Lean Six Sigma Black Belt (LSSBB) Training

Duration	Delivery Methods
10 Days	VILT, Private Group

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 Black Belt training teaches you the strategies and tools necessary for leading process improvement in your organization and provides you with the Lean Six Sigma Black 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, completing all assignments, passing the final exam, and submitting and passing the final Lean Six Sigma project), you will earn the Lean Six Sigma Black Belt (LSSBB) 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. Your final Lean Six Sigma project must demonstrate your ability to carry out a Six Sigma project (from creation to the final stages using the DMAIC/DMADV method).

Note: This course is conducted 2 Days/Week for 5 Weeks (Wednesdays & Fridays: 9am-5pm CST) for a total of 10 days of training to allow time for review and project development between course sessions. This course will earn you 80 PDUs.

Who Should Attend

Those seeking to lead projects utilizing Lean Six Sigma to implement cost-reduction solutions, increase revenues and drive quality initiatives should attend this course. No previous experience with Lean Six Sigma is required, as this Black Belt offering is fully comprehensive of all prior levels of Six Sigma training.

Course Objectives

- 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 performing over time

Agenda

1 - INTRODUCTION

- Course Overview

2 - FUNDAMENTALS

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

3 - LEAN

- Lean Fundamentals
- Flow Production Cells
- Kaizen
- 7 Waste Identification (Muda)
- Waste Elimination
- Current State vs. Future State
- Team Selection
- Project Charter
- The Five "W's" and One "H" of a Problem Statement
- Responsibility Assignment Matrix (RAM) and PACI Charts
- Process Mapping
- Process Mapping Exercise
- Ishikawa Diagrams
- 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)

- A3 Thinking
- Learning Assessment

4 - FUNDAMENTALS OF SIX SIGMA

- History of Six Sigma
- Lean vs. Six Sigma
- DMAIC vs. DMADV

5 - DEFINE

- Introduction to Define
- Define Tools and Terminology
- Y=f(x)
- Defects per Million Opportunities (DPMO)
- 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

6 - MEASURE

- Introduction to Measure
- Measure Tools and Key Components
- Basic Statistics
- Normal Distribution and Z Tables
- Data Collection Plans and Methods
- Scales of Measurement
- Central Tendency
- Central Limit Theorem
- Sampling
- Random versus Representative Samples
- Data Definitions
- Gauge R&R
- Statistical Process Control (SPC)
- Control Charts
- SPC Errors
- Understanding Variation
- Displaying Variation
- Six Sigma "Shift"
- Measurement Systems Analysis (MSA)
- Quality Loss Function

- Process Capability
- Cp and Cpk
- Measurement Error
- Learning Assessment

7 - ANALYZE

- Introduction to Analyze
- Analyze Tools and Goals
- Histograms, Pareto Charts, Scatter and Box Plots
- Revisiting Y=f(x)
- Graphical Analysis
- Problem Statement - 5 "W's" and One "H"
- Failure Mode Effects Analysis (FMEA)
- Root Cause Analysis
- Simple Linear Regression
- Hypothesis Testing
- Confidence Intervals
- Standard Deviations vs. Standard Value
- Sample Mean
- Analysis of Variance (ANOVA)
- Bootstrapping (Resampling)
- Risk Management
- Learning Assessment

8 - IMPROVE

- Introduction to Improve
- Improve Tools
- Developing Solutions
- Risk Mitigation
- One Factor at a Time (OFAT)
- Design of Experiments (DOE)
- Cause and Effect Matrix
- Finalized Solutions
- Learning Assessment

9 - CONTROL

- Introduction to Control
- Control Tools
- Control Plans
- Response Plans
- Change Management Overview
- Learning Assessment

10 - COURSE SUMMARY

- Lean Six Sigma Black Belt Certification Exam