BAYTEK
INTERNATIONAL

D6299
QUALITY COURSE
SYLLABUS

STATISTICAL QUALITY ASSURANCE FUNDAMENTALS FOR TEST METHODS PER ASTM D6299

Alex T. Lau, President of TCL-Consulting and Chairman of ASTM D02.94, to present his Training Courses on ASTM D6299 & Bias Fundamentals. The virtual class will be 9:00am – 2:30pm Central with an hour break for lunch on each day of the training.

This highly interactive training opportunity should not be missed by anyone who is interested in SQC, bias management and especially EPA Part 1090 compliance.

- Cloud based exercise system provided for hands-on practice
- Includes both SQC theory and practical application
- Special emphasis on Statistical Thinking, Control Chart Fundamentals, D6299 Work Process, and Bias Management
- Special Session: Bring your statistical ailments to the "SQC Doctor"

COURSE MOTIVATION

Since trustworthy measurement data is a fundamental enabler to all aspects of business improvement, having a fundamental understanding of testing precision, bias (absolute and relative), data quality, how to design and execute control chart work processes to ensure data quality, and the implicit uncertainties associated with measurement data can significantly enhance business process improvement initiatives. Understanding test method and measurement system performance and behavior from control charts can lead to correct decisions as to when to adjust and when not to adjust measurement systems or process control strategies.

Use of control charts to monitor measurement system performance and apply preemptive just-in-time failure-prevention actions can improve laboratory and field operations efficiency, reduce waste, and assure the test data produced are fit-for-use and defensible.

Understanding of test method precision and bias enables release of product with confidence at optimal production cost.
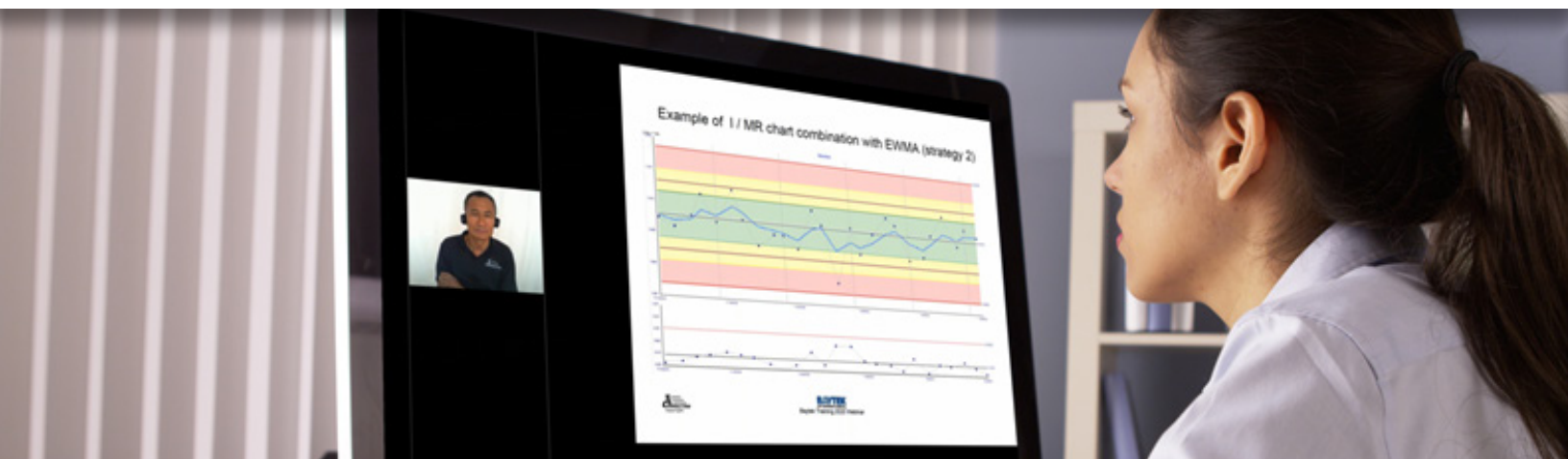
WHO SHOULD ATTEND?

- Laboratory analysts and chemists
- Laboratory QA/QC personnel
- Laboratory quality coordinators
- Laboratory management
- Personnel making product quality decisions
- Personnel responsible for regulatory compliance involving ASTM methods
- Personnel responsible for online analyzer QA/QC
- Others wishing to improve practical understanding of statistics relating to measurement system performance

COURSE FORMAT

- The course will be conducted through a combination of lectures, discussions, and hands-on exercises.
- Participants will have access to QC/PLUS software for the duration of the course.
- A final group participation quiz will be conducted to evaluate participants' understanding of the course content.

COURSE SYNOPSIS

O V E R V I E W

Topic 1: Statistical Thinking and Precision Performance Metrics

- Statistical thinking to judge data trustworthiness
- Understanding of ASTM definitions and uses for various statistical terms and concepts
- Understanding common cause variation versus special cause variation.
- Explanation of precision performance metrics such as repeatability, reproducibility, and site precision
- Business applications of precision performance metrics

Topic 2: Statistical Control Charts and Work Processes

- Methodology and work processes for setting up and maintaining Statistical Control Charts
- Monitoring test method performance over time as per ASTM D6299
- Hands-on exercises using QC/PLUS
- Specialized techniques for handling QC material batch transition
- Dealing with non-normal data

Topic 3: Bias and Relative Bias

- Overview of absolute and relative bias
- Assessing and Monitoring bias between different laboratory test methods or a laboratory test method and an on-line process analyzer
- Assessing and Monitoring bias versus industry over time
- Bias fundamentals and statistical techniques and control charts

Topic 4: QC Control Plan and Data Trustworthiness

- QC control plan and site readiness checklist
- How data trustworthiness impacts business performance of the enterprise
- Group participation in quiz questions to test participants' understanding of the concepts presented

Baytek's industry leading QC/PLUS workflow solution for SQC will be prominently featured during the course. Students will gain valuable insights into good laboratory practices and practical application of the principles of SQC. Baytek SME's will participate in the course and be available for Q&A throughout the week.

Bonus: Students will be granted access to the QC/PLUS training site for two weeks following the completion of the course.