

The 7 Basic Tools of Quality Course

This 7 QC tools course uses a case study to describe all the tools of quality control and demonstrate their application. You will find out how the Q7 are linked to each other and how they interact from root cause analysis through to problem solving. And the best thing about it is that the online quality tools training session includes downloadable worksheets containing instructions and examples, enabling you to apply the 7 basic tools of quality in your own project with minimum effort.

Course outline

DAY 1: APQP / PPAP

Day 1: Introduction to Quality Tools & Data Collection

- Session 1: Introduction to Quality Control & Problem-Solving
- Overview of Quality Control (QC) & Its Importance
- Role of the 7 Basic QC Tools in Problem-Solving
- Case Study: Real-World Quality Issues
- Session 2: Tool 1 – Check Sheet
- Definition & Purpose
- Designing Effective Check Sheets
- Hands-on Exercise: Developing a Check Sheet
- Session 3: Tool 2 – Histogram
- Understanding Data Distribution
- Constructing & Interpreting Histograms
- Practical Example: Using Histograms for Defect Analysis

Activities:

Group discussion on real-world quality problems
Practical exercise on check sheets & histograms

Day 2: Analyzing & Prioritizing Quality Issues

- Session 1: Tool 3 – Pareto Chart
- 80/20 Rule & Its Importance
- Constructing a Pareto Chart
- Identifying the Most Significant Quality Issues
- Session 2: Tool 4 – Scatter Diagram
- Identifying Relationships Between Variables
- Plotting & Analyzing Data Points
- Correlation vs. Causation in Quality Management
- Session 3: Tool 5 – Control Charts
- Understanding Variability & Process Stability
- Types of Control Charts
- Identifying Out-of-Control Situations

Activities:

Hands-on exercise: Constructing Pareto charts & scatter plots

Group discussion on case studies using control charts

Day 3: Root Cause Analysis & Process Mapping

- Session 1: Tool 6 – Cause-and-Effect Diagram (Ishikawa/Fishbone Diagram)
- Identifying Root Causes of Problems
- Constructing the Fishbone Diagram
- Practical Application for Manufacturing & Service Industries
- Session 2: Tool 7 – Flowchart
- Mapping Processes for Quality Improvement
- Identifying Bottlenecks & Inefficiencies
- Creating Process Flowcharts for Different Scenarios
- Session 3: Interrelationship of Quality Tools
- How the 7 Tools Complement Each Other
- Sequential Application in Problem-Solving
- Case Study Analysis: Real-World Application

Activities:

Hands-on exercise: Root cause analysis with Fishbone diagrams

Practical exercise: Creating flowcharts for a given process

Day 4: Practical Implementation & Assessment

- Session 1: Applying QC Tools to Real-World Problems
- Group Exercise: Identifying a Quality Issue & Selecting Appropriate Tools
- Step-by-Step Problem-Solving Using the 7 Tools
- Presenting Findings & Improvement Suggestions
- Session 2: Assessment & Certification
- Interactive Quiz on the 7 QC Tools
- Evaluating Practical Exercises
- Feedback & Discussion on Learning Outcomes
- Session 3: Best Practices & Continuous Improvement
- Integrating QC Tools into Daily Workflows
- Common Pitfalls & How to Overcome Them
- Additional Resources & Further Learning Opportunities

Activities:

Real-world case study application

Final knowledge assessment & feedback session

Real-world scenario will be provided

Participants must use at least 3 QC tools to analyze the problem

