

Lean Six Sigma Black Belt Training

Overview

Our Lean Six Sigma Black Belt Course provides an in-depth study of Lean Six Sigma methodology and uses the DMAIC cycle of process improvement. The course contains over 60 modules and is the very one taught at Trinity University as part of their Masters in Healthcare Administration (MHA) program, recently ranked 10th in the Nation by US News and World Report. The training program is followed by a review and administration of the Black Belt Final Exam. Minitab statistical software is required for training. You may choose to download the 30 day free trial in time for the class, or you may choose to purchase a Minitab license. Topics include:

- Intro to LSS Philosophy
- Intro to DMAIC
- Project Charters
- Multi-Generation Project Planning (MGPP)
- Identifying Financial Benefits
- Basic Project Management
- Change
- Voice of the Customer (VOC)
- Process Mapping
- The Power of 5S (5S Exercise)
- Tollgates – DMAIC
- Intro to Data
- Measuring and Data Collection
- Process Lead Time (PLT)
- PLT Simulation
- Sigma Quality Level (SQL)
- Intro to Process Measurement
- Intro to Quick Improvement
- Work Control Systems (Generic Pull)
- Minitab Overview
- Intro to Statistical Process Control
- Control Charts
- Measurement System Analysis (MSA) - Intro
- Measurement System Analysis – Continuous Data
- Measurement System Analysis – Attribute Data
- Process Capability
- $Y = f(x)$
- 5 Why's
- Pareto Charts
- Cause and Effect Matrix
- Failure Modes and Effects Analysis (FMEA)
- Value Add Analysis
- Process Cycle Efficiency (PCE)
- Takt Time/Rate
- Intro to Basic Statistics
- Intro to Hypothesis Testing
- Normality (The Normal Distribution)
- Histograms and Dotplots
- Run Charts
- Boxplots
- 1-Sample t-Test
- 2-Sample t-Test
- Correlation and Simple Linear Regression
- Multiple Regression
- Analysis of Variance (ANOVA)
- Generating Solutions
- Brainstorming
- Solution Selection
- Replenishment Pull Systems
- Process Streamlining
- Process Constraint Identification
- Process Balancing
- Process Flow Improvement
- Value Add Improvement
- Process Streamlining Case Study
- Process Control
- Control Plans
- Mistake Proofing
- Visual Process Control
- Sustaining the Gains
- Review and Exam

Who Should Attend and Why?

Who: Any professional employee with solid project management, communication, and leadership skills. They should also have a basic knowledge of other key functions within the organization (i.e., logistics, personnel, purchasing, operations) and have the ability to do basic analysis.

Why: Because Black Belts are the ones you will count on to lead Lean Six Sigma projects within the organization and effectively coordinate these projects with the Deployment Director and other improvement teams.

Because newly trained Black Belts will return to you as problem solving experts, with the ability to better identify problems, conduct root cause analysis, and use data (evidence based) analysis to assist in decision making. This is an essential capability for both the organization and the individual (an investment in your employees).

Because as more people are trained there will be an increased continuous process improvement awareness and drive to inculcate continuous process improvement as “the work habit”.

Because from energy companies to non-profits, success demands a workforce that is not only educationally and technically proficient, but also strategically flexible - able to adapt quickly and effortlessly to dynamic and constantly changing environments.

Teaching Method

Simulation

People learn best by doing, so this course was designed around a fun and highly interactive simulation exercise where participants can learn and apply Lean Six Sigma methodology to develop optimal solutions for problems. Serving as employees in an organization wrought with complexity, inefficiency, high overhead costs, and frustrated employees and customers, participants work as a business unit to:

Define---Describe the problem quantifiably, visualize the process, and understand customer needs.

Measure---Understand the process and its current performance.

Analyze--- Identify the true root cause(s) that has the biggest impact on process performance.

Improve---Brainstorm and develop improvement solutions to attack root cause(s).

Control---Implement the solutions and sustain the gains.

Class Room/Discussion

Instructors

All instructors are certified Lean Six Sigma Master Black Belts, with significant teaching and facilitation experience. These instructors also possess specialized expertise in balanced scorecard training, strategic planning, change leadership, and consulting in both profit and non-profit organizations.