Course Content

Course Description:

The complete **Lean Six Sigma Black Belt Training** course prepares participants to perform the role of a **Lean Six Sigma Black Belt.** The Lean Six Sigma Black Belt Training Materials are a comprehensive curriculum covering everything within the Lean Six Sigma D-M-A-I-C body of knowledge required to successfully prepare students to achieve Black Belt certifications and performance standards. This curriculum is formatted in such a way that the problem solving strategy is demonstrated throughout the course. By utilizing various Statistical and Business Improvement tools participants and trainers can clearly see and communicate the flow and process of the methodology in order to instill both the tactical and strategic aspects of the LSS Black Belt skill set.

Prerequisites:

Management or coaching experience is helpful, but not mandatory.

Topics:

Define Phase
- Introduction to Define
- The Project Charter
- Project Management
- Change Management
- Building Effective Teams
- Multigenerational Project Planning
- Key Lean Concepts
- Transactional Cycle Time Simulation
- Document and Analyze the Process (Value Stream Mapping)
- Core Simulation - Round 1
- Defining Process Requirements (Voice of the Customer)
- Presentation Skills
- Gate Review Process and Define Gate Review

Measure Phase
- Introduction to Measure
- Introduction to Minitab or SigmaXL
- Introduction to Basic Statistics
- Determine What to Measure and Data Collection
- Understanding Variation and Control Charting
- Measurement System Analysis (MSA)
- Process Capability
- Measure Phase - Kaizen

- Introduction to Quick Improvement
- Quick Improvement - Process Flow Improvement Overview
- Quick Improvement – WIP Control Systems
- Core Simulation - Round 2 Measure Gate Review

Analyze Phase
- Introduction to Analyze
- Root Cause ID and Validation
- Cause & Effect Matrix
- FMEA
- Multi-Vari Analysis
- Confidence Intervals
- Hypothesis Testing
- Means, Medians and Variance Tests (Including ANOVA and Non-Parametrics)
- 2-Way ANOVA
- Simple & Multiple Linear Regression
- Proportion and Chi Square Tests
- Analyze Phase – Kaizen
- Quick Improvement - 5S
- Quick Improvement - ABC Part Stratification
- Quick Improvement - Setup Reduction
- Quick Improvement – TPM
- Core Simulation – Round 3
- Analyze Gate Review

Improve Phase

- Introduction to Improve
- Solution Development
- Pre-DOE Simulation
- Introduction to Design of Experiments (DOE)
- Full Factorial DOE
- Fractional Factorial DOE
- DOE Planning
- DOE Simulation (Catapult)
- Replenishment Pull Systems
- Evaluate and Select Solutions
- Pilot the Solution
- Plan and Implement Solution
- Improve Gate Review

Control Phase

- Introduction to Control
- Introduction to Process Management
- Process Control Chart Review
- Mistake Proofing
- Process Control Methods
- Replication and Standardization
- Control Gate Review
- Project Close-Out