DOE Design of Experiment

Seminar Content

This Two-day seminar will develop the knowledge and skills necessary to design, conduct and analyze industrial experiments. Basic principals of experimental design and their applications to quality and productivity improvement projects will be presented. This seminar utilizes Minitab software for experimental design and analysis.

Who Should Attend

This seminar is especially useful for individuals who want to understand and apply a collection of formal experimental procedures specifically designed to identify optimal process conditions. Quality engineers, Six Sigma Black Belts and those assigned responsibility for leading quality and productivity improvement teams will benefit from participating in this seminar.

Prerequisites

A basic knowledge of computational mathematics, a practical understanding of elementary applied statistics and familiarity with Mini Tab software will be helpful.

Seminar Materials

Participants will receive a seminar manual. Worksheets and spreadsheets for analyzing factorial experiments will also be provided. Participants will be expected to provide a laptop computer pre-loaded with Mini Tab Software.

Seminar Goals

This seminar provides an intuitive, graphically oriented introduction to the theory and practice of experimental design. This seminar also provides instruction and practice in the planning and analysis of experimental data.

Seminar Outline

- Introduction to DOE
- Experimental Planning
- Statistical Foundations
- Introduction to Mini Tab
- One Way ANOVA
- Classroom Learning Exercises
- Two-level Full Factorial Designs?
- Classroom Learning Exercises
- Measuring and Evaluating Experimental Effects
- Two-level Fractional Factorial Designs
- Classroom Learning Exercises
- Linear Models and Designed Experiments
- Classroom Learning Exercises
- Response Surface Methodology
- Classroom Learning Exercises
- DOE Workshop - Catapult Exercise
- Wrap-up and Conclusions