

## Product & Process Performance Investigation by Designed Experiments

This 2-day session will be of interest to practicing design and manufacturing professionals interested in developing application knowledge necessary to apply the experimental design technique to investigate and solve production problems. The training will help participants make decision based on experimental data. They will learn how to design and analyze most common experiments set up for problem investigations.

Attendees will receive brief seminar presentation materials..



**WHERE?** At your facility

**WHEN?** At a mutually convenient time.



**DETAILS:** Please visit for information and registration.

[www.Nutek-us.com/wp-sem.html](http://www.Nutek-us.com/wp-sem.html) - onsite seminar

**COURSE OVERVIEW:** Design of Experiments (DOE) is powerful statistical technique for study of multiple variables simultaneously. Designed for production and quality specialists, this session offers opportunities to learn and apply the Taguchi experimental design techniques for economically solving engineering and production problems.

### COURSE DESCRIPTION

When is a problem a PROBLEM? A vast majority of the "Problems" in the manufacturing floors are of two kinds. The first situation is where nobody seems to have an answer. And the other kind is where everyone claims to have an idea, but none seem to work as a permanent solution. So, how do you attack such problems? Solutions based on *opinion or past experience* may not cure the problem and you don't seem to have time to take a close look at the problem. What you need is a structured and objective approach. Use of Design of Experiments can help you create such a structured and economical strategy. Attendees this session learn how to handle production and manufacturing problems permanently with minimum time in experimenting.

### WHO SHOULD ATTEND?

- Product/Process Design Engineer
- R&D Scientists
- Production, and QA Personnel
- Manager, Director or Senior Engineer and technicians who wish to lead teams for investigation of engineering and production problems, would benefit from this course.

### Discussion Topics

- Overview- concepts of quality engineering
- Measuring cost of quality by Loss Function
- Review basic concepts in experimental design
- Project objective Evaluation Criteria
- Experiments designed using orthogonal arrays
- Experiments to study interaction
- Basic analysis and strategy for experimentation
- Strategy for Robust Designs
- New attitude toward uncontrollable factors
- Outer array for robust design
- Class project & presentation by the groups

### LEARNING OBJECTIVES:

This seminar will help you develop application knowledge necessary to apply the experimental design technique to investigate and solve production problems. It will help you make decision based on experimental data. You will also help you learn how to design and analyze most common experiments set up for problem investigations. Attendees will receive brief seminar presentation materials. Reduce fastener related warranty and rework costs

### COURSE INSTRUCTOR

This seminar is led by Ranjit K. Roy, Ph.D., P.E., PMP, and Mechanical Engineer. Dr. Roy specializes in the Taguchi approach to quality improvement and engineering quality improvement topics.



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