

Lean Foundations Workshop

Course LSSGB

5 Days

Instructor-led, Hands on

Introduction

Lean Six Sigma saves organizations time and money through continuous improvement. Employers therefore often pay a premium for Six Sigma-trained and certified managers. Our Lean Six Sigma Green Belt training teaches you the strategies and tools necessary for process improvement and provides you with the Lean Six Sigma Green Belt Certification. Take your career to the next level by getting your Lean Six Sigma certification today! Upon successfully completing the course (attending all days and completing all assignments), you will earn the Lean Six Sigma Green Belt (LSSGB) credential from Project Management Academy®. Project Management Academy is accredited by the Council for Six Sigma Certification (CSSC), an Official Industry Standard for Six Sigma Accreditation.

Note: This course will earn you 40 PDUs.

At Course Completion

Upon successful completion of this course, students will be able to:

- Initiate Six Sigma projects to bring about significant and lasting organizational change
- Formulate project selection criteria to focus Six Sigma initiatives on projects that will have the greatest chance of success
- Apply the DMAIC improvement process to solve business problems
- Develop process maps to gain a full understanding of an existing process
- Incorporate the “ $y = f(x)$ ” method to determine the relationship between key inputs and process outputs
- Employ Six Sigma data-driven approaches to solve problems at their root cause and prevent their recurrence
- Reduce waste and defects by applying Lean and Six Sigma principles
- Implement control charts to monitor how a process is performed over time.

Prerequisites

There are no prerequisites for this course.

Course Outline

Module 1: Introduction

- Course Overview

Contact ISInc for more information at 916.920.1700 or by visiting our website at <http://www.isinc.com>

Module 2: Fundamentals

- Roles and Responsibilities
- Lean vs. Six Sigma
- Learning Assessment

Module 3: Lean

- Lean Fundamentals
- Kaizen
- 7 Waste (Muda)
- Current State vs. Future State
- Team Selection
- Project Charter
- Responsibility Assignment Matrix (RAM)
- Process Mapping
- Process Mapping Exercise
- Affinity Diagrams
- 5S and 6M's
- Visual Management
- Traditional and Lean Production(s)
- Takt Time
- Focused Factories and Demand Flow
- Single Minute Exchange of Die (SMED)
- Mistake Proofing (Poka-Yoke)
- Learning Assessment

Module 4: Fundamentals of Six Sigma

- History of Six Sigma
- Lean vs. Six Sigma
- DMAIC vs. DMADV
- Define
- Introduction to Define
- Define Tools and Terminology
- $Y=f(x)$
- Rolled Throughput Yield (RTY)
- Voice of the Customer (VOC)
- Critical to Quality (CTQ)
- Quality Function Deployment (QFD)
- House of Quality
- Kano Models and Pareto Charts
- 5 Whys
- Learning Assessment

Module 5: Measure

- Introduction to Measure
- Measure Tools and Key Components
- Basic Statistics
- Data Collection Plan
- Scales of Measurement
- Sampling
- Data Definitions
- Gauge R&R
- Statistical Process Control (SPC)
- Control Charts
- SPC Errors
- Understanding Variation
- Displaying Variation
- Measurement Systems Analysis (MSA)
- Quality Loss Function
- Process Capability
- Measurement Error
- Learning Assessment

Module 6: Analyze

- Introduction to Analyze
- Analyze Tools and Goals
- Revisiting $Y=f(x)$
- Graphical Analysis
- Problem Statement
- Failure Mode Effects Analysis (FMEA)
- Root Cause Analysis
- Hypothesis Testing
- Confidence Intervals
- Standard Deviations vs. Standard Value
- Sample Mean
- Analysis of Variance (ANOVA)
- Bootstrapping (Resampling)
- Risk Management
- Learning Assessment

Module 7: Improve

- Introduction to Improve
- Improve Tools
- Developing Solutions
- Risk Mitigation



- Design of Experiments (DOE)
- Cause and Effect Matrix
- Finalized Solutions
- Learning Assessment

Module 8: Control

- Introduction to Control
- Control Tools
- Control Plans
- Response Plans
- Learning Assessment

Module 9: Course Summary

- Lean Six Sigma Green Belt Certification Exam