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Management Institute Europe

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LSS Black Belt | Program Syllabus

## Program Introduction

In its purest form, Lean Six Sigma is about leveraging the principles and tools of science to abate business risk – at all levels of an enterprise. With this in mind, we can view the practice of Lean Six Sigma (LSS) from four different altitudes.

At its highest level, LSS is a strategic vision that epitomizes business success. Second, it is a tactical system of project management that optimizes the control function of a commercial or industrial enterprise.

Third, it is a scientific approach for minimizing or eliminating certain forms of business risk commonly associated with the operation of critical processes. Fourth, it is a personal way of thinking that unites the power of deductive reasoning with the benefits commonly associated with data-driven decision making.

## Program Description

The Lean Six Sigma Black Belt Training Program is intended to develop technical leaders that are capable of propelling their respective organizations toward best-in-class status by reducing costs, improving cycle times, eliminating defects, eliminating variation and significantly increasing customer satisfaction.

Black Belts are highly trained practitioners who possess the technical knowledge and skills that are necessary to facilitate breakthrough improvements in key processes that support the overall business aims and operational goals of an enterprise. In summary, Black Belts are individual contributors or front line managers that:

- *Serve as change agents, internal consultants, mentor to Green Belts and assistant Six Sigma Champions.*
- *Optimize existing technology, or bring new technologies on line at optimal operating conditions.*
- *Practice the art and science of solving process- centric problems through the analysis of performance data.*
- *Implement technical and leadership capability to improve the performance of an existing industrial or commercial process, regardless of complexity or output volume.*
- *Solve specific process-oriented or design-centric problems that have a negative impact on customer satisfaction, operational capability, output capacity, cycle time and other performance-related metrics.*

## Program Rationale

Today, more than ever before, organizations of all types are questing for top and bottom line improvement. This journey is no longer considered a side-bar activity; rather, it is now viewed as a critical business imperative. Of course, this means that business executives must find new and innovative ways to reduce their total cost structure, improve capability and increase capacity, but done so without capital investment.

These executives also understand that, to achieve this mission, they must improve their core processes, yet done so in an economical, repeatable and verifiable way.

Naturally, the realization of this grand vision requires individuals that have the capability to yield beneficial change in a relatively short period of time. When leaders of this calibre are enabled by the power of Lean Six Sigma, quantum business improvements are not only possible, but highly probable.

## Individual Black Belt Path

Nowadays, searching for professional experiences and dynamic workplaces that will boost your career can be complex and unproductive. Even then, the right mix of personal growth, meritocracy, and honest leadership is almost always an unreachable dream.

This is why the Six Sigma Management Institute has been working to merge in a unique program everything you need to make the right investment on yourself by stepping into the world of Lean Six Sigma. The Individual Path is a four phases journey that begins with a Black Belt Training on the methodology and may culminate with an offer to join us. During this journey, you will obtain a world-class certification, learn the most successful business-improvement methodology, how to apply them to real-world companies and enrich your curriculum with a range of activities.



### Black Belt Training

The first phase of the program consists of a 10 days class training course on the Lean and Six Sigma principles, practices, deployment strategies and implementation tactics methodology. This will provide you with the knowledge and expertise to master the concepts and tools required for a LSS Black Belt.

### Certification

Two weeks after the completion of the training, the candidate will be subject to a closed-book examination with minimum required score of 70%. The exam last 4 hours and will assess the candidate on a theoretical and practical level. After successfully completing it, her or she will be officially recognized as a Lean Six Sigma Black Belt.

### Belt Internship Program

The Belt Internship Programme (BIP) is a 10 weeks internship program in which the participants will have the opportunity to work on real-life Lean and Six Sigma Projects for our clients. Only the candidates who will achieve a Lean Six Sigma Black Belt Certification will be eligible to apply for the BIP. They will be required to submit their CV and be subject to a face-to-face interview with one of our Master Black Belts.

### Join the SSMI Work Force

Upon completion of the *BIP*, the candidates will be asked to produce an Individual Report about the experience and the results achieved during the 10 weeks; the findings will be then subjected to evaluation by our Master Black Belts. Only those candidates who demonstrated outstanding skills in managing and executing Lean Six Sigma projects will be recruited to join our Workforce to serve as consultants for SSMI Europe to provide support for Lean Six Sigma Training and Projects.

## Target Audience & Pre-requisites

This program of study has been designed for individual contributors and managers seeking vertical mobility or pursuing horizontal opportunities within their respective fields of practice.

The successful candidate enjoys working with data and solving problems, as well as working in a project-based, team-oriented environment.

Basic arithmetic skills are essential (i.e., be able to perform addition, subtraction, multiplication, division and work with fractions and decimals). Basic computer skills are also essential. In this context, a rudimentary understanding of Excel is highly recommended, but not essential. Furthermore, a most rudimentary understanding of algebra is a plus, but not required.

Generally speaking, the successful completion of any undergraduate degree program will likely support the academic demands of this program.

## Program Focus

The Black Belt program of study will focus on several key areas:

- *Six Sigma principles, practices, deployment strategies and implementation tactics*
- *Lean principles, practices and implementation tactics*
- *Descriptive statistics, benchmarking methods, process control techniques, process diagnostic methods and experimental design methods*
- *Types and uses of performance data, sample size determination and sampling schemes*
- *Project selection criteria, charter elements, execution milestones and review guidelines*
- *Principles and practices associated with process characterization and optimization.*

## Program Goals

Upon completion of this program of study, the candidate will be able to successfully:

- *Master the Six Sigma DMAIC methodology and the related set of analytical tools*
- *Apply the Lean Six Sigma knowledge and skills to successfully lead project teams*
- *Implement the DMAIC methodology and tools to accomplish Black Belt level projects*
- *Utilize the principles and practices of Lean Six Sigma to better frame and solve daily problems*
- *Improve business value for the customer and provider in a concurrent and synergistic way.*

## Programme Completion

Two weeks after the completion of the training, the candidate will be subject to a 4 hours closed-book examination with a minimum required score of 70%. After successfully completing the Exam, the candidate is then officially recognized as Black Belt Program Qualified.

The related certificate is internationally granted and issued by the Dr. Mikel Harry Six Sigma Management Institute USA.

## Company Profile

The Six Sigma Management Institute was founded by Dr. Mikel J. Harry Dr., the co-creator of the Six Sigma methodology. He has been widely recognized and cited in many publications as the principal architect of Six Sigma and the world's leading authority within this field. His book entitled Six Sigma: The Management Strategy Revolutionizing the World's Top Corporations has been on the best seller list of the Wall Street Journal, Business Week, and Amazon's.

Dr. Harry has been a consultant to many of the world's top CEOs and has been a featured guest on such television programs as the NBC show Power Lunch. In addition, he has been distinguished by Arizona State University with the 2002 Engineering Excellence Award for superb achievements in the engineering profession and notable contributions to society.

After 35 years of successful practice, his competency-based knowledge was used to design and develop world-class training programs.

## Program Coverage

The body of knowledge associated with this program-of-study is organized into three primary segments; namely, Global Concepts, General Practices and Technical Practices.

In terms of structure, each program segment is comprised of core topics. In turn, the topics are defined by-competency-based training modules, where each module is comprised of instructional steps. Segment and topic titles are as follows:

### Global Concepts

- Training Orientation
- Breakthrough Vision
- Business Principles
- Process Management
- Installation Guidelines
- Application Projects

### General Practices

- Value Focus
- Lean Practices
- Quality Tools
- Basic Statistics
- Continuous Capability
- Discrete Capability

### Technical Practices

- Hypothesis Testing
- Confidence Intervals
- Control Methods
- Parametric Methods
- Chi-Square Methods
- Survey Methods
- Nonparametric Methods
- Experimental Methods
- DFSS Methods
- Measurement Analysis

## Advantage of Lean Six Sigma Black Belt Certification



### Better Execution

Six Sigma links strategic initiatives to operational improvements to create efficiencies for your business.



### Build Customer loyalty

Six Sigma helps to target your customer needs so you can improve the things that matter most to your customers.



### Create Greater Returns

Six Sigma helps to lower the operational costs and reduce the turnaround time in delivery of products and services to bring about higher customer satisfaction.



### Certifies your Talent

The Six Sigma Black Belt credential is proof that you have the experience and skills to deliver quality service that matches customer expectations.



### Improves your work performance

Professionals with Six Sigma Black Belt credentials earn close to \$104,974 with global opportunities.



### Opens Doors

A Six Sigma Black Belt credential can get you access to globally renowned companies of your choice.



### Applies Everywhere

Six Sigma Black Belt certification is based on achieving excellence while providing quality services. The concepts and techniques can be adapted to any real-world challenge across industries, market segments and geographies.

WORLD LEADING UNIVERSITIES SUCH AS ARIZONA STATE UNIVERSITY & BALL STATE UNIVERSITY HAVE MADE SSMI CERTIFICATION PROGRAMMES A MANDATORY PART OF THEIR CURRICULUM



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"Six Sigma is fundamental education, another differentiator for you, like getting your undergraduate or graduate degree.

Harry's presentation succeeded in capturing our imagination. At Six Sigma's core is an idea that can turn a company inside out, focusing the organization outward to the customer".



Jack Welch