



Quality Management & Operational Excellence

Statistical Quality Control

Course Introduction

The Statistical Quality Control course is designed to provide participants with a solid foundation in statistical techniques and methods used for quality control in various industries. This course focuses on equipping participants with the knowledge and skills necessary to effectively analyze and interpret data to monitor and improve process quality. Participants will learn key concepts of statistical quality control, explore different statistical tools and methods, and gain practical insights into their application for quality improvement.

Target Audience

- Quality & Manufacturing Professionals – Quality managers, production engineers, and process improvement specialists.
 - Engineers & Technicians – Industrial, mechanical, and manufacturing engineers, as well as lab technicians.
 - Data & Process Analysts – Statisticians, data analysts, and process improvement professionals.
 - Regulatory & Compliance Officers – Ensuring adherence to industry standards.
 - Students & Academics – Those studying quality management, industrial engineering, or statistics.

Learning Objectives

- Understand the principles and importance of statistical quality control in achieving process excellence.
- Apply statistical techniques for data collection, analysis, and interpretation in quality control.
- Use statistical process control (SPC) methods to monitor and control process variability.

- Apply control charts and other statistical tools to identify and address quality issues.
- Implement statistical quality control methods to improve process performance and customer satisfaction.
- Identify and apply advanced quality control tools.

Course Outline

• 01 DAY ONE

Introduction to Statistical Quality Control

- Overview of statistical quality control and its significance
- Key principles and concepts of quality control
- Introduction to data collection and sampling techniques
- Statistical distributions and probability concepts for quality control

• 02 DAY TWO

Statistical Process Control (SPC) and Control Charts

- Understanding process variability and its impact on quality
- Introduction to statistical process control (SPC) and control charting
- Construction and interpretation of control charts (e.g., X-bar and R charts)
- Applying control charts for process monitoring and improvement

• 03 DAY THREE

Statistical Tools for Quality Control

- Hypothesis testing for quality control decisions
- Capability analysis and process performance metrics
- Design of experiments (DOE) for process optimization
- Applying statistical tools for root cause analysis and problem-solving

• 04 DAY FOUR

Advanced Tools for Quality Control

- Advanced control charts such as the p-chart, np-chart, and c-chart.
- Scenarios where these specialized control charts are more suitable than traditional x-bar and r charts.
- Examples of real-world applications for advanced control charts in different industries.
- The six sigma methodology and its focus on process improvement and defect reduction.
- The dmaic (define, measure, analyze, improve, control) framework for problem-solving and continuous improvement.
- The roles of different six sigma belts and how they contribute to quality control initiatives.

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
April 21, 2025	April 24, 2025	4 days	4250.00 \$	UAE - Abu Dhabi
Aug. 18, 2025	Aug. 21, 2025	4 days	4250.00 \$	UAE - Dubai
Dec. 29, 2025	Jan. 1, 2026	4 days	4250.00 \$	UAE - Dubai