Internet of Things (IoT) in Buildings 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

The Internet of Things (IoT) in Buildings is revolutionizing modern infrastructure by enabling smart automation, real-time monitoring, predictive maintenance, and energy optimization across residential, commercial, and industrial environments. Through interconnected sensors, devices, and cloud-based platforms, buildings are transforming into intelligent ecosystems that enhance operational efficiency, occupant comfort, sustainability, and security. Internet of Things (IoT) in Buildings Training Course provides a comprehensive foundation in smart building technologies, IoT architecture, edge computing, and data-driven facility management.

As global demand rises for smart cities, green buildings, and digital transformation in construction, IoT has become a critical enabler of next-generation infrastructure. Participants will gain hands-on knowledge of IoT sensors, Building Management Systems (BMS), AI-driven analytics, cybersecurity in smart buildings, and cloud integration frameworks. The course is designed to bridge the gap between traditional building operations and modern Industry 4.0 smart infrastructure solutions.

Programme Curriculum

Internet of Things (IoT) in Buildings Training Course

Introduction

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Course Duration

5 days

Course Objectives

1. Understand IoT ecosystem architecture in smart buildings
2. Apply sensor networks and smart device integration
3. Analyze real-time building automation systems (BAS/BMS)
4. Implement energy efficiency optimization using IoT analytics
5. Develop knowledge of edge computing and fog computing in buildings
6. Evaluate smart HVAC and lighting control systems
7. Integrate cloud platforms for building data management
8. Enhance predictive maintenance using AI and machine learning
9. Strengthen cybersecurity frameworks for IoT-enabled buildings
10. Utilize digital twins for building simulation and monitoring
11. Explore smart security and surveillance systems
12. Optimize occupant comfort through intelligent environment control
13. Understand sustainable smart building and green IoT solutions

Target Audience

1. Facility Managers
2. Electrical & Mechanical Engineers
3. Building Automation Specialists
4. ICT & IoT Developers
5. Smart City Planners
6. Construction Project Managers
7. Energy Management Consultants
8. Architecture & Civil Engineering Professionals

Course Modules

Module 1: Introduction to IoT in Smart Buildings

- Fundamentals of IoT ecosystem
- Evolution of smart buildings
- IoT sensors and actuators overview
- Role of connectivity (Wi-Fi, LoRaWAN, 5G)
- Case Study: Smart office transformation in a commercial tower

Module 2: Building Automation Systems (BAS) & Integration

- BAS vs BMS architecture

- Device interoperability standards
- Control systems in buildings
- Protocols (BACnet, Modbus, KNX)
- Case Study: Automated HVAC control in a hospital complex

Module 3: Smart Energy Management Systems

- Energy monitoring dashboards
- IoT-based power optimization
- Demand response systems
- Renewable energy integration
- Case Study: Energy-efficient smart university campus

Module 4: IoT Sensors & Smart Devices

- Temperature, humidity, motion sensors
- Smart lighting systems
- Occupancy detection technologies
- Wireless sensor networks
- Case Study: Smart retail store footfall optimization

Module 5: Cloud Computing & Data Analytics

- Cloud platforms for IoT buildings
- Real-time data processing
- Big data analytics in facility management
- Visualization dashboards
- Case Study: Cloud-based smart building management system

Module 6: Artificial Intelligence & Predictive Maintenance

- Machine learning for building systems
- Fault detection and diagnostics
- Predictive maintenance models
- AI-driven optimization
- Case Study: Predictive maintenance in smart manufacturing plant

Module 7: Cybersecurity in Smart Buildings

- IoT security threats and vulnerabilities
- Encryption and authentication methods
- Network security frameworks
- Risk management strategies
- Case Study: Securing a smart government facility

Module 8: Smart Cities & Digital Twin Technology

- Digital twin concept for buildings
- Urban IoT integration
- Smart infrastructure planning
- Sustainability and green building IoT
- Case Study: Digital twin implementation in a smart city district

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

Start Date	End Date	Location	Price
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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