems, professionals require advanced knowledge of integrating BIM workflows, GIS platforms, IoT networks, Artificial Intelligence (AI), cloud collaboration, and data-driven urban planning. This training empowers architects, engineers, planners, government professionals, and technology specialists to design, construct, operate, and manage next-generation smart urban environments using

advanced digital solutions.

The course provides practical insights into BIM-enabled smart city frameworks, infrastructure optimization, resilient urban planning, and lifecycle asset management. Participants explore global best practices and real-world case studies covering digital twins for city management, smart transportation networks, sustainable buildings, energy-efficient infrastructure, and connected urban services. Through hands-on learning, industry examples, and collaborative exercises, learners gain the skills required to support smart city transformation, climate resilience, net-zero development, and intelligent infrastructure innovation.

Course Duration

5 days

Course Objectives

1. Understand the role of BIM technology in smart city transformation and digital urban ecosystems.
2. Develop expertise in BIM-based planning, design, construction, and facility management workflows.
3. Apply Digital Twin technologies for real-time city monitoring and decision-making.
4. Integrate GIS, IoT, AI, and BIM data platforms for intelligent urban development.
5. Implement smart infrastructure strategies for sustainable cities.
6. Learn advanced BIM collaboration, interoperability, and Common Data Environment (CDE) practices.
7. Explore data-driven urban planning and predictive analytics applications.
8. Apply BIM principles for green buildings, energy efficiency, and carbon reduction.
9. Understand smart mobility, transportation planning, and connected infrastructure solutions.
10. Develop strategies for urban resilience, disaster management, and climate adaptation.
11. Analyze international smart city case studies and BIM implementation frameworks.
12. Improve decision-making using 3D city models, visualization, and simulation technologies.
13. Prepare professionals to lead future-ready digital transformation projects.

Target Audience

1. Architects and Architectural Designers
2. Civil Engineers and Structural Engineers
3. BIM Managers and BIM Coordinators
4. Urban Planners and Smart City Consultants
5. Government Officials and Municipal Authorities
6. Construction Project Managers and Developers
7. Facility Management and Asset Management Professionals
8. GIS Specialists, Data Analysts, and Digital Transformation Experts

Course Modules

Module 1: Introduction to BIM and Smart City Ecosystems

- Fundamentals of Building Information Modeling (BIM) and smart city concepts
- Evolution from traditional planning to digital urban transformation
- Role of BIM in connected and sustainable cities
- Smart city architecture, data platforms, and digital governance
- BIM maturity levels and international standards
- Case Study: Singapore Smart Nation Program

Module 2: BIM-Based Smart Urban Planning and Design

Key Topics:

- BIM applications in urban development projects
- 3D city modeling and visualization techniques
- Smart zoning, land management, and infrastructure planning
- Integration of BIM with GIS platforms
- Sustainable urban design strategies
- Case Study: Helsinki 3D City Model Project

Module 3: Digital Twins for Smart Cities

- Concepts and benefits of **Urban Digital Twins**
- Real-time data integration using BIM and IoT
- Digital twin platforms for city operations
- Predictive analysis and simulation technologies
- Lifecycle management using digital twins
- Case Study: Virtual Singapore Digital Twin

Module 4: BIM, GIS, IoT, and Artificial Intelligence Integration

- BIM-GIS interoperability for smart infrastructure
- IoT sensor integration with BIM models
- AI-driven urban analytics and automation
- Cloud-based BIM collaboration platforms
- Big data management for smart cities
- Case Study: Barcelona Smart City Initiative

Module 5: Smart Infrastructure and Sustainable Development

- BIM applications in transportation infrastructure
- Smart roads, bridges, and utility networks
- Sustainable construction and green infrastructure
- Carbon reduction strategies using BIM analytics
- Net-zero city planning principles
- Case Study: Masdar City, UAE

Module 6: BIM for Smart Buildings and Facility Management

- BIM-based facility management systems
- Building performance monitoring
- Energy optimization and smart building controls
- Asset lifecycle management
- Operation and maintenance digital workflows
- Case Study: The Edge Building, Amsterdam

Module 7: BIM Implementation Strategies and Industry Standards

- BIM execution planning for smart city projects
- ISO 19650 standards and information management
- Common Data Environment (CDE) workflows
- BIM governance and collaboration frameworks
- Risk management and implementation challenges

- Case Study: UK Government BIM Strategy

Module 8: Future Trends in BIM and Smart City Development

- Artificial Intelligence and Generative Design in BIM
- Metaverse and immersive urban visualization
- Blockchain applications in construction data management
- Autonomous infrastructure and smart mobility
- Future-ready resilient city strategies
- Case Study: Dubai Smart City Transformation

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
07 Sep 2026	11 Sep 2026	Online	$1,000
07 Sep 2026	11 Sep 2026	Physical	$1,500
14 Sep 2026	18 Sep 2026	Online	$1,000
14 Sep 2026	18 Sep 2026	Physical	$1,500
21 Sep 2026	25 Sep 2026	Online	$1,000
21 Sep 2026	25 Sep 2026	Physical	$1,500
28 Sep 2026	02 Oct 2026	Online	$1,000
28 Sep 2026	02 Oct 2026	Physical	$1,500

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

Register Online Now

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