Training course on 5D BIM for Cost Estimation and Quantity Surveying

Professional Development Training Course Outline

Category	Civil Engineering and Infrastructure Management	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

5D Building Information Modeling (BIM) represents a groundbreaking evolution in project management, seamlessly integrating the three-dimensional geometric model (3D) with time-related information (4D) and, crucially, cost data (5D). This advanced dimension of BIM moves far beyond traditional manual methods, offering unprecedented levels of accuracy, efficiency, and real-time visibility into project finances from the earliest conceptual stages through to detailed construction. It empowers quantity surveyors, cost estimators, and project managers to make more informed decisions, optimize budgets, and mitigate financial risks across the entire project lifecycle, leading to more predictable and profitable outcomes for all stakeholders. Training Course on 5D BIM for Cost Estimation and Quantity Surveying is meticulously crafted to provide participants with the theoretical foundations and hands-on practical skills required to master 5D BIM for cost estimation and quantity surveying. We will delve into automating quantity take-offs directly from BIM models, intelligently linking these quantities to comprehensive cost databases, performing dynamic cost analysis, managing variations efficiently, and generating accurate financial reports. Through a blend of expert instruction, real-world case studies, and practical exercises, attendees will gain the confidence and competence to implement 5D BIM in their organizations, transforming their approach to project financial control.

Programme Curriculum

Training Course on 5D BIM for Cost Estimation and Quantity Surveying

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Course Objectives

Upon completion of this course, participants will be able to:

1. Analyze the fundamental concepts of 5D BIM and its impact on cost estimation and quantity surveying.
2. Comprehend the principles of integrating BIM models with cost data and financial systems.
3. Master various 5D BIM software tools for automated quantity take-offs.
4. Develop expertise in creating and managing cost breakdown structures within a BIM environment.
5. Formulate strategies for applying 5D BIM for accurate early-stage cost planning and budgeting.
6. Understand the critical role of 5D BIM in real-time cost tracking and variance analysis during construction.
7. Implement robust approaches to generating detailed bills of quantities (BoQ) from BIM models.
8. Explore key strategies for effective cost control and change order management using 5D BIM.
9. Apply methodologies for incorporating risk analysis and value engineering into 5D cost models.
10. Understand the importance of using 5D BIM for detailed procurement planning and contractor bidding.
11. Develop preliminary skills in presenting comprehensive 5D cost reports and financial dashboards.
12. Design a comprehensive 5D BIM workflow for a construction project's cost management.
13. Examine global best practices and lessons learned in 5D BIM for project financial control.

Target Audience

This course is essential for professionals seeking to enhance their skills in project financial management:

1. Quantity Surveyors: Seeking to automate and enhance their costing processes.
2. Cost Estimators: Aiming to improve accuracy and efficiency in project budgeting.
3. Project Managers: Needing better financial oversight and cost control tools.
4. BIM Coordinators & Specialists: Expanding their expertise into the 5D dimension.
5. Contract Administrators: Interested in managing variations and claims with BIM.
6. Procurement Professionals: Leveraging BIM for more precise purchasing decisions.
7. Financial Analysts in Construction: Seeking advanced tools for project finance.
8. Building Owners & Developers: Interested in transparent and accurate project costs.

Course Duration: 5 Days

Course Modules

Module 1: Introduction to 5D BIM and Cost Management Fundamentals

- Define 5D BIM and its evolution in the construction industry.
- Discuss the benefits of integrating BIM with cost data for project financial control.
- Understand the relationship between traditional quantity surveying methods and 5D BIM.
- Explore common challenges and opportunities in 5D BIM adoption for various project phases.
- Identify key stakeholders and their requirements in 5D BIM workflows.

Module 2: Automated Quantity Take-offs from BIM Models

- Comprehend the principles of extracting precise quantities directly from BIM elements.
- Learn to prepare BIM models for accurate quantity take-offs (e.g., proper element classification, parameters).
- Master techniques for utilizing native BIM software functionalities for QTOs.
- Understand the differences between model-based and manual quantity extraction.
- Practice generating various quantity reports (e.g., concrete volumes, wall areas, pipe lengths).

Module 3: Linking BIM Elements to Cost Data and Databases

- Develop expertise in mapping BIM model elements to specific cost items and unit rates.
- Learn about creating and managing cost databases compatible with 5D BIM software.
- Explore methods for integrating with existing cost estimating software and ERP systems.
- Discuss the importance of a standardized Cost Breakdown Structure (CBS) for 5D integration.
- Gain hands-on experience in assigning cost attributes to BIM objects.

Module 4: Early Stage Cost Planning and Budgeting with 5D BIM

- Formulate strategies for using 5D BIM for conceptual and preliminary cost estimates.
- Understand how early design iterations impact project costs through parametric changes.
- Explore methods for conducting rapid cost comparisons of design alternatives.
- Discuss the application of cost libraries and historical data in early 5D budgeting.
- Learn to generate indicative project budgets directly from initial BIM models.

Module 5: Detailed Cost Estimation and Bill of Quantities Generation

- Implement robust approaches to automated generation of detailed Bills of Quantities (BoQ).
- Master techniques for customizing BoQ templates and reporting formats.
- Understand how to include non-modeled items and allowances in the 5D estimate.
- Discuss the validation and reconciliation of 5D BIM quantities with traditional methods.
- Practice generating comprehensive tender documents and procurement schedules.

Module 6: Cost Control, Variance Analysis, and Change Management

- Understand the critical role of 5D BIM in real-time project cost control.
- Implement robust approaches to tracking actual costs against 5D baselines.
- Explore techniques for performing variance analysis and identifying cost deviations.
- Discuss how 5D BIM supports efficient management of change orders and variations.
- Learn to generate cash flow forecasts and financial projections from 5D models.

Module 7: Risk Analysis, Value Engineering, and Procurement Support

- Apply methodologies for incorporating cost risk analysis into 5D BIM models.

- Master techniques for conducting value engineering studies using 5D insights.
- Understand how 5D BIM informs procurement strategies and package definition.
- Discuss the use of 5D BIM in evaluating contractor bids and negotiating contracts.
- Explore case studies demonstrating cost savings through 5D BIM application.

Module 8: Advanced 5D BIM Applications and Future Trends

- Examine global best practices and innovative uses of 5D BIM.
- Explore emerging technologies (e.g., AI for cost prediction, blockchain for payments) in 5D BIM.
- Discuss the integration of 5D BIM with 4D (schedule) for comprehensive project control.
- Learn about automated cost compliance checking and auditing with 5D models.
- Design a strategic plan for implementing advanced 5D BIM practices within an organization.

Training Methodology

- **Interactive Workshops:** Facilitated discussions, group exercises, and problem-solving activities.
- **Case Studies:** Real-world examples to illustrate successful community-based surveillance practices.
- **Role-Playing and Simulations:** Practice engaging communities in surveillance activities.
- **Expert Presentations:** Insights from experienced public health professionals and community leaders.
- **Group Projects:** Collaborative development of community surveillance plans.
- **Action Planning:** Development of personalized action plans for implementing community-based surveillance.
- **Digital Tools and Resources:** Utilization of online platforms for collaboration and learning.
- **Peer-to-Peer Learning:** Sharing experiences and insights on community engagement.
- **Post-Training Support:** Access to online forums, mentorship, and continued learning resources.

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

- Participants must be conversant in English.
- Upon completion of training, participants will receive an Authorized Training Certificate.
- The course duration is flexible and can be modified to fit any number of days.
- Course fee includes facilitation, training materials, 2 coffee breaks, buffet lunch, and a Certificate upon successful completion.
- One-year post-training support, consultation, and coaching provided after the course.
- Payment should be made at least a week before the training commencement to Fineskill Training Center account, as indicated in the invoice, to enable better preparation.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
21 Sep 2026	25 Sep 2026	Online	$1,000
21 Sep 2026	25 Sep 2026	Physical	$1,500
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0

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

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