

MINITAB REQUIRED

SPC consulting group

SIX SIGMA

ANALYSIS AND REDUCTION OF VARIATION

Objective:
The participant will identify the phases of the DMAIC methodology, as well as its scope and deliverables. They will also be able to detect the cases in which this methodology should be applied.

Prerequisites:
• Knowledge of the fundamentals of the ISO quality management system or its equivalent, as well as basic/intermediate statistics and planning and leadership skills

Duration:
16 hours

Introduction

Definition
- Definition of the Project
- Minitab Tutorial (Part 1)
- Introduction to Basic Statistics
- Introduction to ANOVA

Measurement
- Process Mapping
- Cause-and-Effect Tools (Ishikawa)
- Measurement System Analysis (MSA and R&R)
- Failure Mode and Effect Analysis (FMEA)
- Capability Analysis (Cp, Cpk)
- Project Planning and Deliverables

Analysis
- Process Capability Analysis (Cp, Cpk)
- Graphical Methods
- Central Limit Theorem
- Confidence Intervals
- Hypothesis Testing
- Mean and Variance Tests

Improvement
- Introduction to Design of Experiments (DOE)
- Full Factorial Design
- 2k Factorial Design
- Project Review

Control
- Quality Fundamentals
- X-R Control Charts
- Moving Range Control Charts
- Attribute Control Charts
- Mistake Proofing Practice Exercises I, II, III, IV, and V