

DESIGN OF EXPERIMENTS (DOE)

Introduction:

Design of Experiments (DOE) is a statistical and mathematical tool to perform the experiments in a systematic way and analyse the data efficiently. DOE is a powerful data collection and analysis tool that can be used in a variety of experimental situations.

Course Objectives:

This 2-day competency-based workshop introduces the theory, methodology and application of DOE. Upon completion of this workshop, participants will get an in-depth overview of DOE concepts and methodology, and apply these to their working environment. This workshop will also include the use of the Minitab software tool for analyzing data.

Course Contents:

- 1.0 Introduction and Principle of Design of Experiments
 - 1.1 DOE in Improvement Process
 - 1.2 Historical Summary
 - 1.3 Principles and Concepts
- 2.0 1-Factor Experimentation
 - 2.1 Comparative Experiments
 - 2.2 Hypothesis Testing
- 3.0 Factorial Design Experiments
 - 3.1 2 Factors, 2 Levels Full Factorial Design of Experiments
 - 3.2 Full Factorial Design of Experiments with 3 Factors, 2 Levels
 - 3.3 Fractional Factorial Design of Experiments
 - 3.4 Sequential Experimentation
- 4.0 Exercises – Case Studies
 - 4.1 Exercise 1: Single Factor Experimentation
 - 4.2 Exercise 2: 2x2 Full Factorial Experiment
 - 4.3 Case Study Discussion and Analysis
 - 4.4 Q&A session

Who Should Attend:

A hands-on workshop designed for Professionals in Engineering, R&D, Manufacturing, Quality, Engineers or any Personnel who plan, conduct, analyze, and interpret tests to evaluate the impact of key parameters on the performance of products and processes.

Pre-requisite:

Basic knowledge of statistics and process improvement methodologies is recommended, but not required.

Training Methodology:

- Instructor-led lectures
- Interactive group discussions
- Hands-on exercises and case studies
- Minitab Software free version demonstration

Award of Certificate:

Certificate of Attendance will be issued to participants with at least 75% attendance.

Duration:

2 days (14 hours)

Course Fee:

\$800 nett per trainee