Maintenance Troubleshooting and Problem Solving

27 September – 1 October 2027
Düsseldorf (Germany)



Maintenance Troubleshooting and Problem Solving

Ref: 3256026_214619 **Date:** 27 September – 1 October 2027 **Location:** Düsseldorf (Germany) **Fees:** 5900 GBP



Introduction

This practical course focuses on developing systematic troubleshooting and problem-solving skills for maintenance personnel. Participants will learn how to identify equipment failures, analyze symptoms, determine root causes, apply diagnostic techniques, and develop effective corrective and preventive actions. The course emphasizes practical maintenance situations, equipment failures, case studies, and structured problem-solving approaches.

Course Objectives

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

- Apply systematic troubleshooting methodologies to maintenance problems.
- Identify equipment failure symptoms and determine likely causes.
- Use diagnostic techniques and maintenance data to investigate failures.
- Apply Root Cause Analysis RCA and structured problem-solving tools.
- Troubleshoot common mechanical, electrical, hydraulic, and pneumatic problems.
- Develop effective corrective and preventive actions.
- Reduce recurring failures, downtime, and maintenance costs.
- Improve equipment reliability and maintenance performance.

Course Outline

Day 1: Maintenance Troubleshooting Fundamentals

1. Principles and objectives of maintenance troubleshooting
2. Understanding equipment failures and failure symptoms
3. Systematic troubleshooting methodology
4. Problem identification and information gathering
5. Troubleshooting decision-making and prioritization

Day 2: Equipment Diagnostics s Failure Identification

1. Equipment inspection and condition assessment
2. Interpreting operating and maintenance data
3. Diagnostic techniques and maintenance tools
4. Identifying abnormal operating conditions
5. Failure modes and effects in maintenance systems



Day 3: Root Cause Analysis s Problem Solving

1. Root Cause Analysis RCA methodology
2. 5 Whys and Fishbone Analysis
3. Fault Tree Analysis and failure investigation
4. Identifying immediate, underlying, and root causes
5. Developing and evaluating corrective actions

Day 4: Troubleshooting Common Maintenance Problems

1. Pumps, compressors, and rotating equipment
2. Motors and electrical equipment
3. Hydraulic and pneumatic systems
4. Valves, piping, and process equipment
5. Practical troubleshooting case studies

Day 5: Advanced Problem Solving s Reliability Improvement

1. Recurring failures and equipment “bad actors”
2. Corrective vs. preventive maintenance actions
3. Failure elimination and reliability improvement
4. Troubleshooting documentation and reporting
5. Practical problem-solving exercises and case studies

Why Attend This Course? - Wins s Losses!

Wins:

- Faster identification and resolution of equipment problems
- Stronger root-cause analysis capabilities
- Reduced equipment downtime and recurring failures
- Improved maintenance decision-making
- Better equipment reliability and performance

Losses Avoided:

- Repeated equipment failures
- Unnecessary component replacement
- Extended troubleshooting time
- Unplanned downtime
- Increased maintenance costs

Conclusion



This course provides a practical and structured approach to **maintenance troubleshooting and problem solving**, enabling participants to move beyond treating symptoms and focus on identifying and eliminating the root causes of equipment failures.

This customized version is a much better match for a client requesting "Maintenance Troubleshooting and Problem Solving" than the original Engineering Plant Maintenance C Operations course, while still retaining the Blackbird course structure and technical scop.

