Stastical Process Control (SPC)

2-Day Curriculum for Statistical Process Control (SPC)

Objective:
To provide participants with a comprehensive understanding of Statistical Process Control (SPC) tools and techniques, enabling them to monitor and control manufacturing processes to improve quality and efficiency.

Day 1: Introduction to SPC and Basic Concepts

Welcome and Introduction (15 minutes)

- Overview of objectives and the importance of SPC in quality control.

Fundamentals of SPC (45 minutes)

- Introduction to process variation, common vs. special causes.
- Key SPC concepts: Control charts, process capability.

Break (10 minutes)

Control Charts Overview (1 hour)

- Types of control charts: X-bar, R-chart, p-chart, np-chart.
- How to select the appropriate control chart for different processes.

Lunch Break (30 minutes)

Creating and Interpreting Control Charts (1 hour)

- Steps to create control charts using real-world data.
- Hands-on exercise: Plotting and analyzing control charts.

Break (10 minutes)

Process Capability Analysis (1 hour)

- Understanding Cp, Cpk, Pp, and Ppk indices.
- Practical exercise: Calculating process capability.

Wrap-Up and Q&A (20 minutes)

- Summary, open Q&A, and next steps.

Day 2: Advanced SPC Techniques and Implementation

Recap of Day 1 and Introduction to Day 2 (15 minutes)

- Review of key concepts from Day 1 and overview of Day 2.

Advanced Control Chart Techniques (1 hour)

- Introduction to EWMA and CUSUM charts.
- Using advanced control charts for complex processes.

Break (10 minutes)

Implementing SPC in the Workplace (1 hour)

- Steps to integrate SPC into existing quality management systems.
- Case study: Successful SPC implementation in a manufacturing environment.

Lunch Break (30 minutes)

SPC Software and Automation (1 hour)

- Overview of SPC software tools and automation options.
- Hands-on exercise: Using SPC software for data analysis.

Break (10 minutes)

Continuous Improvement with SPC (1 hour)

- How to use SPC data to drive continuous improvement.
- Group discussion: Identifying opportunities for process improvement using SPC.

Final Wrap-Up and Certification (30 minutes)

- Summary of the two-day course.
- Distribution of completion certificates.
- Final Q&A and closing remarks.

Click Here for a quote on your Training today!

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