MERCURY

Implementing Effective Preventive and Predictive Maintenance Program

11 – 15 January 2027
London (UK)



Dubai - UAE: +971 4 450 5697
Istanbul - Türkiye: +90 539 599 1206
Amman - Jordan: +962 79 712 3347

Implementing Effective Preventive and Predictive Maintenance Program

Ref: 15541_314062 **Date:** 11 – 15 January 2027 **Location:** London (UK) **Fees:** 5900 Euro

Introduction:

Effective preventive and predictive maintenance is crucial for a successful company and integral to maintenance management strategies, including RCM, RBM, TPM, and 6-Sigma. The one-week implementing effective preventive and predictive maintenance course enlightens up-and-coming professionals and seasoned experts embarking on launching or evaluating a robust maintenance system. It crafts prosperous planning and predictive maintenance, encompassing system development through operating a well-maintained establishment.

Preventive and predictive maintenance are two cornerstone strategies for maintaining equipment in optimal working condition. While preventive maintenance is scheduled and performed based on time or usage, predictive maintenance is a proactive approach that relies on real-time data and effective predictive analytics to anticipate potential equipment failures before they occur. Implementing these strategies allows organizations to mitigate unplanned downtime, enhance equipment performance, and extend asset life cycles.

The course will delve into the complete preventive and predictive maintenance guide, highlighting their differences. It will explore how a maintenance plan can transition from reactive to proactive using advanced analytics and effective planning strategies. It will also discuss the steps and considerations to implement these maintenance paradigms, providing participants with a solid foundation in preventive and predictive maintenance training.

Understanding and implementing an effective preventive and predictive maintenance program can significantly increase equipment reliability and longevity. It is designed to provide comprehensive training on establishing such a system within an organization. Attendees will learn the theoretical aspects of maintenance and the practical implementation of corrective preventive and predictive maintenance strategies.

Targeted Groups:

The implementation of effective preventive and predictive maintenance training is intended for:

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- Maintenance Personnel and Technicians.
- Maintenance and Reliability Engineers.
- Operations Personnel and Operators.
- Maintenance Supervisors/Managers.
- Production Supervisors/Managers.
- Engineering Personnel.
- Management Personnel, including Plant and Operations Managers.
- The support staff.
- Those involved in data analysis and documentation.
- Cross-Functional Teams.

Training Objectives:

By the end of this implementing effective preventive and predictive maintenance course, participants will be able to:

- Comprehend maintenance concepts and the predictive maintenance definition.
- Acquire thorough equipment knowledge.
- Master maintenance planning and scheduling.
- Apply condition monitoring techniques and predictive maintenance technologies.
- Implement maintenance procedures and best practices.
- Ensure safety and compliance in maintenance operations.
- Collaborate across functions effectively.
- Monitor performance and drive continuous improvement.

Targeted Competencies:

Participants in this implementation of effective preventive and predictive maintenance training will develop competencies in the:

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- Equipment Knowledge.
- Maintenance Procedures.
- Condition Monitoring Techniques.
- Data Interpretation.
- Analytical Competencies.
- Problem-Solving.
- Data Analysis.
- Risk Assessment.
- Communication and Collaboration.
- Interdepartmental Communication.
- Documentation.
- Safety and Compliance.
- Continuous Improvement.
- Leadership and Management.
- Resource Management.

Course Content:

Unit 1: The Need for Maintenance:

- Failure Mode Effect and Criticality Analysis FMECA:
  - Causes of Failures.
  - Likelihood and Severity of Failure - Risk Analysis.
  - Reliability Centered Maintenance RCM.
- Optimization of Maintenance Decisions:
  - Failure Pattern Identification.
  - Statistical Analysis of Failures.
  - Weibull Analysis.
- Zero Base Budgeting:
  - Define the production requirement.
  - Define the maintenance requirement.

Unit 2: Developing the CMMS:

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- Database Construction:
  - Installed Asset Base.
  - Hierarchical Structure.
  - Procedures and Plans.
- Resources:
  - Dedicated Manpower.
  - Contractors.
  - Specialist Tools.
- Maintenance Strategies:
  - Centralized/Decentralized.
  - Life/Emergency/Corrective/Planned.
  - Planned and Predictive.

Unit 3: The Planning Function:

- Roles and Responsibilities:
  - The Planners.
  - Job Initiators.
  - Maintenance Trades.
- Job Planning:
  - Planning Corrective Work.
  - Integrate Planning with Procedures.
  - Resource Leveling.
- Scheduling:
  - Long-Term Scheduling with Production.
  - Medium- and Short-Term Scheduling.
  - Planning Department Interfaces.

Unit 4: Predictive Maintenance:

- Potential Failure Analysis PFA:
  - Integration of PFA with FMECA and RCM.
  - Understanding the P-F Interval.
  - Decide which Technologies to Apply.
- Vibration Analysis:
  - Detectable Faults.
  - Setup Parameters.
  - Monitoring and Protection.
  - On-Line or Off-Line.
- Supporting Technologies:
  - Infrared Thermography.
  - Passive Ultrasonics.
  - Oil Analysis.

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Unit 5: Control of the Maintenance Process:

- CMMS Integration:
  - Predictive Maintenance Interface.
  - Optimizing PM Kit Usage with PdM.
  - Operational planning.
- Reporting:
  - Monthly PM and PdM reports for Management.
  - Financial Feedback Reports.
  - Budget Control.
- Key Performance Indicators:
  - Reliability, statistics, MTBF, and Reliability.
  - Work request backlog analysis.
  - Customer feedback analysis.