

ASQ Section 405 Training

Evaluating Process Capability

Duration: 6 hours

Instructor

[Kenneth Myers](#), CQE, CSSBB

President and senior consultant of Ascendant Consulting Service, Inc., where he assists organizations in developing and implementing strategies for improving product, process, and service competitiveness.

Ken holds a BSc Physics degree from San Diego State University and is a Senior member of the American Society for Quality (ASQ). He has been an ASQ Certified Quality Engineer since 1993 and a Certified Six Sigma Black Belt since 2006.

Course Description

Statistical Process Control (SPC) has proven itself to be an easily implemented and effective tool in minimizing and controlling process variability. The reduction of process variability is the key to quality improvement and profitability. SPC provides important tools for tracking and reducing variability. This course introduces, in an easy to understand fashion, the two basic tools of SPC, namely **capability studies** and **control charting**. It also teaches how to effectively implement SPC in both a manufacturing and service environment. The focus of this 1 day course is on evaluating process capability. The class is hands on. Several exercises involve the actual collection and analysis of data generated in class. The course is also full of practical advice on how to effectively utilize SPC. Detailed cases studies will demonstrate the proper role and use of capability studies in addition to the potential pitfalls to avoid.

What You Will Learn

- The underlying concepts supporting SPC and process control charts
- How to construct and interpret control charts
- How to observe trends and patterns control charts and detect instabilities in a process
- How to perform capability studies with both continuous and count data
- How to calculate and interpret the capability indices: Pp, Ppk, Cp and Cpk
- The relationship between Performance and Capability indices in stable and unstable processes

- How to select the best control chart for the job at hand
- The three uses of control charts and how to determine if you are using them effectively
- How to manage process improvement through variation reduction using SPC and capability studies
- Some pitfalls in implementing capability studies

Primary Audience

This course is intended for managers, supervisors, and engineers who want to implement SPC in their facility or organization, or simply want a better understanding of its use in their business.

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June 23, 2018 - (9am – 3pm)

**Training Cost - \$75 (Members)
\$95 (Non-Members)
\$60 (Students)**

**Certificate of Training (with RU points)
will be awarded to participants.**

**Venue: Meeting Room
St Paul's University College**

**190 Westmount Rd North
Waterloo, ON, N2L 3G6**

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Course Outline

1. Introduction
2. SPC Background
3. Uses of Capability Studies
4. Capability Studies for Continuous Data
5. Capability Studies for Count Data
6. Performance vs. Capability Estimates
7. Uses of Control Charts
8. Closing Comments and Observations

Prerequisites

Previous exposure basic statistics is useful, but not mandatory.

Course Materials

Participants receive a comprehensive course manual and three free Excel workbooks to assist in capability calculations. The participants will also receive and install a working **statistical software** package that operates within the Excel environment. This software will support many of the SPC and capability calculations done during the course. Finally, each participant will receive a demo copy of **distribution analysis software** that will be demonstrated and used in the course with various class exercises.