

# APPLICATION OF RELIABILITY CENTRED MAINTENANCE (RCM) TO OPTIMIZE OPERATION & MAINTENANCE

*“Boosting Equipment Performance Through Structured Maintenance Strategies”*

## Schedule

Date	Venue	Fees (Face-to-Face)
20 - 21 Oct 2026	Muscat - Oman	USD 1995 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

## Introduction

In today's competitive and cost-conscious industrial environment, organizations cannot afford unscheduled downtime or inefficient maintenance practices. Reliability Centred Maintenance (RCM) is a proven methodology used to optimize maintenance strategies, enhance equipment reliability, and minimize operational risks.

This intensive 2-day training introduces participants to the core principles and applications of RCM. Through hands-on sessions, real-world examples, and practical tools, attendees will learn how to identify critical assets, assess failure modes, and implement the most effective preventive and predictive maintenance strategies.

## Objectives

By the end of this course, participants will be able to:

- Understand the fundamentals and benefits of Reliability Centred Maintenance (RCM)
- Identify asset functions, failure modes, and consequences
- Apply RCM logic to develop optimized maintenance strategies
- Distinguish between reactive, preventive, predictive, and condition-based maintenance
- Integrate RCM into existing operational and maintenance systems

## Why Attend

- Reduce maintenance costs and improve asset performance
- Enhance operational efficiency through reliability-driven maintenance
- Prevent unexpected equipment failures and increase safety
- Implement best-in-class maintenance strategies based on actual equipment needs
- Gain a structured framework to prioritize maintenance resources

## Target Audience

This program is designed for:

- Maintenance Engineers and Supervisors
- Operations and Production Managers
- Reliability Engineers and Asset Managers
- Plant and Facility Managers
- CMMS and Maintenance Planners

## Individual Benefits

Key competencies that will be developed include:

- RCM methodology and decision logic
- Failure Modes and Effects Analysis (FMEA)
- Strategy development for different asset types
- Cost-effective maintenance planning
- Integration of RCM with CMMS tools

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved reliability and availability of critical assets
- Reduction in maintenance costs and downtime
- Better alignment of maintenance strategy with operational goals
- Enhanced safety and risk management practices
- Standardized maintenance decision-making across departments

## Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings - Core RCM principles, asset criticality, and failure mode identification
- Case Studies - Examples from manufacturing, energy, and infrastructure sectors
- Workshops - Building failure mode analyses and maintenance task selection
- Peer Exchange - Sharing of maintenance challenges and RCM applications
- Tools - FMEA worksheets, RCM logic diagrams, and task selection templates

## Course Outline

### DETAILED 2-DAY COURSE OUTLINE

**Training Hours:** 07:30 AM – 03:30 PM **Daily Format:** 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

#### Day 1: Foundations of RCM and Failure Mode Analysis

- Module 1: Introduction to Reliability Centred Maintenance (07:30 – 09:30) • What is RCM and why it matters • History and evolution of maintenance strategies • Comparison: reactive vs preventive vs predictive
- Module 2: Asset Functions and Functional Failures (09:45 – 11:15) • Identifying primary and secondary functions of assets • Understanding performance standards and deviations • Defining functional failures
- Module 3: Failure Modes and Their Effects (11:30 – 01:00) • Causes of failure: wear, fatigue, design, human error • Introduction to Failure Modes and Effects Analysis (FMEA) • Linking failure effects to operational consequences
- Module 4: Workshop – Asset and Failure Mode Mapping (02:00 – 03:30) • Group exercise on documenting asset functions and potential failure modes

#### Day 2: Maintenance Task Selection and Implementation

- Module 5: RCM Decision Logic and Task Selection (07:30 – 09:30) • RCM decision tree: criteria and logic • Types of tasks: preventive, predictive, run-to-failure • When to choose which strategy
- Module 6: Cost and Risk-Based Prioritization (09:45 – 11:15) • Linking RCM to risk management • Criticality analysis and asset hierarchy • Optimizing cost vs consequence trade-offs
- Module 7: RCM Implementation Framework (11:30 – 01:00) • Steps to implement RCM in your organization • Stakeholder roles and responsibilities • Integration with CMMS and planning tools
- Module 8: Workshop – Task Strategy for Critical Equipment (02:00 – 03:30) • Hands-on development of an RCM plan • Peer review and instructor feedback

## Certification

Participants will receive a Certificate of Completion in Reliability Centred Maintenance (RCM) Application, validating their practical knowledge and ability to apply RCM to optimize operational performance and maintenance strategies.

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