



Maintenance & Reliability Management

# Maintenance and Reliability Masterclass (CMRP Exam Preparation)

## Course Introduction

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Best practices in maintenance & reliability preparation course for **CMRP EXAM** Effective Maintenance Management is the hub of a well-functioning maintenance organization. In order for maintenance to work, many other systems need to work well. Most importantly work identification of what to do and how to do it.

This comprehensive 5-day program has been designed based on SMRP Book of Knowledge to benefit both new professionals and experienced professionals. It covers advanced best maintenance practices that a qualified professional would require to carry out his duty starting with the first steps and building up knowledge and experience to a fully functional maintenance organization. Focus is directed on concepts of maintenance and reliability management, Root Cause Analysis, and establishing a healthy maintenance program. The program focuses on various aspects of analytical techniques which have proved valuable in maintenance planning and scheduling. We also cover the Human Factor from many sides. This program is designed to transfer knowledge and to be a stimulating experience. It is highly interactive with many discussions, group activities and case studies. Participants can share examples from their own experience based on the new methodologies and work in teams with other participants to locate problems and develop actions for improvement. This certification program (CMRP) provides a unique skill set by going beyond textbook knowledge and testing real-world experiences and abilities. SMRP values data-driven excellence, sharing/collaboration, membership focus, continuous improvement, accountability, trust and respect, integrity and social responsibility.

## Target Audience

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- Facilities Engineer
- Facilities Engineering Manager
- Facilities Manager
- Facilities Specialist / Coordinator
- Health and Safety Engineer
- Maintenance Group Leader
- Maintenance Helper / Assistant

- Maintenance Manager
- Maintenance Superintendent
- Maintenance Supervisor
- Mechanical Reliability Engineer
- Network Reliability Engineer
- Operations and Maintenance Specialist
- Reliability Engineer

## Learning Objectives

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- Understand the 5 Pillars of the SMRP Body of Knowledge (BOK).
- Lead their organization in implementing effective planned maintenance strategies.
- Comprehend and apply new maintenance methodologies.
- Identify and implement best practices for an effective maintenance and reliability program.
- Enhance communication and information-sharing tools between departments involved in Maintenance and Reliability.
- Grasp key definitions and concepts in Maintenance.
- Explore the evolution of maintenance methodologies, including TPM, RCM, and LEAN.
- Understand the importance of SMRP and the value of CMRP certification.
- Improve the consistency and reliability of asset management practices.

## Course Outline

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### • 01 DAY ONE

#### **Pillar 1 – Business and Management**

- 1.1. The P-F Curve: understanding Maintenance over Asset Lifecycle.
- 1.2. Maintenance types: Reactive / Periodical / Condition Based / Proactive
- 1.3. Provide Vision and measurable goals
- 1.4. Ratio of Replacement Asset Value (RAV) to Craft-Wage Head Count

- 1.5. Stocked Maintenance, Repair, and Operating (MRO) Inventory Value as a Percent of Replacement Value
- 1.6. Total Maintenance Cost as a Percent of Replacement Asset Value
- 1.7. Communicate with stakeholders – reporting and Dashboards
- 1.8. Maintenance coordination with EHS

## • 02 DAY TWO

### **Pillar 2 – Manufacturing Process Reliability**

- 2.1. Understanding Process and its parameters
- 2.2. Flow diagrams: SIPOC / VSM
- 2.3. What is process improvement
- 2.4. Understanding waste and variability – Lean Six Sigma
- 2.5. Total Productive Maintenance – TPM and Overall Equipment Effectiveness (OEE)
- 2.6. Total Effective Equipment Performance (TEEP)
- 2.7. Uptime, Idle Time, and Utilization Time
- 2.8. Change Management

## • 03 DAY THREE

### **Pillar 3 – Equipment Reliability**

- 3.1. Visual Management and 5S Methodology
- 3.2. Systems Covered by Criticality Analysis
- 3.3. Reliability expectations and measurements
- 3.4. Scheduled and Unscheduled Downtime
  - 3.4.1. Mean Time Between Failures (MTBF)
  - 3.4.2. Mean Time to Repair or Replace (MTTR)
  - 3.4.3. Mean Time Between Maintenance (MTBM)
  - 3.4.4. Mean Downtime (MDT)
  - 3.4.5. Mean Time to Failure (MTTF)
- 3.5. Root Cause Analysis – RCA – techniques
  - 3.5.1. FMEA
  - 3.5.2. Ishikawa Diagram
  - 3.5.3. FTA
- 3.6. Essential Data Analysis and Visualization
  - 3.6.1. Data, information, knowledge
  - 3.6.2. Data Integrity
  - 3.6.3. Essential Statistics
  - 3.6.4. Data Charting and visualization
- 3.7. Cost benefit analysis

## • 04 DAY FOUR

### **Pillar 4 – Organization and Leadership**

- 4.1. inventory staff skills, determine performance gaps
- 4.2. Develop the organization structure (establish reporting channels, determine roles and responsibilities.
- 4.3. Maintenance Training Cost /hours
- 4.4. Maintenance Training Return on Investment (ROI)
- 5. Healthy work environment
  - 5.1. Leadership role
  - 5.2. Basic motivation theories
  - 5.3. Avoiding the blame culture
  - 5.4. The cycle of decision making
  - 5.5. Understanding team development

• **05 DAY FIVE**

**Pillar 5 – Work Management**

- 6.1. What is a Prioritization System?
- 6.2. Essential Maintenance Planning skills
- 6.3. Essential Maintenance Scheduling skills
- 6.4. Maintenance Shutdown Costs
- 6.5. Actual Cost to Planning Estimate
- 6.6. Planning Variance Index
- 6.7. Planned Backlog /Ready Backlog
- 6.8. Work Management KPIs
  - 6.8.1. Preventive Maintenance (PM) & Predictive Maintenance (PdM) Work Orders Overdue
  - 6.8.2. PM & PdM Yield and Compliance
  - 6.8.3. Craft Worker to Supervisor / to Planner ratios
  - 6.8.4. Direct to Indirect Maintenance Personnel Ratio
  - 6.8.5. Overtime Maintenance Cost
  - 6.8.6. Stores Management essentials
- 6.9. Maintenance Documentation system/structure – Effective reporting
- 6.10. Continuous monitoring and analysis

# Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 26, 2025	May 30, 2025	5 days	4250.00 \$	UAE - Dubai
July 7, 2025	July 11, 2025	5 days	4950.00 \$	England - London
Dec. 22, 2025	Dec. 26, 2025	5 days	4250.00 \$	UAE - Dubai