



COURSE AGENDA

Lean Six Sigma Green Belt- Online Training

Lesson 00—Course Overview

About LSSGB Certification

About Simplilearn's LSSGB course

Lesson 1—Overview of Lean Six Sigma

Topic 1—Six Sigma

- The Basics of Six Sigma
- Process of Six Sigma
- How does Six Sigma Work
- Six Sigma and Quality
- Six Sigma Team

Topic 2—Lean principles

- The History of Lean
- Lean & Six Sigma
- Lean Concepts
- Types of Waste
- Theory of Constraints

Topic 3—Design for Six Sigma

- Design for Six Sigma
- DFSS Tools—Quality Function Deployment, FMEA, RPN
- PFMEA and DFMEA

Lesson 2—Define

Topic 1—Project identification

- Building a Business Case & Project Charter
- Process Elements
- Financial Evaluation & Benefits Capture
- Positive Effects of Project on Customers

Topic 2—Voice of the customer (VOC)

- Collect Customer Data
- Questionnaire
- Telephone Survey vs. Web Survey
- Focus Group
- Interview
- Customer Complaints
- Key Elements of Data Collection Tools
- Critical to Quality
- Quality Function Deployment
- Structure of QFD

Topic 3—Project Management Basics

- Project Charter
- Deliverables of a Lean Six Sigma Project
- Pareto Chart
- Risk
- Risk Analysis and Management
- Project Closure
- Affinity Diagram
- Interrelationship Diagram
- Tree Diagram

Topic 4—Management and Planning Tools

- Matrix Diagram

- Defect per Unit

- Throughput Yield

- Rolled Throughput Yield

Topic 5—Business Results for Projects

- Defect per Million Opportunities

- Cost of Quality

Lesson 3—Measure

Topic 1—Process Definition

- Process Mapping

- X-Y Diagram

Topic 2—Descriptive and Inferential Statistics Basic probability concepts

- Types of Statistics

- Central Limit Theorem

Topic 3—Collecting and Summarizing Data

- Types of Data

- Simple Random Sampling vs. Stratified Sampling

- Measures of Central Tendency

- Measures of Dispersion

- Frequency Distribution

- Graphical Methods—Stem and Leaf Plots

- Graphical Methods—Box and Whisker Plots

- Scatter Diagrams

Topic 4—Measurement System Analysis

- Measurement System Analysis

- Precision and Accuracy

- Bias, Linearity, and Stability

- Gage Repeatability and Reproducibility

- Measurement Resolution

- ANOVA Method of Analyzing GRR Studies

- Gage RR Template

Topic 5—Process Capability

- Process Capability Analysis

- Natural Process Limits vs. Specification Limits

- Process Capability Indices

- Process Capability Studies

- Process Stability Studies

- Verifying Process Stability and Normality

- Monitoring Techniques

Lesson 4—Analyze

Topic 1—Patterns of Variations

- Classes of Distributions

- Discrete Probability Distribution

- Binomial Distribution

- Poisson Distribution

- Continuous Probability Distribution

- Normal Distribution

- Z-Table Usage

- Chi-Square Distribution (Basics)

Topic 2—Exploratory Data Analysis

- Multi-Vari Studies

- Create Multi-Vari Chart

- Simple Linear Correlation

- Simple Linear Regression (SLR)

- Multiple Linear Regression

- Difference between Correlation and Causation

Topic 3—Hypothesis Testing with Normal Data

- Statistical and Practical Significance of Hypothesis Test

- Null Hypothesis vs. Alternate Hypothesis

- Type I and Type II Error

- Power of Test

- Hypothesis Testing Roadmap

- Comparison of Means of Two Processes

- Paired Comparison Hypothesis Test for Means (Theoretical)

- Paired Comparison Hypothesis Test for Variance—F-Test Example

- F-Test

- Hypothesis Tests—t-Test for Independent Groups

- 2-Sample t-Test

- Paired t-Test

- sample variance

- ANOVA—Comparison of More Than Two Means

- Chi-Square Distribution (Detailed)

Topic 4—Hypothesis Testing with Non-Normal Data

- Mann-Whitney

- Kruskal-Wallis

- Mood's Median

- Friedman

- 1 Sample Sign Test

- 1 Sample Wilcoxon

Lesson 5—Improve

Topic 1—Design of Experiments

- Design of Experiments—Example

- Analysis of the Mean Effect

- Main Effect

- Interaction Effect

- Design of Experiments—Runs

Topic 2—Root Cause Analysis

- Residuals Analysis

- Data Transformation using Box Cox

- Process Input and Output Variables

- Cause and Effect Matrix Template

- Cause and Effect Diagram

- The 5 Why Technique

- The 5 Why Process

Topic 3—Lean Tools

- Lean Techniques

- Cycle Time Reduction

- Kaizen and Kaizen Blitz

Lesson 6—Control

Topic 1—Statistical Process Control

- Common Cause Variation

- Special Cause Variation

- Rational Subgrouping

- Data Collection for SPC

- Control Charts

- Setting the Control Limits

- X-Bar Chart Principles

- Defining UCL and LCL in X-Bar and R Chart

- Defining UCL and LCL in X-Bar and s Chart

- X-Bar and R and Subgroup Data

- X-Bar and s and Subgroup Data

- ImR Chart Principles

- Control Charts for Attribute Data

- np Chart Principles

- np Charts and Uniform Subgroup Size—Example

- np Charts and Uniform Subgroup Size

- p Chart

- c Chart

Topic 2—Control Plan

- Control Plan—Uses & Strategies

- Elements of the Control Plan

- Elements of the Response Plan

- Cost Benefit Analysis

- Control Plan Tools

- Developing a Control Plan

- Transactional Control Plan

- CuSum Chart

- EWMA Chart

Topic 3—Lean Tools for Process Control

- Visual Controls

- Control Methods for 5S

Need Help? Ask A Question Or Contact Our Support Team On
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