

# Six Sigma

## Design of Experiments (DOE) - 2 Days

Course Code: SIG504

Design of Experiments is a statistical tool that allows for setting all of the process parameters at their optimal combination of settings to optimize the process outputs, or process performance. This class provides the background on how to create optimally designed experiments, how to conduct those experiments and how to interpret the results obtained. A variety of Experimental designs are discussed, along with the advantages of each so that students can choose the best type of design for their own situations.

### Learning Objectives

- Using designed experiments
- Planning designed experiments
- Recognize design considerations
- Choosing factors
- Apply full factorial designs
- Analyze experimental results
- Define significant effects
- Select Taguchi designs

### Topics & Content

- Types of experiments
- The need for DOE
- Benefits of DOE
- Terminology
- Blocking
- Replication
- Size of experiments
- Two-level designs
- Applying two-level designs
- Interactions
- Example analysis
- Taguchi loss function
- Residuals
- Orthogonal arrays
- Taguchi compared to traditional designs

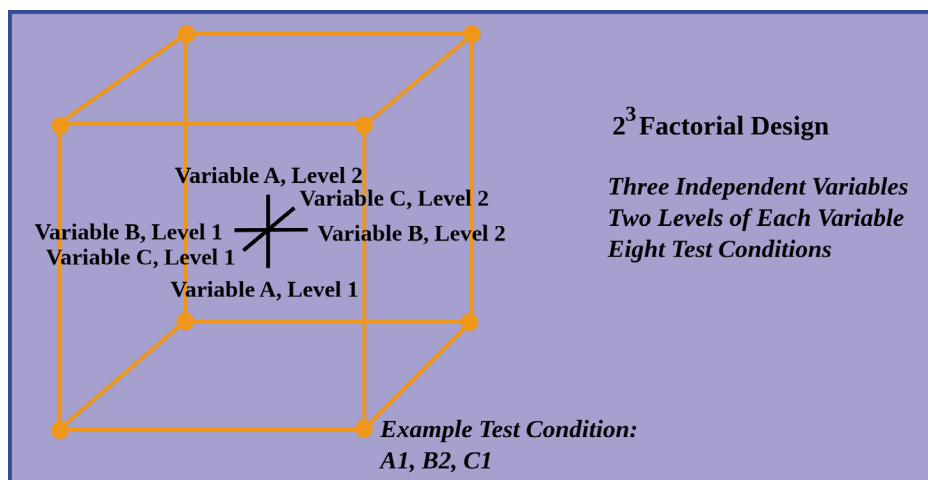
### Course Information

#### Duration

2 days

#### Audience

Those responsible for Six Sigma process improvement projects.



***“Intense and very useful for complex analytical situations.”***