

INTRODUCTION TO PROCESS TROUBLESHOOTING PRINCIPLES



OUR ACCREDITATION & PARTNERS



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OVERALL DESCRIPTION:

Mastering process troubleshooting is no longer a "nice-to-have" skill; it's a fundamental competency that directly impacts your organization's productivity and competitive edge. Every moment a process is down or underperforming translates into lost revenue, increased waste, and operational frustration. This course is your strategic toolkit to break free from the cycle of guesswork and hurried repairs. We provide a proven, systematic methodology that empowers you to swiftly identify the root cause of an issue, implement effective solutions, and, most importantly, prevent future recurrences. This isn't just a course; it's an investment in operational resilience and continuous improvement.

Course Objectives:

Upon completion of this course, participants will have the knowledge and skills to:

- **Systematically Analyze Process Failures:** Understand how to apply a structured methodology to quickly and accurately diagnose the symptoms of a process upset.
- **Implement Effective Diagnostic Tools:** Utilize a range of practical diagnostic techniques, from data analysis and trend monitoring to cause-and-effect diagrams, to pinpoint the source of a problem.
- **Conduct Thorough Root Cause Analysis:** Master the principles of Root Cause Analysis (RCA) to uncover the underlying reasons for issues, ensuring problems are solved permanently rather than temporarily.
- **Develop and Execute Corrective Actions:** Formulate and prioritize effective corrective and preventive action plans to restore process stability and prevent recurrence.
- **Apply a Proactive Troubleshooting Culture:** Foster a continuous improvement mindset within their teams, moving from a culture of firefighting to one of operational excellence.

Course Outline:

Foundations of Process Troubleshooting:

- The Business Value of Troubleshooting: Safety, Quality, and Profitability.
- The Four Phases of Troubleshooting: Detect, Diagnose, Correct, and Prevent.
- Developing a Troubleshooting Mindset: The "Structured vs. Unstructured" Approach.



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Course Outline:

Diagnostic Techniques and Data Analysis:

- Process Monitoring and Interpretation: What is the data telling you?
- Trend Analysis and Deviation Detection.
- Introduction to Key Troubleshooting Tools: P&IDs, Control Schematics, and Flow Charts.

Root Cause Analysis (RCA) for Permanent Solutions:

- The 5 Whys and Cause-and-Effect Diagrams (Fishbone).
- Data-driven RCA: Using process data to validate hypotheses.
- Identifying Common Root Causes: Equipment Failure, Human Error, and Systemic Issues.

Developing and Implementing Solutions:

- Creating a Corrective Action Plan.
- Validation and Verification of a Solution.
- Establishing Preventive Measures and Best Practices.

Hands-on Case Studies:

- Analyzing real-world scenarios across various industries to practice the learned methodologies.
- Team-based exercises for collaborative problem-solving.
- Presentation and critique of solution strategies.

WHO SHOULD ATTEND?

This course is invaluable for any professional involved in the day-to-day operation, maintenance, and optimization of industrial processes. This includes, but is not limited to: Process and Production Engineers, Plant Operators and Technicians, Maintenance and Reliability Staff, Quality Control Specialists, and Team Leaders seeking to enhance their teams' problem-solving capabilities.

Course Methodology:

We utilize a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. This training course will be conducted as a highly interactive workshop session. A variety of training methodologies will be used Before and during the course whenever applicable. Some of these methods are gamification, online pre-post test, role plays, self-assessment instruments, group exercises & case studies.

