Advanced Maintenance Auditing in Manufacturing Training Course

Professional Development Training Course Outline

Category	Manufacturing	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Advanced Maintenance Auditing in Manufacturing Training Course is designed to equip professionals with cutting-edge expertise in predictive maintenance, asset reliability, industrial audit compliance, and lean manufacturing optimization. In today's highly competitive industrial landscape, organizations are increasingly focusing on Industry 4.0 maintenance strategies, condition-based monitoring, and data-driven maintenance auditing to reduce downtime and improve operational efficiency. This training empowers participants to identify inefficiencies, strengthen maintenance governance systems, and implement globally benchmarked auditing frameworks.

With a strong emphasis on Total Productive Maintenance (TPM), RCM (Reliability-Centered Maintenance), and OEE (Overall Equipment Effectiveness) improvement, this course bridges the gap between theoretical knowledge and practical application. Participants will gain hands-on exposure to root cause failure analysis, predictive analytics tools, and ISO 55000 asset management standards, ensuring alignment with modern manufacturing excellence and smart factory transformation initiatives.

Programme Curriculum

Advanced Maintenance Auditing in Manufacturing Training Course

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Course Objectives

1. Master Advanced Maintenance Auditing Techniques
2. Implement Predictive Maintenance Strategies (PdM)
3. Improve Equipment Reliability & Asset Performance
4. Understand ISO 55000 Asset Management Standards
5. Conduct effective Root Cause Failure Analysis (RCFA)
6. Optimize Total Productive Maintenance (TPM) Systems
7. Enhance OEE (Overall Equipment Effectiveness)
8. Apply Lean Manufacturing Maintenance Principles
9. Strengthen Industrial Audit Compliance Frameworks
10. Integrate Industry 4.0 Smart Maintenance Systems
11. Use Condition Monitoring & Vibration Analysis
12. Develop Maintenance Risk Assessment Models
13. Improve Cost Optimization in Maintenance Operations

Target Audience

1. Maintenance Engineers & Supervisors
2. Plant & Production Managers
3. Reliability Engineers
4. Industrial Auditors & Quality Managers
5. Mechanical & Electrical Engineers
6. Operations & Facility Managers
7. Asset Management Professionals
8. Manufacturing Consultants & Analysts

Course Modules

Module 1: Fundamentals of Maintenance Auditing

- Overview of maintenance audit lifecycle
- Types of maintenance audits
- Key performance indicators (KPIs)
- Audit documentation standards
- Audit scoring systems
- **Case Study:** Audit failure analysis in a packaging plant leading to 18% downtime reduction plan.

Module 2: Predictive Maintenance (PdM) Systems

- Condition monitoring basics
- Sensor-based maintenance systems
- Data interpretation techniques
- Failure prediction models
- AI-driven maintenance tools
- **Case Study:** Vibration monitoring implementation in a cement manufacturing plant.

Module 3: Preventive Maintenance Optimization

- Scheduling strategies
- Maintenance planning systems
- Work order management
- Resource allocation efficiency
- Downtime reduction techniques
- **Case Study:** Preventive maintenance overhaul in an automotive assembly line.

Module 4: Reliability-Centered Maintenance (RCM)

- RCM principles and structure
- Failure mode analysis
- Critical asset identification
- Maintenance task selection
- Risk-based maintenance planning
- **Case Study:** RCM deployment in a power generation facility.

Module 5: Root Cause Failure Analysis (RCFA)

- Failure investigation methods
- Fishbone & 5-Why analysis
- Data collection techniques
- Corrective action planning
- Reporting frameworks
- **Case Study:** Conveyor belt breakdown analysis in a logistics plant.

Module 6: ISO 55000 Asset Management

- Asset lifecycle management
- Compliance requirements
- Documentation frameworks
- Performance measurement
- Continuous improvement cycles
- **Case Study:** ISO compliance upgrade in a food processing plant.

Module 7: Total Productive Maintenance (TPM)

- TPM pillars
- Autonomous maintenance
- Planned maintenance integration
- Operator involvement strategies
- Loss elimination techniques
- **Case Study:** TPM implementation in a textile manufacturing unit.

Module 8: Industrial Audit Compliance

- Audit planning methodologies
- Compliance gap analysis
- Regulatory frameworks
- Internal audit systems
- Reporting & documentation
- **Case Study:** Compliance audit in pharmaceutical manufacturing.

Module 9: Condition Monitoring Techniques

- Thermography applications
- Oil analysis methods
- Ultrasonic testing
- Vibration diagnostics
- Sensor integration systems
- **Case Study:** Bearing failure prediction in a steel plant.

Module 10: Maintenance Cost Optimization

- Cost breakdown structures
- Spare parts optimization
- Inventory control systems
- Budget forecasting
- Cost-benefit analysis
- **Case Study:** Maintenance cost reduction in FMCG industry.

Module 11: Digital Maintenance & Industry 4.0

- Smart factory systems
- IoT-based maintenance tools
- Digital twins in maintenance
- Cloud-based monitoring
- AI predictive analytics
- **Case Study:** Smart maintenance transformation in electronics manufacturing.

Module 12: Maintenance Risk Management

- Risk identification methods
- Failure probability models
- Impact assessment tools
- Mitigation strategies
- Safety integration systems
- **Case Study:** Risk audit in chemical processing plant.

Module 13: Spare Parts & Inventory Management

- Inventory optimization models
- Critical spare classification
- Just-in-time maintenance supply
- Warehouse management systems
- Demand forecasting techniques

- **Case Study:** Spare parts optimization in heavy machinery industry.

Module 14: Performance Measurement & KPIs

- OEE calculation methods
- MTBF & MTTR analysis
- Dashboard creation
- Benchmarking strategies
- Performance reporting
- **Case Study:** KPI improvement in beverage manufacturing plant.

Module 15: Advanced Maintenance Audit Reporting

- Audit report structuring
- Data visualization tools
- Compliance scoring systems
- Executive reporting formats
- Continuous improvement plans
- **Case Study:** Enterprise-wide maintenance audit transformation in a multinational factory.

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	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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