



Mixture Design of Experiments

(8 hours)

Course Description:

Mixture Design of Experiments is specifically designed to meet the analytical needs of those individuals working within a variety of industries. Instruction covers all aspects of mixture design including pre-DOE, simplex lattice, centroid, screening and custom mixture designs.

Audience:

This course is required for all scientists, engineers and quality professionals who actively work on any aspect of discovery, product and process development where the goal is to characterize and optimize product and process performance.

Course Objectives:

Upon completion of the course the participants will be able to:

- Apply the principles of robust design to Mixture Experiments
- Design mixture experiments appropriate for the information of interest
- Use and apply the structures of simplex and optimal designs for product and process development and problem solving
- Ensure the mixture experimental design is efficient
- Use regression techniques in order to analyze the results and make process/product improvements
- Use software to design and analyze experiments

Software: JMP

Prerequisites: Engineering Statistics and Data Analysis and Design of Experiments are recommended prerequisites for this course.

Course Outline:

Introduction and Two Factor Mixture Designs

Experimental preparation and pre-DOE
Two factor Mixture Designs

Simplex Lattice Designs

Simplex Centroid and ABCD Screening Designs

Simplex Centroid
ABCD Screening Designs

Extreme Vertices Designs

Optimal Designs

Custom Design