BIM 6D (Sustainability) 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) 6D Sustainability Training Course is designed to integrate sustainability analytics, carbon footprint optimization, energy efficiency modeling, and lifecycle asset performance management into the built environment. With the global construction industry shifting toward net-zero carbon buildings, green infrastructure, and ESG-compliant development, BIM 6D has become a critical competency for architects, engineers, contractors, and facility managers. This training empowers professionals to leverage advanced BIM tools for environmental impact assessment, renewable energy simulation, and sustainable design optimization.

The course bridges the gap between traditional BIM workflows and advanced sustainability intelligence by incorporating green building standards (LEED, BREEAM, EDGE), circular economy principles, and AI-driven energy modeling. Participants will gain practical expertise in reducing operational costs, enhancing building performance, and ensuring compliance with global sustainability regulations. The program focuses on real-world implementation, enabling learners to deliver carbon-neutral, energy-efficient, and environmentally responsible construction projects using BIM 6D methodologies.

Programme Curriculum

BIM 6D (Sustainability) Training Course

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Course Duration

5 days

Course Objectives

1. Understand BIM 6D integration for sustainable construction lifecycle management
2. Apply carbon footprint analysis in digital building environments
3. Optimize energy-efficient building design using BIM simulation tools
4. Implement net-zero energy building (NZEB) strategies
5. Utilize green building certification frameworks (LEED/BREEAM/EDGE)
6. Conduct life cycle assessment (LCA) using BIM platforms
7. Integrate renewable energy systems into BIM models
8. Improve environmental impact reduction through digital twins
9. Enhance construction waste minimization and circular economy practices
10. Perform sustainability data analytics for smart buildings
11. Enable AI-powered energy optimization and predictive modeling
12. Support ESG compliance and sustainability reporting
13. Develop expertise in smart sustainable infrastructure planning

Target Audience

1. Architects and Urban Designers
2. Civil and Structural Engineers
3. MEP Engineers (Mechanical, Electrical, Plumbing)
4. Construction Project Managers
5. Sustainability Consultants
6. Facility and Asset Managers
7. BIM Coordinators and Technicians
8. Government Infrastructure and Planning Officers

Course Modules

Module 1: Introduction to BIM 6D Sustainability

- Fundamentals of BIM dimensions and sustainability integration
- Overview of green building technologies
- Role of BIM in climate-conscious construction
- Introduction to carbon-aware design principles
- BIM sustainability lifecycle mapping
- **Case Study:** Smart eco-city development using BIM-enabled sustainable planning.

Module 2: Green Building Standards & Certification

- LEED, BREEAM, EDGE certification frameworks
- Sustainability scoring systems
- Compliance documentation in BIM
- Environmental benchmarking tools
- Certification simulation modeling
- **Case Study:** LEED-certified commercial office tower optimization using BIM.

Module 3: Energy Modeling & Simulation

- Energy consumption analysis in BIM
- Building performance simulation tools
- HVAC optimization strategies
- Solar and wind energy integration
- Thermal comfort modeling
- **Case Study:** Energy-efficient hospital design reducing operational energy by 40%.

Module 4: Carbon Footprint & Emissions Analysis

- Embodied carbon vs operational carbon
- BIM-based carbon tracking systems
- Emission reduction strategies
- Material lifecycle carbon evaluation
- Sustainable procurement planning
- **Case Study:** Low-carbon residential project achieving 50% emissions reduction.

Module 5: Life Cycle Assessment (LCA) in BIM

- LCA methodology integration
- Material environmental impact analysis
- Asset lifecycle prediction models
- Waste reduction strategies
- Sustainable demolition planning
- **Case Study:** High-rise building lifecycle optimization with reduced material waste.

Module 6: Renewable Energy Integration

- Solar PV system modeling in BIM
- Wind and hybrid energy systems
- Smart grid integration concepts
- Energy storage simulation
- Net-zero building energy balancing
- **Case Study:** University campus powered by BIM-modeled renewable energy systems.

Module 7: Smart Sustainable Digital Twins

- Digital twin technology for sustainability
- Real-time environmental monitoring
- IoT integration with BIM systems
- Predictive maintenance for energy efficiency
- Smart building automation systems

- **Case Study:** Smart commercial complex with AI-driven sustainability optimization.

Module 8: ESG Reporting & Sustainable Infrastructure Planning

- ESG frameworks and compliance reporting
- Sustainability dashboards in BIM
- Urban infrastructure planning tools
- Climate risk assessment models
- Policy-driven sustainable development
- **Case Study:** Government smart city infrastructure with ESG-compliant BIM 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
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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Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com