



## Introduction to Design of Experiments

**GOAL:** This two-day workshop leads the students through the steps in identifying the critical factors that significantly affect process performance and consistency. It complements a basic statistical process control program and may also apply to new product and process development efforts. At the end of the workshop you will understand why DOE is a key element in a manufacturing process that demands consistency and high quality.

**BENEFITS OF TRAINING:** You will learn the basic principles of design of experiments and their important connection to statistical process control activities, how to setup and run basic factorial and screening experiments, how to analyze experimental outcomes, identify significant effects on process performance and consistency, and identify factors for further study.

**HOW THE PROGRAM WORKS:** In a workshop environment, your experiment teams will design and conduct experiments created to illustrate the power of DOE.

### PROGRAM OUTLINE:

You will learn about

- Concepts review: systems theory, variation, and basic SPS principals
- Background and history of designed experiments
- How DOE differs from the traditional approach to experimentation
- Advantages of designed experiments/factorial designs
- A basic procedure for applying DOE

**METHODOLOGY:** Training sessions are comprised of lecture, experiment workshops, written exercises, large and small group discussions, PowerPoint and video recordings.

**WHO SHOULD ATTEND:** Engineers, scientists, managers, and technical staff in quality, production or process engineering and R&D who have basic knowledge of SPC or statistics.