



MAINTENANCE AND ENGINEERING

Fundamentals of Maintenance Best Practice

Professional training programme



SPARK TRAINING

Professional training courses for leaders, specialists, and organizations seeking practical capability development.

info@sparktraining.eu

+31 85 115 0004 | sparktraining.eu

— Workshop Overview

This course equips maintenance professionals with the essential knowledge and skills needed to implement industry-leading maintenance practices, enabling optimal efficiency and reliability in maintenance operations. Participants will explore various maintenance strategies, crafting customized approaches tailored to their unique equipment and systems. With a systematic approach, aided by cutting-edge digital tools, participants will learn to seamlessly execute these strategies, all while keeping track of performance to gauge their progress and improvements.

Why Attend

This course is based on open discussions, question and answer sessions, group exercises, activities, videos, case studies and presentations based on best practices and core principles.

Who Should Attend

This course is suitable for any participants relatively new to the maintenance field/industry; this includes maintenance engineers, maintenance technicians, maintenance officials, maintenance supervisors, operators, operations supervisors, operations engineers and technicians.

— Learning Objectives

- Explain key maintenance principles such as predictive maintenance (PdM), Total Preventive Maintenance (TPM), Reliability Centered Maintenance (RCM) and Root Cause Failure Analysis (RCFA)
- Select the right maintenance strategy that will eliminate downtime, at the optimum cost, and maximize facility performance
- Demonstrate the use of advanced maintenance tools and techniques to boost facility reliability
- Understand the significance of safety protocols and regulations in maintenance activities
- Recognize the latest technologies in maintenance and execute digitalization initiatives related to Asset Management

Course Outline

DAY
1

Introduction to Maintenance

- Definition of maintenance
- Proactive maintenance
- The maintenance cost iceberg
- Reliability concepts
- Asset management and asset life cycle
- Health, Safety, and Environment (HSE)

DAY
2

Maintenance Strategy and Policies

- Corrective maintenance
- Preventive maintenance
- Time-based vs condition-based maintenance
- Predictive maintenance (PdM)
- Reliability centered maintenance (RCM)
- Selecting the right maintenance strategy

DAY
3

Predictive Maintenance (PdM) Techniques

- Predictive maintenance (PdM) definition
- PdM workflow
- Implementing PdM
- Types of PdM
- Condition-based maintenance
- Vibrational analysis
- Acoustical analysis (ultrasonic)
- Infrared analysis
- Oil analysis
- The Return on Investment (ROI) of PdM

DAY
4

Equipment Reliability Management

- Criticality analysis
- Reliability Centered Maintenance (RCM)
- RCM related references and standards
- Failure definitions

- RCM process flow diagram
- Defining RCM outputs
- Benefits of RCM

DAY
5

Total Preventive Maintenance (TPM)

- TPM pillars
- Kobetsu KAIZEN™
- Autonomous maintenance
- Planned maintenance
- How to implement TPM
- Day 6: Leadership, Organization and Skills
- Setting SMART goals
- Developing teams
- Organization structure
- Defining roles and responsibilities (RACI Matrix)
- Skills development and training
- Change management in practice
- Day 7: Maintenance Management
- Maintenance management cycle
- Planning and scheduling definitions
- Maintenance planning process
- Maintenance scheduling process
- Maintenance, repair, and operations (MRO) definition and management
- Inventory and spare parts control
- ABC analysis as an inventory management technique
- Maintenance cost optimization
- Day 8: Root Cause Failure analysis (RCFA)
- What is RCFA?
- Define, analyze, prevent
- Root cause investigation process
- Fault tree analysis
- Fishbone diagram
- Failure codes and types
- Failure Modes and Effects Analysis (FMEA) method
- Day 9: Maintenance Activities Execution
- Work requests
- Work request workflow
- Types of work requests
- How work requests improve maintenance

- Work orders
- Work order workflow
- Types of work orders
- Work orders improve maintenance
- Bill of Materials (BOM)
- Components of a Bill of Materials
- Application Parts List (APL)
- APL vs. BOM
- Components of an APL
- Lockout Tagout (LOTO)
- LOTO process
- Importance of LOTO
- Standardized maintenance management process
- Day 10: Maintenance and Reliability Key Performance Indicators (KPIs)
- KPI types (leading and lagging KPIs)
- Business and management metrics
- Equipment reliability metrics
- Inventory KPIs
- Maintenance performance measurement
- Benchmarking
- Day 11: Modern insights in Maintenance and Digitalization
- What is Computerized Maintenance Management System (CMMS)?
- CMMS modules
- What is Enterprise Asset Management System (EAMS)?
- EAMS Modules
- CMMS vs EAMS
- What is the right fit for your need?
- Industrial Internet of Things (IIOT)

— Upcoming Classroom Dates

DATE	LOCATION	FEE
12 - 16 October 2026	Munich - Germany	€1,725
9 - 13 November 2026	Rome - Italy	€2,125
14 - 18 December 2026	Munich - Germany	€1,725
18 - 22 January 2027	Rome - Italy	€2,125
15 - 19 February 2027	Kuala Lumpur - Malaysia	€1,400
15 - 19 March 2027	Barcelona - Spain	€1,925
19 - 23 April 2027	London - United Kingdom	€2,100
17 - 21 May 2027	Munich - Germany	€2,125

— Certificate and Registration

Participants who attend and complete the full programme receive a SPARK Training Certificate of Completion. For registration, in-house delivery, or availability questions, contact info@sparktraining.eu or +31 85 115 0004.