Smart Cities & Built Environment Integration 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

Smart Cities & Built Environment Integration Training Course is designed to equip learners with advanced competencies in urban digital transformation, sustainable infrastructure, IoT-enabled cities, and intelligent built environments. As cities worldwide evolve into data-driven ecosystems, this course provides a strategic understanding of how AI, GIS, BIM, digital twins, green architecture, and smart infrastructure systems converge to create efficient, resilient, and sustainable urban spaces.

This program focuses on the integration of smart technologies, urban planning frameworks, climate-resilient design, and data-driven governance models to transform traditional cities into future-ready smart ecosystems. Participants will gain hands-on insights into urban analytics, smart mobility systems, energy-efficient buildings, and sustainable city governance, enabling them to design and manage next-generation urban environments aligned with global sustainability and smart city agendas.

Programme Curriculum

Smart Cities & Built Environment Integration Training Course

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Course Duration

5 days

Course Objectives

1. Master Smart City Planning & Digital Urban Transformation
2. Understand IoT-enabled Built Environment Systems
3. Apply GIS & Spatial Data Analytics in Urban Development
4. Integrate BIM (Building Information Modeling) in Infrastructure Projects
5. Develop expertise in Digital Twin Technology for Cities
6. Design Sustainable & Green Infrastructure Solutions
7. Implement AI-driven Urban Mobility Systems
8. Enhance knowledge of Climate-Resilient Urban Design
9. Explore Smart Energy Management Systems in Cities
10. Understand Urban Data Governance & Cybersecurity
11. Apply Sensor Networks for Smart Infrastructure Monitoring
12. Develop strategies for Smart Waste & Water Management Systems
13. Enable Data-Driven Decision Making in Urban Ecosystems

Target Audience

1. Urban Planners & City Developers
2. Civil & Structural Engineers
3. Architects & Landscape Designers
4. Government Urban Development Officials
5. Smart City Consultants & Analysts
6. Environmental & Sustainability Experts
7. GIS & Data Science Professionals
8. Construction & Infrastructure Project Managers

Course Modules

Module 1: Foundations of Smart Cities & Urban Digitalization

- Evolution of smart cities concept
- Key technologies shaping urban transformation
- Smart governance frameworks
- Urban digitization models
- Data-driven city ecosystems
- **Case Study:** Singapore Smart Nation Initiative

Module 2: Internet of Things (IoT) in Built Environment

- IoT architecture for smart cities
- Sensor integration in infrastructure

- Real-time urban monitoring systems
- Smart building automation
- Connected urban ecosystems
- **Case Study:** Barcelona Smart Lighting & Sensor Network System

Module 3: GIS & Spatial Intelligence in Urban Planning

- GIS mapping for city development
- Spatial data analytics techniques
- Land-use optimization models
- Disaster risk mapping systems
- Urban growth forecasting
- **Case Study:** London Urban Spatial Analytics System

Module 4: BIM & Digital Construction Technologies

- BIM lifecycle in construction
- 3D modeling for infrastructure
- Collaborative digital project delivery
- Cost & risk optimization using BIM
- Integration with smart city systems
- **Case Study:** Dubai Smart Construction & BIM Adoption Program

Module 5: Digital Twins & Smart Infrastructure Simulation

- Digital twin architecture
- Real-time simulation models
- Predictive urban analytics
- Infrastructure performance monitoring
- AI-based scenario modeling
- **Case Study:** Virtual Singapore Digital Twin Platform

Module 6: Sustainable Urban Design & Green Infrastructure

- Low-carbon city planning
- Green building certifications
- Renewable energy integration
- Urban heat island mitigation
- Sustainable transport systems
- **Case Study:** Copenhagen Carbon-Neutral City Plan

Module 7: Smart Mobility & Urban Transportation Systems

- Intelligent transport systems (ITS)
- AI traffic management
- Electric & autonomous mobility
- Mobility-as-a-service (MaaS)
- Smart parking solutions
- **Case Study:** Amsterdam Smart Mobility Network

Module 8: Urban Data Governance, Cybersecurity & Smart Utilities

- Urban big data management
- Smart utility networks
- Cybersecurity in smart cities
- Data privacy frameworks
- AI governance in urban systems
- **Case Study:** Songdo Smart City Integrated Utility System

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:

Register Online Now

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