

## Lean Six Sigma (LSS) Black Belt Certification

### What is Lean Six Sigma?

Lean Six Sigma is a cutting edge business management philosophy. In short term, Lean Six Sigma involves running high impact improvement projects. These projects increase labor productivities and business efficiencies and lower costs through breakthrough process improvements. In longer term, Lean Six Sigma creates a paradigm shift in the culture from reactionary fire fighting to proactive, data driven decision making and continues improvement.



### Who are LSS Black Belts (BB)?

Black Belts are full-time Lean Six Sigma practitioners. They are change agents, project managers and professional business problem solvers. They lead cross-functional process improvement teams. They work with, and advise middle management on the formulation and implementation of breakthrough improvement plans.

### SUKAD and BMGI LSS Black Belt Certification

Lean Six Sigma (LSS) Black Belt training develops students into expert-level problem solvers—giving them the hard skills they need to lead successful improvement teams and achieve strategic objectives in any function or department of any organization. In contrast to less rigorous courses offered by others, this course prepares future black belts to solve a wide variety of difficult problems across a wide spectrum of industries (transactional, service, manufacturing, healthcare)—drawing on both quantitative and qualitative methods from the complementary domains of Lean and Six Sigma.

LSS black belts are professional problem solvers. As such, they provide mentoring to green belts and others who need to improve or optimize performance. With this in mind, our instructors take great care to transfer all the necessary skills that future black belts will need to become great leaders and mentors and, in some cases, fill management positions.

Another differentiating aspect of this course is the inclusion of creative-thinking modules that can be used within the structure of DMAIC when out-of-the-box solutions are **needed. These creative techniques can dislodge a team's thinking when members are mired** in their own assumptions and familiarity with their processes.

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### Learning Objectives

Upon completion of this course, participants will be able to:

- ◆ Apply such Lean concepts as 5S, waste reduction, process mapping, value stream mapping and mistake proofing
- ◆ Define, scope and execute DMAIC projects and Kaizen events
- ◆ Apply the DMAIC methodology to business issues and transition projects from phase to phase
- ◆ Apply basic and more advanced statistical analyses to determine the relationship between key inputs and process outputs
- ◆ Effectively manage team dynamics and understand how to work with multiple levels of leadership to remove barriers and achieve project success.
- ◆ Close projects and hand over control to process owners and present projects to instructors, peers and managers.

### Class room based Black Belt program

The classroom version of LSS Black Belt transfers needed knowledge and skills to students via interactive lecture, group exercises, process and tool simulations, individual exercises and the application of learning to a real improvement project in the workplace.

In the classroom, our expert instructors are interesting and engaging, transferring knowledge from their extensive industry experience and thorough set of course content. Instructors also vigorously challenge students to stretch themselves, and support them in this regard, so they can extract the most value from the experience.

### Course Length (Class Room)

20 days (four 5-day blocks over 4-month time frame)

144 hours of instruction

### Prerequisites

Basic statistical knowledge preferred but not required

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### Certification Requirements

This is a Lean Six Sigma certification program offered jointly by SUKAD and BMGI. The certification requirements:

- ◆ Complete all assignments
- ◆ Pass all exams
- ◆ Finish one workplace improvement project that removes sources of substandard quality, streamlines and optimizes processes, reduces defects or otherwise significantly contributes to cost-reduction or revenue targets

### Class Room Agenda

#### Week One

- ◆ Lean Six Sigma Overview
- ◆ Lean Six Sigma Roadmap and Tools
- ◆ Selecting the Right Methodology
- ◆ Project Definition and Scope
- ◆ Developing Project Charters & objectives
- ◆ Defining Current State
- ◆ Process Mapping
- ◆ The 8 Types of Waste
- ◆ Identification of Value
- ◆ Value Stream Mapping
- ◆ Introduction to Basic Statistics
  
- ◆ Delivery Simulation
- ◆ Data Collection
- ◆ Measurement System Analysis
- ◆ Capability Analysis
- ◆ Meeting Facilitation Skills
- ◆ Project Planning

#### Week Two

- ◆ Basic Process Analysis
- ◆ Graphical Data Analysis
- ◆ Statistical Data Analysis
- ◆ Failure Mode and Effects Analysis (FMEA)
- ◆ Generate and Evaluate Solutions
- ◆ Creative Thinking Techniques
- ◆ Pilot and Implement Solutions
- ◆ Delivery Simulation (round 3)
- ◆ Control Plans
- ◆ Mistake Proofing
- ◆ Statistical Process Control
- ◆ Transition and Project Closure
- ◆ **Identify X's (Fishbone and Cause & Effect Matrix)**

*Classroom Agenda continued to the next page*

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### Classroom Agenda (cont.)

#### Week Three

- ◆ Assess your Learning Styles
- ◆ Review of LSS
- ◆ Review of LSS Roadmap & Tools
- ◆ Project Charters
- ◆ Advanced Basic Statistics
- ◆ Introduction to Minitab
- ◆ Define the "As Is" Process
- ◆ Measurement System Analysis
- ◆ Data Collection Methods
- ◆ Stability Analysis
- ◆ Capability Analysis
- ◆ Change Leadership

#### Week Four

- ◆ Project Reviews
- ◆ Graphical Data Analysis
- ◆ Introduction to Hypothesis Testing
- ◆ Central Limit Theorem
- ◆ Confidence Intervals
- ◆ Means Testing
- ◆ Variance Testing
- ◆ Flow
- ◆ Proportions Testing
- ◆ Contingency Tables
- ◆ Pull/ Kanban/
- ◆ Sample Size Selection
- ◆ One Way Analysis of Variance (ANOVA)
- ◆ Regression & Correlation
- ◆ DOE

### Other Learning Options for BB certification

[e-learning](#)

[e-learning with mentors](#)

[Blended Learning-Classroom with e-learning](#)

### About SUKAD

SUKAD is a provider of Integrated Project and Process Management Services. SUKAD collaborates with BMGI and offer Lean and Six Sigma certifications jointly with BMGI.



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