Root Cause Analysis

Learning Objectives:

- Understand RCA terminology, goals, benefits, and stakeholders.

- Investigate root causes with cause-and-effect analysis, 5 Whys, FMEA, and other analytical tools.

- Assess and work with various data collection plans and methods, as well as data charts and control charts.

- Define problem-solving models used for root cause analysis, including 8D, PDCA, and DMAIC. Implement problem-solving techniques (poka-yoke, multi-voting, etc.) and plan, manage, and verify change.

- Build and manage RCA project teams successfully.

Prerequisites:

Anyone with a desire to improve problem solving in their organization can take this course, regardless of your role or experience.

Who Should Attend:

This Root Cause Analysis e-learning course by ASQ is relevant for any quality professional, and contains practical and relevant examples for all industries—with special consideration given to manufacturing and engineering.

Day 1

1. RCA and Problem-Solving Fundamentals

    1. Basic foundational terms

    2. Goals of root cause analysis

    3. RCA scope and context

    4. Organizational structure and culture

    5. Metrics for RCA

    6. Problem-solving models for RCA

7. Problem solving using 8D (eight disciplines)

8. Value-added vs. non-value-added activities

9. Defining the problem statement

2. Data Fundamentals

    1. Types of data

    2. Data sources

    3. Planning data collection

    4. Collecting empirical data

3. Data Analysis

    1. Cause-and-effect analysis

    2. 5 Whys analysis

    3. Cause-and-effect analysis and 5 Whys

    4. Force field and barrier-and-aids analysis

    5. Data charts

    6. Control charts

    7. Failure Mode and Effects Analysis (FMEA)

    8. Fault tree analysis

    9. Logic trees

    10. Brainstorming and decision-making tools

    11. Selecting the most likely cause

4. Project Management

    1. Preparing for an RCA project

    2. Staffing an RCA project

    3. Establishing a successful RCA team

    4. Facilitation skills

    5. Managing an improvement team

5. Maintaining and Sustaining Improvements

    1. Corrective and Preventive Action (CAPA)

    2. Recommending a solution

    3. Implementation planning and change management

    4. Verifying implementation and effectiveness

    5. Standardizing the change

    6. Audit planning

    7. Identifying opportunities for continuous improvement

    8. Recognition of success