



CONTINUING EDUCATION

Statistical Process Control II (SPC II)

CEQAL 516

This seminar builds on the knowledge gained in SPC I. Participants gain an enhanced understanding of uncertainty, sample size selection and probabilities underlying control chart signals. More sophisticated charting tools permitting charting of data collected at multiple locations, non-normal data and trending data is covered as well as other special use charts such as CUSUM and EWMA charts are covered. Computation of non-normal capability is also covered.

- Who Should attend:** Individuals who are involved in production or service processes including management, engineering and quality and have an interest in using statistical techniques to monitor and control their processes.
- Prerequisite:** This seminar builds upon the topics presented in SPC I. A knowledge of basic algebra, statistical process control concepts (SPC I) are strongly recommended.
- CEU's Credits:** 3.2
- Duration:** 32 Hours – 4-day course
- Course Content:**
- Review of the SPC Strategy**
 - Process vs. Product Control
 - Concept of Variation
 - Control Chart Concept
 - Rational Sampling
 - Statistical Analysis of Control Charts**
 - Errors of Type I and II
 - Sensitivity
 - Statistically Determining Sample Size
 - Probability Foundation of Signals

Collecting Data at Two Locations (e.g., Two Cavity Mold, Two Gauging Points on a Single Unit)

- Testing for Differences
- Control Charts for Two Locations
- Capability Assessment

Collecting Data from Multiple Locations (e.g., Multiple Cavity Mold, Several Fill Heads, Multiple Gauging Points)

- Testing for Differences
- Applicable Control Charts
- Capability Assessment

Non-Normal Data

- The Effect of Assuming Normality
- Testing for Normality
- Graphical Methods
- Goodness of Fit Tests
- Skewness and Kurtosis
- Fitting a Curve to Non-Normal Data
- Appropriate Control Charts
- Capability Assessment

Natural Trending (e.g., Tool Wear, Chemical Depletion)

- Control Charts to Describe the Expected Trend
- Coding Data to Remove the Trend
- Capability Assessment

Special Control Charts

- CUSUM Charts
- EWMA Charts

Attribute Data

- p and u Charts for Varying Sample Size

Each participant will receive a comprehensive manual and a Certificate of Completion at the close of the seminar.