



CONTINUING EDUCATION

Measurement System Assessment I (Gage R & R)

CEQAL 510

Measurement systems are a critical component of any continuous improvement program. Without accurate and precise data, it is difficult or impossible to efficiently drive quality and productivity improvements. To ensure accurate and precise measurements are being used to drive continuous improvement, measurement system assessment is key. This workshop-based seminar provides participants with the knowledge necessary to conduct basic studies including a gage R&R, a bias study, a linearity study and attribute measurement system assessments.

- Who Should attend:** Practitioners involved in the evaluation of measurement systems and any individual making decisions based on data.
- Prerequisite:** A knowledge of basic algebra and statistical process control concepts (SPC I) is highly recommended
- CEU's Credits:** 1.6
- Duration:** 16 Hours – 2-day course
- Course Content:**
- Concepts of Measurement System Assessment**
 - Measurement System Characterization
 - Accuracy and Calibration
 - Precision
 - Linearity
 - Stability
 - Components of Variation
 - Long-Term Measurement Process Capability Assessment**
 - X and Rm Charts of Short-term Results
 - Xbar and R or Xbar and s Charts on "Control" Specimens

Process Potential Assessment (Gage R & R)

- Estimating Repeatability
- Estimating Reproducibility
- How to Use Standard Forms (AIAG and Others)
- Hands-on Workshop

Analyzing the Variance of Measurement Systems

- ANOVA
- Identifying Common Cause Variability Reduction Potential

Special Case Studies

- Redundant Systems
- Fitting a Curve to Time Variant True Values
- Correlation Studies to Reference Measurement Systems

Attribute Data Systems

- Options for Evaluating
- Comparison to Variable Systems
- Risk Assessment with Attribute Systems

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