



Maintenance & Reliability Management

Excellence in Maintenance & Reliability Management

Course Introduction

Achieving excellence in maintenance and reliability is the aim of every organization that depends on its physical assets to achieve business objectives. Lower profit margins have made reducing maintenance costs imperative to the survival of many organizations. This Excellence in Maintenance and Reliability Management training course starts with the key aspects that lay the foundations and cornerstones of an effective maintenance function.

It introduces reliability strategies such as FMECA, TPM, RCM and RCFA to highlight their costs and benefits. The Excellence in Maintenance and Reliability Management training course will then demonstrate how these strategies are used to derive the different maintenance tactics of predictive, preventive, detective and repair-after-failure maintenance tactics.

Participants will develop the following competencies:

- Asset functional analysis
- Failure forecasting risk assessment
- Maintenance strategy and tactics development
- Root cause of failure analysis
- Reliability improvement

Target Audience

- Facilities Specialist / Coordinator
- Facilities Engineer
- Health and Safety Engineer
- Maintenance Helper / Assistant
- Maintenance Superintendent
- Maintenance Supervisor
- Mechanical Reliability Engineer
- Operations and Maintenance Specialist
- Reliability Engineer

Learning Objectives

- Compare their current maintenance strategies to industry best practice
- Understand the benefits and costs of alternative maintenance strategies
- Define maintenance strategies for a specific system using a decision support process and tools
- Analyze failures and determine the root causes using the tools and templates provided
- Implement reliability improvement methodologies correctly
- Prepare maintenance schedules and procedures for implementation

Course Outline

- **01 DAY ONE**

- Module (01) Introduction to Maintenance and Reliability Management**

- 1.1 The cost and risk of equipment failure
 - 1.2 Pillars of excellence in maintenance
 - 1.3 Best practice reliability and maintenance processes
 - 1.4 Overview of FMECA, TPM, RCM, RBI and RCFA

- **02 DAY TWO**

- Module (02) Establish Framework for Reliability**

- 2.1 Build a competent team to drive reliability in each area
 - 2.2 Asset identification, classification and criticality grading
 - 2.3 Define asset performance and efficiency standards
 - 2.4 Anticipate the physical causes of failure and degradation
 - 2.5 Anticipate the human causes
 - 2.6 Analyze the effects and quantify the risks
 - 2.7 Practical application of failure and risk analysis

- **03 DAY THREE**

Module (03) Condition Based Maintenance

- 3.1 Maintenance types
- 3.2 Condition monitoring techniques
- 3.3 Vibration measurement and analysis
- 3.4 Oil analysis
- 3.5 Thermography technique
- 3.6 Failure measuring in rotating equipment

Module (04) Failure Management Strategy Development

- 4.1 Select proactive maintenance tactics on the basis of costs and risks
- 4.2 Preventive maintenance tasks and intervals
- 4.3 Predictive maintenance tasks and intervals
- 4.4 Failure detection and function testing tasks and intervals
- 4.5 Human error reduction through equipment, procedural and skill upgrades
- 4.6 Repair-after-failure strategies
- 4.7 Practical application and open discussion sessions

• 04 DAY FOUR

Module (05) Failure Management Strategy Implementation

- 5.1 Aggressive defect reporting to feed the backlog
- 5.2 Plan for quality, time and safety
- 5.3 Budget for spare parts and make stocking decisions
- 5.4 Schedule maintenance to minimize operational downtime
- 5.5 Use appropriate metrics to drive defect elimination
- 5.6 Practical application and open discussion sessions

• 05 DAY FIVE

Module (06) Failure Analysis in rotating equipment

- 6.1 Common Pumps Problems
 - 6.1.1 Cavitation
 - 6.1.2 Mechanical Seal Failure Causes
 - 6.1.3 Wear In Mechanical Parts
- 6.2 Compressors Common Problems
 - 6.2.1 Compressor Surge
 - 6.2.2 Compressor Vibration
 - 6.2.3 Mechanical Parts Wear
- 6.3 Proper Shaft Alignment Application

Confirmed Sessions

FROM	TO	DURATION	FEE\$	LOCATION
June 16, 2025	June 20, 2025	5 days	4250.00 \$	UAE - Dubai
Sept. 29, 2025	Oct. 3, 2025	5 days	4250.00 \$	UAE - Dubai
Nov. 10, 2025	Nov. 14, 2025	5 days	4950.00 \$	Azerbaijan - Baku