Digital Building Control Systems 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

Digital Building Control Systems (DBCS) represent the next generation of smart infrastructure automation, intelligent building management, and IoT-enabled facility optimization. Digital Building Control Systems Training Course is designed to equip learners with advanced knowledge of Building Management Systems (BMS), HVAC automation, energy-efficient control strategies, and integrated smart building technologies. Participants will gain hands-on expertise in configuring, monitoring, and optimizing digital control systems that drive sustainability, reduce operational costs, and enhance occupant comfort in modern smart buildings.

With the rapid global shift toward smart cities, green buildings, and Industry 4.0 technologies, professionals skilled in Digital Building Control Systems are in high demand. This course bridges theory and real-world application, covering SCADA integration, cloud-based building analytics, predictive maintenance, and AI-powered facility optimization. It prepares engineers, technicians, and facility managers to lead in the transformation of traditional buildings into intelligent, energy-efficient ecosystems powered by cutting-edge automation technologies.

Programme Curriculum

Digital Building Control Systems Training Course

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5 days

Course Objectives

1. Master Smart Building Automation Systems (BAS) configuration
2. Understand HVAC control optimization and energy efficiency strategies
3. Apply IoT-based building monitoring and control systems
4. Implement SCADA integration in modern building infrastructure
5. Analyze real-time building performance analytics and dashboards
6. Develop skills in predictive maintenance for smart facilities
7. Configure cloud-based Building Management Systems (BMS)
8. Optimize energy consumption using AI-driven control systems
9. Learn sensor networks and smart device integration
10. Understand cybersecurity in smart building environments
11. Apply digital twin technology in building operations
12. Enhance skills in sustainable green building technologies
13. Manage end-to-end smart facility lifecycle systems

Target Audience

1. Electrical & Electronics Engineers
2. Mechanical & HVAC Engineers
3. Facility & Property Managers
4. Building Automation Technicians
5. Energy Management Professionals
6. Smart City Infrastructure Planners
7. ICT & IoT System Integrators
8. Technical Students & Graduates in Engineering Fields

Course Modules

Module 1: Introduction to Smart Building Systems

- Evolution of building automation
- Overview of BMS and BAS
- Smart building architecture
- IoT integration basics
- Case Study: Smart office transformation using BAS in a commercial tower

Module 2: HVAC Control Systems & Optimization

- HVAC system fundamentals
- Energy-efficient cooling/heating strategies
- Sensor-based temperature control
- Fault detection in HVAC systems
- Case Study: Energy reduction in a high-rise building HVAC upgrade

Module 3: IoT in Building Automation

- IoT architecture in smart buildings
- Sensor and actuator integration
- Wireless communication protocols
- Real-time monitoring systems
- Case Study: IoT-enabled smart hospital facility management

Module 4: SCADA Systems in Building Control

- SCADA fundamentals
- Data acquisition and control logic
- Visualization dashboards
- Remote monitoring systems
- Case Study: SCADA deployment in industrial smart campus

Module 5: Energy Management Systems (EMS)

- Energy monitoring techniques
- Load forecasting methods
- Peak demand management
- Sustainability optimization
- Case Study: Green building certification using EMS analytics

Module 6: Cloud-Based Building Management

- Cloud architecture for BMS
- Remote access and control
- Data storage and analytics
- Cybersecurity considerations
- Case Study: Multi-site building control using cloud BMS platform

Module 7: AI & Predictive Maintenance

- Machine learning in building systems
- Fault prediction models
- Equipment lifecycle optimization
- Automated alerts and diagnostics
- Case Study: AI-based predictive HVAC failure prevention system

Module 8: Smart Cities & Digital Twin Technology

- Digital twin concept for buildings
- Urban smart infrastructure integration
- Simulation and modeling
- Sustainability in smart cities

- Case Study: Digital twin implementation in smart city district planning

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

Start Date	End Date	Location	Price
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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