

DESIGN FOR SIX SIGMA (DfSS)

OVERVIEW

This 16 hour course presents a phased approach for identifying and implementing an effective DFSS program. Topics covered include the following:

- ◆ Establishing Business Case and Project Charter
- ◆ QFD (Quality Function Deployment)
- ◆ Intro. to FMEA (Failure Modes and Effects Analysis)
- ◆ Optimizing Design for enhanced Process Capability

Learning Objectives

Upon completion of this DFSS course, participants will be able to do the following:

- ◆ Create a QFD House of Quality to determine CTQs
- ◆ Leverage KANO and Customer Perception Models
- ◆ Perform a FMEA
- ◆ Correlate and Verify design requirements

Select appropriate DOE models for optimization



OUTLINE

- Chapter 1: **INTRODUCTION TO DESIGN FOR SIX SIGMA**
- CTQ – Critical To Quality
 - Relationship between PPM, DPM, and Loss
 - Variation and Six Sigma
 - Process Capability Indices
 - Design for Six Sigma (DFSS)
- Chapter 2: **IDENTIFY AND DEFINE DFSS OPP. – Phase I**
- Project Charter and Business Case
 - Project Scope and Key Milestones
 - KANO and Customer Perception Model
 - Building a QFD House for DFSS
- Chapter 3: **DEVELOPING CONCEPTS – Phase II**
- Multi-Voting and Criteria-Based Metrics
 - Failure Modes and Effects Analysis (FMEA)
 - Determining Critical to Quality (CTQ) characteristics
- Chapter 4: **OPTIMIZING DESIGN – Phase III**
- Quality Loss Function (QLF)
 - Parameter Design for Optimization
 - Design of Experiments (DOE) primer
 - Correlation of Design Requirements
- Chapter 5: **DESIGN VERIFICATION – Phase IV**
- Verify Process Capability
 - Build Prototype Test, Debug, and Fix
 - Pilot Run Verification
- Appendix:** Terms and Definitions