COURSE TITLE

STATISTICAL PROCESS CONTROL (SPC)

Introduction

This training program provides participants with the necessary tools and knowledge to effectively implement Statistical Process Control (SPC) techniques in their organizations. SPC is a powerful method for monitoring, controlling, and improving processes to ensure consistency and quality in products and services.

Course Fees

Member: S$684.52
Non-Member: S$758.64

*All fees stated are inclusive of Registration Fee and 9% GST

OBJECTIVES

- Understand the fundamental concepts of SPC and its importance in process improvement.
- Learn basic statistical techniques essential for SPC implementation.
- Gain proficiency in constructing and interpreting control charts for both variables and attributes.
- Develop skills to identify and respond to out-of-control situations.
- Perform capability studies to assess process performance.
- Apply learned concepts through practical case studies and workshop exercises.

SINGAPORE QUALITY INSTITUTE

WHO SHOULD ATTEND

- Quality Assurance Managers
- Production Managers
- Process Engineers
- Quality Control Personnel
- Anyone involved in process improvement initiatives

2026
Course Brochure

QUALITY COURSES - STATISTICAL PROCESS CONTROL (SPC)

COURSE CONTENTS

- Introduction
  - Overview of Statistical Process Control
  - Importance of SPC in quality management
- Basic Statistics
  - Measures of Central Tendency & Dispersion
  - Probability Distributions
- SPC Concepts
  - Variation and its types
  - Common cause vs. special cause variation
- Inferential Statistics
  - Population & Samples
  - Probability Distribution (Z Score and T Score)
  - Statistical Estimation (Confidence Intervals & Hypothesis Testing)
- Control Charts for Variables
  - Xbar-R chart (Mean & Range)
  - Xbar-S chart (Mean & Standard Deviation)
  - Individual MR chart (Individual Measurement & Moving Range)
- Control Charts for Attributes
  - p Chart (Proportion)
  - np Chart (Number of Defects)
  - c Chart (Count of Defects)
  - u Chart (Defects per Unit)
- Interpretation of Variable & Attribute Control Charts
  - Rules for detecting out-of-control points
  - Possible causes of Out-of-control Symptoms
- Reaction for Out-of-Control Situations
- Capability Study
  - Process Capability Indices (Cp, Cpk, Pp & Ppk)
  - Assessing process performance
- Case Studies
  - Examples illustrating SPC application
- Workshop Exercises
  - Manual calculation of control charts
  - Application of SPC techniques using software e.g. Minitab

TRAINER

This course is conducted by Trainers who are experts in their domains of quality principles, systems & standards, statistical principles and applications, measurement systems, problem solving and improvement tools and techniques, reliability management and product safety applications.

AWARD OF CERTIFICATE

Certificate of Completion will be issued to participants who have attended at least 75% of the course

DURATION

2 days
9am - 5pm
14 hours

CONTACT

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