Maintenance Planning in 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

The Maintenance Planning in Construction Training Course is designed to equip construction professionals with advanced skills in preventive maintenance, predictive maintenance, asset management, construction lifecycle management, and digital maintenance planning. In today's competitive construction industry, effective maintenance strategies are essential for improving asset reliability, operational efficiency, safety compliance, cost optimization, and project sustainability. This course focuses on modern approaches such as Computerized Maintenance Management Systems (CMMS), Building Information Modeling (BIM), data-driven maintenance, risk-based planning, and smart construction technologies to help organizations maximize the performance and lifespan of their infrastructure assets.

Through practical learning, industry case studies, and real-world applications, participants will develop expertise in creating effective maintenance schedules, resource plans, inspection strategies, work order systems, and preventive maintenance programs. The course integrates global best practices in construction asset management, facilities management, reliability engineering, and sustainable infrastructure maintenance to enable professionals to reduce downtime, improve safety standards, and achieve long-term operational excellence in construction projects.

Programme Curriculum

Maintenance Planning in Construction Training Course

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Course Duration

5 days

Course Objectives

By completing this **Maintenance Planning in Construction Training Course**, participants will be able to:

1. Understand advanced concepts of construction maintenance planning and lifecycle asset management.
2. Develop effective preventive and predictive maintenance strategies for construction assets.
3. Apply risk-based maintenance planning to improve reliability and reduce failures.
4. Master CMMS and digital maintenance management tools for efficient workflows.
5. Implement BIM-enabled maintenance planning for smart construction operations.
6. Create optimized maintenance schedules, resource plans, and cost control strategies.
7. Improve equipment reliability and asset performance management.
8. Apply modern condition monitoring and predictive analytics techniques.
9. Develop effective maintenance KPIs and performance measurement systems.
10. Enhance health, safety, and environmental (HSE) compliance through structured maintenance.
11. Integrate sustainable maintenance practices and green construction principles.
12. Improve decision-making using data-driven maintenance planning technologies.
13. Build leadership capabilities for managing high-performance construction maintenance teams.

Target Audience

1. Construction Project Managers
2. Maintenance Managers and Supervisors
3. Civil Engineers and Site Engineers
4. Facilities Management Professionals
5. Asset Management Specialists
6. Building Owners and Developers
7. Mechanical, Electrical, and Plumbing (MEP) Professionals
8. Construction Planning and Operations Teams

Course Modules

Module 1: Fundamentals of Construction Maintenance Planning

- Principles of construction asset lifecycle management
- Importance of strategic maintenance planning in modern projects
- Types of construction maintenance

- Maintenance planning roles, responsibilities, and workflows
- Integration of maintenance strategies with project management
- Case Study: Analysis of a commercial building project where structured maintenance planning reduced operational disruptions and improved asset performance.

Module 2: Preventive and Predictive Maintenance Strategies

- Developing preventive maintenance programs
- Predictive maintenance using IoT and sensor technologies
- Condition monitoring techniques for construction equipment
- Failure analysis and reliability improvement methods
- Maintenance optimization using predictive analytics
- **Case Study:** Implementation of predictive maintenance for heavy construction machinery resulting in reduced equipment downtime.

Module 3: Maintenance Scheduling and Resource Planning

- Creating effective maintenance schedules
- Workforce planning and maintenance resource allocation
- Material and spare parts management
- Maintenance budgeting and cost forecasting
- Integration of maintenance planning with project timelines
- **Case Study:** Planning maintenance activities for a large infrastructure project while controlling costs and minimizing delays.

Module 4: Digital Maintenance Management Systems (CMMS)

- Introduction to Computerized Maintenance Management Systems
- Digital work orders and maintenance tracking
- Asset database development and management
- Maintenance reporting and analytics dashboards
- Improving productivity through automation
- **Case Study:** A facility management organization improved maintenance response times through CMMS implementation.

Module 5: BIM-Based Maintenance Planning and Smart Construction

- BIM applications in facility and asset maintenance
- Digital twins and smart building maintenance
- Integration of BIM models with maintenance systems
- Data management for lifecycle operations
- Future trends in smart infrastructure maintenance
- **Case Study:** Using BIM-based asset information management to improve maintenance planning for a high-rise building.

Module 6: Risk Management, Safety, and Compliance

- Risk assessment in construction maintenance activities
- Safety-driven maintenance planning
- Regulatory compliance and inspection requirements
- Failure prevention and reliability engineering

- HSE integration into maintenance strategies
- **Case Study:** A construction company improved safety performance through proactive maintenance risk planning.

Module 7: Maintenance Performance Measurement and Optimization

- Developing maintenance KPIs and dashboards
- Measuring asset reliability and availability
- Maintenance cost optimization techniques
- Root Cause Analysis (RCA) and continuous improvement
- Data-driven maintenance decision-making
- **Case Study:** A manufacturing facility improved equipment availability through KPI-based maintenance optimization.

Module 8: Sustainable Construction Maintenance and Future Trends

- Sustainable maintenance practices
- Energy-efficient asset management
- Green building maintenance strategies
- Artificial Intelligence (AI) in maintenance planning
- Future trends in smart construction and predictive maintenance
- **Case Study:** A sustainable building project achieved improved energy performance through intelligent maintenance strategies.

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

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