

Course No. 1587

Root Cause Analysis & Corrective Action Training Course

QUALITY ENGINEERING & QUALITY MANAGEMENT
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS

DURATION

5 Days

DELIVERY

Classroom



Course Overview

The Root Cause Analysis & Corrective Action Training Course provides a comprehensive professional program designed to strengthen participants' ability to investigate problems systematically, distinguish symptoms from underlying causes, and develop effective corrective and preventive actions. Root cause analysis is an essential capability for organizations seeking to reduce recurring problems, improve operational reliability, strengthen quality performance, and make better decisions based on evidence rather than assumptions.

The course explores a structured approach to problem identification, data collection, evidence evaluation, causal analysis, root cause verification, corrective action planning, implementation, and effectiveness monitoring. Participants examine practical analytical tools and methodologies, including Root Cause Analysis, Cause-and-Effect Analysis, the Five Whys, Pareto Analysis, Fault Tree Analysis, Failure Mode and Effects Analysis, trend analysis, and structured problem-solving techniques.

A central focus of the program is the transition from analysis to sustainable improvement. Participants learn how to design corrective and preventive actions that address verified root causes rather than temporary symptoms. The course also covers action prioritization, responsibility allocation, implementation planning, performance indicators, effectiveness verification, documentation, risk considerations, and follow-up mechanisms required to ensure that corrective actions deliver sustainable results.

Through practical exercises, case studies, investigation scenarios, and group workshops, participants develop a disciplined approach to solving technical, operational, quality, safety, reliability, and management problems. The Root Cause Analysis & Corrective Action Training Course is particularly relevant to organizations operating in government, banking and financial services, oil and gas, energy, manufacturing, utilities, infrastructure, engineering, healthcare, transportation, and other environments where effective problem resolution and continuous improvement are critical to organizational performance.

Objectives

- Analyze organizational, operational, technical, quality, and performance problems using a structured root cause analysis methodology within the course context.
- Develop clear problem statements that define the issue, scope, impact, evidence requirements, and desired performance condition.
- Evaluate available data, records, observations, and evidence to distinguish verified facts from assumptions and opinions.
- Apply appropriate root cause analysis tools, including Five Whys, Cause-and-Effect Analysis, Pareto Analysis, Fault Tree Analysis, and Failure Mode and Effects Analysis.
- Identify and assess direct causes, contributing factors, systemic causes, and potential root causes using objective evidence.
- Design corrective and preventive actions that directly address verified root causes and reduce the likelihood of recurrence.
- Assess corrective action alternatives according to effectiveness, feasibility, resources, risk, operational impact, and organizational priorities.
- Develop implementation plans defining responsibilities, resources, deadlines, performance measures, and verification requirements.
- Implement practical methods for monitoring corrective action progress and evaluating whether planned actions have achieved the required results.
- Improve investigation and corrective action documentation to support accountability, knowledge management, and organizational learning.
- Strengthen the integration of root cause analysis with quality management, risk management, operational performance, safety, and continuous improvement.
- Develop a practical problem-solving and corrective action plan for a selected organizational issue by the end of the course.

Who Should Attend

The Root Cause Analysis & Corrective Action Training Course is designed for quality managers, quality assurance and quality control professionals, operations managers, maintenance managers, engineering managers, production managers, project managers, safety managers, risk managers, continuous improvement professionals, reliability specialists, process improvement specialists, supervisors, engineers, analysts, and professionals responsible for investigating problems and improving operational performance.

The program is also highly relevant to professionals working in quality management, operational excellence, risk management, health and safety, maintenance, engineering, production, supply chain, technical services, performance management, internal audit, compliance, and organizational improvement. It is particularly valuable for professionals involved in investigating equipment failures, recurring operational problems, quality deviations, incidents, customer complaints, supplier issues, process failures, and performance gaps.

The course is suitable for executives, department heads, decision makers, and senior professionals seeking to strengthen evidence-based problem solving, as well as specialists working in government entities, ministries, banks, financial institutions, oil and gas organizations, energy companies, utilities, manufacturing, petrochemicals, transportation, infrastructure, engineering organizations, and large corporations where systematic problem resolution and sustainable performance improvement are essential.

Learning Outcomes

- Define organizational and operational problems clearly and establish their scope, impact, and relevant stakeholders.
- Distinguish between symptoms, immediate causes, contributing factors, and verified root causes.
- Collect, organize, and evaluate relevant data and evidence required for effective problem investigation.
- Apply Five Whys, Cause-and-Effect Analysis, Pareto Analysis, Fault Tree Analysis, and other root cause analysis techniques.
- Analyze trends, patterns, deviations, and performance information to identify recurring and systemic problems.
- Evaluate potential causes using objective evidence and determine whether identified causes are sufficiently supported.
- Conduct structured investigations into operational failures, quality problems, reliability issues, process deviations, and performance gaps.
- Design corrective and preventive actions that directly address identified root causes.
- Develop corrective action implementation plans covering responsibilities, resources, deadlines, risks, and performance indicators.
- Measure corrective action effectiveness and verify whether the original problem has been controlled and recurrence prevented.

- Prepare professional root cause analysis reports that communicate evidence, findings, recommendations, actions, and follow-up requirements.
- Develop a practical continuous improvement plan that strengthens organizational problem-solving capability and corrective action management.

Course Outline

DAY 01

Fundamentals of Root Cause Analysis and Structured Problem Solving

- Principles, purpose, and organizational value of Root Cause Analysis
- Understanding the difference between problems, symptoms, immediate causes, contributing factors, and root causes
- Types of operational, technical, quality, safety, and management problems
- Defining and documenting a clear and measurable problem statement
- Establishing problem scope, impact, boundaries, and affected stakeholders
- Data collection, evidence gathering, and information reliability
- Distinguishing facts, assumptions, opinions, and interpretations during investigations
- Establishing current performance conditions and desired performance standards
- Analytical thinking and evidence-based decision-making
- Common mistakes and weaknesses in problem-solving investigations

PRACTICAL APPLICATION

Select a real or simulated organizational problem, define its scope and impact, identify required evidence, and develop an initial investigation framework

DAY 02

Root Cause Analysis Tools and Analytical Methodologies

- Structured Root Cause Analysis methodology and investigation stages
- Applying the Five Whys technique effectively
- Developing Cause-and-Effect Diagrams to organize potential causes

DAY 02 — CONTINUED

- Using Pareto Analysis to prioritize significant problem contributors
- Applying Fault Tree Analysis to examine failure pathways
- Understanding Failure Mode and Effects Analysis as a proactive risk and failure analysis tool
- Categorizing human, process, equipment, material, environmental, and organizational factors
- Using operational data, trends, and performance indicators to identify potential causes
- Testing and validating potential causes using evidence
- Selecting the appropriate analysis methodology according to problem complexity

PRACTICAL APPLICATION

Conduct a structured Root Cause Analysis using multiple analytical tools and compare the findings to determine the most credible root causes

DAY 03

Advanced Investigation of Operational and Technical Problems

- Planning and conducting structured problem investigations
- Investigating recurring equipment failures and operational disruptions
- Analyzing quality deviations, process failures, and performance gaps
- Evaluating human, organizational, procedural, and technical contributing factors
- Identifying weaknesses in procedures, standards, instructions, and process controls
- Investigating supplier, material, service, and external performance issues
- Applying structured approaches to incident and unwanted-event investigation
- Developing event timelines and identifying critical points in the sequence of events
- Comparing planned versus actual performance to identify sources of deviation
- Evaluating the strength and sufficiency of evidence supporting root cause conclusions

PRACTICAL APPLICATION

Analyze a complex case involving multiple interconnected causes and determine the verified root causes using evidence-based investigation techniques

DAY 04

Corrective Action, Preventive Action, and Effectiveness Management

- Moving from root cause identification to effective solution design
- Understanding corrective, preventive, and containment actions
- Linking each corrective action directly to the verified root cause
- Evaluating alternative solutions based on impact, feasibility, resources, risk, and operational requirements
- Assigning responsibilities, resources, deadlines, and implementation priorities
- Developing performance indicators for corrective action monitoring
- Establishing acceptance criteria and measurable effectiveness targets
- Verifying corrective action effectiveness and preventing problem recurrence
- Managing implementation risks associated with corrective and preventive actions
- Documenting actions, evidence, results, verification, and follow-up requirements

PRACTICAL APPLICATION

Develop a complete corrective and preventive action plan for a selected problem, including responsibilities, deadlines, performance indicators, risk controls, and effectiveness verification

DAY 05

Integrating Root Cause Analysis with Performance Improvement

- Integrating Root Cause Analysis with quality management and operational excellence
- Connecting corrective action management with organizational risk management
- Building a culture focused on solving problems rather than treating symptoms
- Using investigation findings to prevent recurrence and improve organizational controls
- Knowledge management and lessons learned from investigations
- Preparing executive-level Root Cause Analysis and corrective action reports
- Developing dashboards and monitoring mechanisms for corrective action performance
- Identifying recurring problems and prioritizing improvement opportunities
- Strengthening accountability and cross-functional collaboration during problem resolution

DAY 05 — CONTINUED

- Establishing a consistent organizational approach to Root Cause Analysis and Corrective Action

FINAL WORKSHOP

Conduct a comprehensive investigation of an organizational problem, identify and validate root causes, develop corrective and preventive actions, establish effectiveness measures, and prepare an integrated implementation and follow-up plan

Register or Request More Information

Course page: <https://quest-training.com/courses/root-cause-analysis-corrective-action-training-course>

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