



Maintenance & Reliability Management

## **Certified Maintenance & Reliability Professional (CMRP)**

# Course Introduction

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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.

This comprehensive 3-day program is designed based on the SMRP Book of Knowledge to benefit both new and experienced professionals. The SMRP Book is based on 5 pillars that build vertical and horizontal knowledge of the 21st-century maintenance professional.

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.

## **The program is built on two parallel tracks:**

the first is learning applicable concepts that can benefit participants immediately after the session, and the second is providing a roadmap to pass the CMRP certification exam.

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.

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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- Maintenance & Reliability Engineers – Improving asset performance and uptime.
- Maintenance Managers & Supervisors – Leading maintenance and reliability programs.
- Plant & Facility Managers – Optimizing maintenance strategies for efficiency.
- Operations & Production Managers – Aligning maintenance with business goals.
- Asset Management Professionals – Implementing reliability-centered maintenance.

# Learning Objectives

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- Leading their Organization and Management into Planned Maintenance effectiveness.
- Understand new maintenance methodologies and their application.
- Identify and plan best practices for an effective maintenance and reliability program.
- Improve the use of information and communication tools between related parties and/or departments in Maintenance and Reliability.
- Improve consistency and reliability of asset management.
- Utilize leadership and personal skills to achieve maintenance and reliability excellence.
- Optimize preventive and predictive maintenance strategies to maximize returns.
- This training program is designed for Maintenance Engineers, Supervisors, Managers, Planners, Schedulers, and Asset Management professionals.
- Also, we recommend it for Operation Engineers.
- This training program is a great preparation for the CMRP exam together with your accumulated

# Course Outline

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## • 01 DAY ONE

### Introduction:

- Definitions in Maintenance
- Evolution of Maintenance Methodologies
- What is SMRP
- Why CMRP
- Maintenance types: Reactive / Periodical / Condition Based / Proactive
- The P-F / DIPF Curves: understanding Maintenance over Asset Lifecycle.
- The universal Maintenance Management process

## **Pillar 1 - Business and Management**

- Provide Vision, Mission, and measurable goals
- Organizational structure
- Key Performance Indicators,
- KPIs development cycle
- KPI Examples from SMRP Best Practices
- Stakeholder analysis
- Maintenance coordination with EHS

### **• 02 DAY TWO**

## **Pillar 2 - Manufacturing Process Reliability**

- Understanding Process and its parameters
- Flow diagrams: SIPOC / VSM
- What is Process Improvement?
- Understanding waste and variability – Lean Six Sigma
- Wastes Analysis
- Understanding and studying variability: Six sigma
- DMAIC process
- Total Productive Maintenance – TPM and Overall Equipment Effectiveness (OEE)
- Total Effective Equipment Performance (TEEP)
- Uptime, Idle Time, and Utilization Time
- Change Management

## **Pillar 3 - Equipment Reliability**

- Visual Management and 5S Methodology
- Systems Covered by Criticality Analysis
- Root Cause Analysis – RCA – techniques
- 5 Whys
- FMEA
- Ishikawa Diagram

- FTA
- Pareto Analysis
- Main Case study for RCA based on client industry
- Essential Data Analysis and Visualization
- Data Management Cycle
- Data Integrity
- Essential Statistics
- Data Charting and visualization
- Cost Benefit Analysis, CBA
- Reliability of Series and Parallel Systems

### • 03 DAY THREE

#### **Pillar 4 - Organization and Leadership**

- Skills Gap Analysis
- Inventory staff skills, determine performance gaps
- Leadership role
- Situational Leadership
- Basic motivation theories
- Avoiding the blame culture
- The cycle of decision making
- Understanding team development phases

### • 04 DAY FOUR

#### **Pillar 5 - Work Management**

- What is a Prioritization System?
- Reliability Centered Maintenance, RCM
- Basic Planning parameters for effective maintenance job and work order
- Essential Maintenance Planning skills
- Essential Maintenance Scheduling skills
- Maintenance Shutdown Costs
- Actual Cost to Planning Estimate
- Planning Variance Index
- Planned Backlog /Ready Backlog
- Stores Management essentials
- The ABC store Management

- Determining different store levels ( Reorder, Minimum, Maximum, Danger) and the spare part life cycle
- Economic reorder quantity, EOQ

**Extra topics (according to time availability or client preferences)**

- Review of Lubrication basics
- Essential Computerized maintenance management System (CMMS) functions and development phases
- Technical Report Writing Basics
- Life Cycle Costing - LCC

**• 05 DAY FIVE**

**The following KPIs will be discussed through the session in their relative locations and according to time availability:**

- Mean Time Between Failures (MTBF)
- Mean Time to Repair or Replace (MTTR)
- Mean Time Between Maintenance (MTBM)
- Mean Downtime (MDT)
- Mean Time to Failure (MTTF)
- Ratio of Replacement Asset Value (RAV) to Craft-Wage Head Count
- Stocked Maintenance, Repair, and Operating (MRO) Inventory Value as a Percent of Replacement Value
- Total Maintenance Cost as a Percent of Replacement Asset Value
- Maintenance Training Cost /hours
- Maintenance Training Return on Investment (ROI)
- Preventive Maintenance (PM) & Predictive Maintenance (PdM) Work Orders Overdue
- PM & PdM Yield and Compliance
- Craft Worker to Supervisor / to Planner ratios
- Direct to Indirect Maintenance Personnel Ratio
- Overtime Maintenance Cost

# Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 26, 2025	May 30, 2025	5 days	4250.00 \$	UAE - Dubai
July 14, 2025	July 18, 2025	5 days	4250.00 \$	UAE - Abu Dhabi
Nov. 24, 2025	Nov. 28, 2025	5 days	4950.00 \$	Spain - Barcelona