Modular Construction Training Course

Professional Development Training Course Outline

Category	Construction Institute	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Modular Construction Training Course is designed to equip professionals with advanced knowledge of offsite construction, prefabrication technology, Design for Manufacture and Assembly (DfMA), Building Information Modeling (BIM), digital construction, sustainable building practices, and smart manufacturing workflows. As the construction industry moves toward faster project delivery, cost optimization, reduced material waste, and climate-resilient infrastructure, modular construction has become a critical solution for modern built environments. This course provides practical insights into modular design strategies, volumetric construction, panelized systems, prefabricated building components, automation, robotics, and lean construction methodologies.

Through real-world applications and global case studies, participants will explore how modular construction innovation is transforming residential, commercial, healthcare, education, hospitality, and industrial projects. The program develops expertise in project planning, digital collaboration, quality control, supply chain management, manufacturing processes, and sustainable construction frameworks. Participants will gain the skills required to successfully implement next-generation modular building solutions and lead construction projects aligned with Industry 4.0, green building standards, and future-ready infrastructure development.

Programme Curriculum

Modular Construction Training Course

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Course Duration

5 days

Course Objectives

1. Understand the fundamentals of modular construction systems and offsite manufacturing technologies.
2. Develop expertise in Design for Manufacture and Assembly (DfMA) principles for efficient building delivery.
3. Learn advanced BIM integration and digital twin applications in modular projects.
4. Explore prefabrication, volumetric modules, and panelized construction methods.
5. Master strategies for construction automation and smart factory production workflows.
6. Analyze sustainable construction practices and circular economy approaches.
7. Improve skills in modular project planning, scheduling, and cost management.
8. Understand quality assurance, compliance standards, and modular building certifications.
9. Apply lean construction and waste reduction methodologies.
10. Develop knowledge of supply chain optimization and logistics management.
11. Evaluate innovative materials including advanced composites, low-carbon materials, and smart building components.
12. Study global trends in prefabricated housing, affordable housing solutions, and rapid infrastructure development.
13. Build leadership capability for implementing future-ready construction technologies and digital transformation strategies.

Target Audience

1. Construction managers and project directors
2. Architects and design professionals
3. Civil engineers and structural engineers
4. Real estate developers and investors
5. BIM specialists and digital construction professionals
6. Contractors and modular manufacturing companies
7. Government infrastructure and urban planning professionals
8. Sustainability consultants and green building specialists

Course Modules

Module 1: Fundamentals of Modular Construction

- Introduction to modular construction technology and offsite manufacturing

- Evolution of prefabricated building systems
- Types of modular construction-volumetric, panelized, and hybrid systems
- Benefits of modular construction-speed, quality, sustainability, and cost efficiency
- Future trends in industrialized construction
- Case Study: Katerra Modular Construction Projects

Module 2: Modular Design and DfMA Principles

- Principles of Design for Manufacture and Assembly (DfMA)
- Modular design optimization strategies
- Standardization and design flexibility
- Integration of architecture and manufacturing processes
- Designing for transportation, assembly, and lifecycle performance
- Case Study: Laing O'Rourke Offsite Manufacturing

Module 3: BIM, Digital Twins, and Smart Construction

- BIM workflows for modular construction projects
- Digital coordination between design and manufacturing teams
- Digital twin technology applications
- Cloud-based collaboration platforms
- Data-driven construction management
- Case Study: NHS Nightingale Hospitals

Module 4: Modular Manufacturing and Production Systems

- Modular factory planning and operations
- Robotics and automation in construction manufacturing
- Quality control in production environments
- Lean manufacturing principles
- Smart factory technologies and Industry 4.0 integration
- Case Study: Sekisui House Modular Construction

Module 5: Materials, Sustainability, and Green Construction

- Sustainable materials for modular buildings
- Low-carbon construction strategies
- Circular economy principles
- Energy-efficient modular building systems
- Green certifications and environmental performance
- Case Study: Mini Sky City, China

Module 6: Modular Project Management and Logistics

- Modular construction project lifecycle management
- Planning, scheduling, and risk management
- Transportation and installation strategies
- Supply chain coordination
- Cost control and productivity improvement
- Case Study: CitizenM Hotels Modular Projects

Module 7: Quality, Safety, and Regulatory Compliance

- Modular construction quality management systems
- Factory inspections and testing procedures
- Safety management in offsite environments
- Building codes and regulatory requirements
- Performance monitoring and defect prevention
- Case Study: Volumetric Building Companies (VBC)

Module 8: Future Trends and Innovation in Modular Construction

- Artificial Intelligence (AI) in construction planning
- Robotics and autonomous construction technologies
- 3D printing integration with modular systems
- Smart buildings and IoT-enabled modules
- Future of sustainable urban development
- Case Study: HIVE Modular Housing Innovations

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

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com