Tel No:+97126654546 | Fax No:+97126654182 | Email: training@cmc-me.com | www.cmc-me.com



ME229:
Certificate in Maintenance Management & Technology

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Training Description:

Effective maintenance management is essential for ensuring equipment reliability, operational efficiency, workplace safety and cost optimization in modern industrial environments. This intensive training course provides participants with a comprehensive understanding of maintenance management principles, maintenance strategies, reliability engineering, planning and scheduling and emerging maintenance technologies.

Participants will explore practical approaches to managing maintenance activities throughout the asset life cycle, from equipment selection and preventive maintenance planning to performance monitoring, failure analysis and continuous improvement. The training course also examines how digital technologies, condition monitoring tools and computerized maintenance management systems (CMMS) can improve maintenance decision-making and operational performance.

Through practical exercises, industry-based case studies and interactive discussions, participants will develop the skills needed to establish effective maintenance programs, reduce unplanned downtime, optimize maintenance resources and improve the reliability and availability of critical equipment.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Understand the principles and best practices of modern maintenance management
- ✓ Develop effective preventive, predictive and corrective maintenance strategies
- ✓ Apply reliability-centered maintenance (RCM) and root cause analysis (RCA) to improve equipment performance
- ✓ Develop maintenance plans, schedules and resource allocation strategies
- ✓ Utilize key performance indicators (KPIs) to monitor maintenance effectiveness and equipment reliability
- ✓ Understand the application of modern maintenance technologies, including condition monitoring, automation and computerized maintenance management systems (CMMS)
- ✓ Optimize maintenance costs, minimize equipment downtime and improve asset life cycle performance
- ✓ Implement maintenance improvement initiatives aligned with organizational objectives

Expected Learning Outcomes:

Upon completion, participants will have a practical understanding of maintenance management systems, reliability improvement techniques, maintenance planning and scheduling, digital maintenance technologies, and performance optimization. They will be better equipped to develop structured maintenance programs, reduce equipment failures, improve asset availability, control maintenance expenditure and support sustainable operational excellence.

Training Designed for:

This training course is intended for maintenance managers, maintenance engineers, reliability engineers, maintenance planners and schedulers, asset management professionals, plant and facility engineers, operations supervisors, technical personnel, and professionals responsible for equipment reliability, maintenance performance and asset optimization in industrial facilities.

Training Requirement:

"Hand's on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- Fundamentals of Maintenance Management
  - Principles, objectives and functions of maintenance management
  - **Evolution of maintenance strategies**: reactive, preventive, predictive and proactive maintenance
  - Maintenance organization, roles, responsibilities and reporting structures
  - Asset life cycle management and equipment criticality assessment
  - Maintenance policies, procedures and strategic planning
  - Introduction to reliability, availability, maintainability and safety
  - **Practical Exercise:** Assessing equipment criticality and selecting appropriate maintenance strategies.

DAY TWO:

- Maintenance Planning, Scheduling & Resource Management
  - Developing maintenance plans and annual maintenance programs
  - Preventive maintenance planning and maintenance task development
  - Work order management, prioritization and backlog control
  - Maintenance scheduling and coordination with operations
  - Manpower planning, spare parts management and inventory control
  - Shutdown, turnaround and outage maintenance planning
  - Maintenance budgeting, cost estimation and resource optimization
  - **Practical Exercise:** Developing a preventive maintenance plan and weekly maintenance schedule.

DAY THREE:

- Reliability Engineering & Maintenance Optimization
  - Reliability-centered maintenance (RCM) principles and implementation
  - Failure Mode and Effects Analysis (FMEA)
  - Root cause analysis (RCA) and failure investigation techniques
  - Reliability, Availability and Maintainability (RAM) analysis
  - Predictive maintenance and condition-based maintenance strategies
  - Condition monitoring techniques: vibration analysis, thermography, oil analysis and ultrasonic testing
  - Equipment failure prevention and continuous improvement methodologies
  - **Practical Exercise:** Conducting a basic FMEA and root cause analysis for recurring equipment failures.

DAY FOUR:

- Maintenance Technology, CMMS & Digital Transformation
  - **Computerized Maintenance Management Systems (CMMS):** functions and applications
  - Enterprise Asset Management (EAM) systems and integration with enterprise operations
  - Asset registers, equipment history, work orders and maintenance records
  - Using maintenance data for decision-making and performance improvement
  - Introduction to Industrial Internet of Things (IIoT), sensors and remote monitoring
  - Artificial intelligence (AI), machine learning and predictive analytics in maintenance
  - Digital maintenance dashboards, reporting and technology implementation challenges
  - **Practical Exercise:** Developing a sample CMMS work order workflow and analyzing maintenance performance data.

DAY FIVE:

- Maintenance Performance, Cost Optimization & Continuous Improvement
  - **Maintenance KPIs:** equipment availability, MTBF, MTTR and planned maintenance percentage
  - Maintenance cost analysis and life cycle cost optimization
  - Spare parts optimization and maintenance inventory performance
  - Maintenance audits, compliance, risk management and safety considerations
  - Total Productive Maintenance (TPM) and continuous improvement practices
  - Developing maintenance improvement plans and performance dashboards
  - Integrating maintenance objectives with organizational operational goals
  - **Practical Exercise:** Developing a maintenance improvement action plan with measurable KPIs and implementation priorities.
- Course Conclusion
- POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

USD$ TBA - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

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Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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