

Professional Engineering Services

Maintenance Planning and Scheduling

Course Duration

5 Days

Designed For

Maintenance & planning managers, supervisors, mechanical, electrical, planning & integrity engineers,

Course Objectives

This is a skill building course designed to teach participants how to make maintenance decisions and optimize maintenance plans using RCM and how to assess plant availability and optimize plant capacity utilizing the latest techniques in maintenance management.

Course outcome

- The course shall present a cradle-to-grave strategy to preserve equipment function, avoid the consequences of failures, and ensure the productive capacity of equipment. Moving well beyond traditional approaches, this strategy incorporates quality and safety, human error, and software maintenance considerations along with costing, reliability, and maintainability. The course shall assist attendees to optimize maintenance activities, extend equipment life, and minimize failures.

Course Contents:

Part I: Introduction on Maintenance Planning:

- Maintenance Concepts
- Maintenance Facts & Figures
- Maintenance Engineering Objectives
- Maintenance Terms and Definitions
- **Maintenance Management and Control:**
 - ✚ Introduction
 - ✚ Maintenance Management Department Functions
 - ✚ Material Control
 - ✚ Work Order System
 - ✚ Equipment Records
 - ✚ PM & CM
 - ✚ Job Planning and Scheduling

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- ✚ Backlog control and priority system
- ✚ Performance Measurements
- ✚ Controlling Maintenance Project using PERT and CPM

- Human Errors in maintenance
- Contractor Management

Part II: Preventive and Corrective Maintenance Programs:

- Equipment Malfunctions
- Maintenance Departments
- Maintenance Types
- Comparison Between PM and CM
- Preventive Maintenance:
 - ✚ Introduction
 - ✚ PM Schedule
 - ✚ Preventive Maintenance Objectives, Elements and steps.
 - ✚ Preventive Maintenance Measures, advantages and disadvantages.
 - ✚ Maintenance Policies that Reduce Frequency and Severity of Malfunctions
 - ✚ Reasons for a PM Program
 - ✚ PM and Operations Strategies
 - ✚ Automation and the Prominence of PM
 - ✚ Scheduling PM Activities
 - ✚ PM Database Requirements
 - ✚ Modern Approaches to PM
 - ✚ Decision Analysis in PM
 - ✚ Determining the Number of Spare Parts to Carry for PM Inspections
 - ✚ Determining the Frequency of Performing PM
 - ✚ Large-Scale PM Projects
- Corrective Maintenance:
 - ✚ Introduction
 - ✚ Corrective Maintenance Types and steps
 - ✚ Corrective Maintenance Downtown Components
 - ✚ How to reduce CM Time
 - ✚ CM Measures
 - ✚ Repair Programs
 - ✚ Repair Crews and Standby Machines
 - ✚ How Speedy Should Repairs Be?
 - ✚ Breakdowns Trigger Repairs and Corrective Actions
 - ✚ Extent of Repairs
 - ✚ Decision Analysis in Repair Programs
 - ✚ Advantages of Letting Workers Repair Their Own Machines
 - ✚ Approaches to Improving Machine Reliability

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- Secondary Maintenance Responsibilities
- Trends in Maintenance
- Computer Assistance in Maintenance
- Maintenance Issues in Service Organizations
- Wrap-Up: World-Class Practice

Part III: Maintenance Process:

- Job planning and scheduling
- Maintenance Pyramid
- Maintenance Work Processes – Typical/Bench Mark
- The Maintenance Cost Ratio
- P&S improves Productivity - “HOT” time
- Calculating P&S opportunities
- Work planning :
 - ✚ Maintenance Shutdown Timeframe
 - ✚ Parts Required: What do we need to know about their availability ?
 - ✚ The Linked Maintenance & Materials Process
 - ✚ What do we need to know about tools & special equipment?
 - ✚ Pre-Job and post Job Preparation
 - ✚ Standard Job Plans
 - ✚ Safety requirements
 - ✚ Contingency planning for critical jobs
 - ✚ Planner's Role
 - ✚ Key Roles and Relationships
- Work Scheduling

Part IV: Maintenance Costing & Budget:

- Introduction
- Types and reasons of Maintenance Costs
- Factors Influencing Maintenance Cost
- Maintenance Budget:
 - ✚ Operating budget
 - ✚ Project (or appropriation) budget
- Budget Preparation Approaches
- Maintenance Budget Preparation Steps
- Maintenance costs estimations
- The Maintenance Budget:
 - ✚ Introduction
 - ✚ The Chart Of Accounts
 - ✚ The Operating Expense Statement

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- ✦ The Value of the Expense Budget
- ✦ THE CAPITAL BUDGET
- ✦ Deferred Maintenance
- ✦ Assigning Accountability For The Budget
- ✦ Fixed & Variable Costs
- ✦ Preparation Of The Budget
- ✦ Budget Considerations
- ✦ Budget Summary

