



Maintenance & Reliability Management

Certified Plant Maintenance Manager (CPMM)

Course Introduction

The **Certified Plant Maintenance Manager (CPMM)** program is designed to equip maintenance professionals with the necessary skills and knowledge to enhance the reliability, performance, and efficiency of maintenance operations. It focuses on advanced techniques, industry best practices, and leadership strategies for those managing maintenance teams, systems, and processes. This course prepares individuals for the CPMM certification exam and offers valuable insights for effectively managing maintenance in a wide variety of industries.

Target Audience

- Maintenance & Reliability Managers – Leading maintenance operations.
- Plant & Facility Managers – Overseeing asset management.
- Maintenance Engineers & Supervisors – Optimizing maintenance strategies.
- Operations & Production Managers – Ensuring equipment efficiency.
- Asset & Fleet Managers – Managing lifecycle costs.

Learning Objectives

- Understand the role of a maintenance manager in enhancing organizational performance.
- Demonstrate competency in managing a preventive and predictive maintenance program.
- Implement cost-effective maintenance strategies while ensuring high standards of safety and compliance.
- Develop and execute maintenance budgets and improve financial management in the maintenance function.

- Lead teams and communicate effectively within cross-functional teams to improve maintenance practices.
- Apply tools and techniques for troubleshooting and problem-solving in maintenance operations.
- Ensure equipment reliability and optimal production performance.
- Understand industry standards, regulatory requirements, and sustainability in maintenance management.

Course Outline

• 01 DAY ONE

Maintenance Management

- Overview of maintenance management principles.
- The role of a Maintenance Manager in organizational performance.
- Different types of maintenance: Preventive, Corrective, Predictive, and Reactive.
- Maintenance lifecycle: Planning, execution, and review.
- Maintenance strategies and how they align with business goals.
- Maintenance performance indicators (KPIs).
- Effective maintenance team structure and responsibilities.
- Communication and collaboration with other departments.
- Setting up a continuous improvement process in maintenance.

Maintenance ROI

- Defining ROI in the context of maintenance operations.
- Calculating the ROI of maintenance activities (cost savings, productivity improvement).
- Cost-benefit analysis of maintenance decisions.
- Identifying and measuring indirect benefits (e.g., reduced downtime, improved safety).
- Comparing different maintenance strategies to maximize ROI.
- Maintenance budget optimization.
- Strategies for improving ROI: Preventive vs. Corrective maintenance.

- Using predictive maintenance to drive ROI improvement.

• 02 DAY TWO

Predictive Maintenance

- Overview of predictive maintenance (PdM) concepts and benefits.
- Understanding the difference between Predictive and Preventive Maintenance.
- Techniques and tools used in PdM (Vibration analysis, Thermography, Ultrasound, etc.).
- Implementing PdM through condition monitoring and data analysis.
- Predictive maintenance technologies: IoT, AI, and machine learning.
- Role of sensors and real-time data in PdM.
- Developing a predictive maintenance strategy.
- Predictive maintenance metrics and KPIs.
- Case studies and examples of successful PdM implementation.

Inventory & Procurement

- The importance of effective inventory management in maintenance.
- Developing an optimal spare parts inventory system.
- Tools and techniques for inventory tracking and control (e.g., FIFO, Just-in-Time).
- Managing stock levels and minimizing excess inventory.
- Procurement processes for maintenance materials and equipment.
- Supplier selection, relationship management, and performance evaluation.
- Forecasting demand for spare parts and materials.
- Cost management in inventory procurement.
- Integrating inventory management with CMMS (Computerized Maintenance Management Systems).
- Inventory audits and performance analysis.

• 03 DAY THREE

Indoor Air Quality (IAQ)

- Importance of maintaining indoor air quality in facilities.
- Regulations and standards for indoor air quality (e.g., ASHRAE standards).
- Common IAQ problems in buildings (e.g., ventilation issues, mold, CO2 levels).
- IAQ monitoring tools and techniques.
- Strategies for improving and maintaining IAQ.
- Maintenance of HVAC systems for optimal IAQ.
- Air filtration and air exchange systems.

- The role of IAQ in employee health, productivity, and safety.
- Identifying and addressing sources of indoor air pollution.
- Best practices for indoor air quality management.

Total Productive Maintenance (TPM)

- Introduction to Total Productive Maintenance and its principles.
- The 8 Pillars of TPM: Autonomous maintenance, planned maintenance, focused improvement, and more.
- TPM implementation process and steps.
- Role of operators and maintenance teams in TPM.
- How to engage employees in TPM for increased productivity.
- Measuring success through TPM metrics.
- Preventing equipment breakdowns and maximizing efficiency.
- Relationship between TPM and Lean Manufacturing.
- Continuous improvement in TPM practices.
- Case studies of TPM implementation and results.

Maintenance Training & Work Cultures

- The importance of maintenance training for team effectiveness.
- Designing effective training programs for maintenance personnel.
- Training needs analysis: Identifying gaps in skills and knowledge.
- Building a strong work culture focused on safety, quality, and reliability.
- Encouraging collaboration and teamwork among maintenance staff.
- Continuous learning and development opportunities.
- Creating a positive work environment that fosters innovation and performance.
- Implementing mentorship and knowledge transfer systems.
- The impact of work culture on maintenance performance and outcomes.

• 04 DAY FOUR

Preventive Maintenance (PM)

- Understanding preventive maintenance and its role in minimizing unplanned downtime.
- Developing and implementing a PM strategy.
- Preventive maintenance vs. Corrective maintenance: Advantages and limitations.
- Scheduling and frequency of PM tasks.
- Risk-based maintenance and prioritization of assets for PM.
- PM checklists and documentation.

- Tracking and measuring the effectiveness of PM programs.
- Using CMMS to manage and optimize PM activities.
- Addressing challenges in maintaining a robust PM system.
- Continuous improvement and feedback loops in PM.

Health & Safety in Maintenance

- Introduction to health and safety regulations (OSHA, ISO, etc.) in maintenance.
- Risk assessment and hazard analysis for maintenance activities.
- Personal protective equipment (PPE) and its proper use in maintenance tasks.
- Safe work practices and procedures.
- Safety management systems and safety audits.
- Emergency response planning and procedures.
- Ergonomics in maintenance tasks and reducing physical strain.
- Ensuring compliance with environmental and safety laws.
- Safety training and awareness programs for maintenance personnel.
- Incident reporting and accident investigations.

• 05 DAY FIVE

Reliability-Centered Maintenance (RCM)

- Overview of Reliability-Centered Maintenance and its principles.
- Understanding the RCM decision process (what, how, and why to maintain).
- Identifying critical assets and failure modes.
- Determining the most appropriate maintenance strategy for each asset.
- Combining RCM with other maintenance approaches (e.g., TPM, PdM).
- The role of RCM in improving asset reliability and operational efficiency.
- RCM methodology: Functional analysis, failure modes, effects, and criticality analysis.
- How to implement RCM in your organization.
- RCM metrics and tracking.
- Case studies: Successful RCM implementation in various industries.

Maintenance Planning & Scheduling

- The importance of effective planning and scheduling in maintenance.
- Developing a maintenance work plan and schedule.
- Work order management and prioritization techniques.
- Resources management: Manpower, tools, and materials.

- Strategies for minimizing downtime and improving equipment availability.
- Short-term vs. long-term maintenance planning.
- Performance metrics for planning and scheduling.
- Balancing preventive maintenance with unplanned corrective maintenance.
- The role of CMMS in maintenance scheduling.
- Best practices for optimizing maintenance workflows.

Documentation in Maintenance

- The role of documentation in maintenance management.
- Types of maintenance documents: Work orders, logs, reports, checklists, and manuals.
- Best practices for creating, storing, and accessing maintenance documents.
- The importance of maintaining accurate records for compliance and audits.
- Document control systems and software solutions.
- Using documentation to analyze past failures and prevent future issues.
- Safety and regulatory documentation in maintenance operations.
- Ensuring transparency and accountability through proper documentation.
- Training staff on the importance and use of documentation.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
April 14, 2025	April 18, 2025	5 days	4250.00 \$	UAE - Dubai
Aug. 25, 2025	Aug. 29, 2025	5 days	2150.00 \$	Virtual - Online
Oct. 20, 2025	Oct. 24, 2025	5 days	4950.00 \$	England - London
Oct. 26, 2025	Oct. 30, 2025	5 days	4250.00 \$	KSA - Riyadh

