

Program Syllabus



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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.

Hence, we have the compelling need for competency-based, process-centric training that can support the rapid deployment and effective implementation of Lean Six Sigma know-how. To this end, the Six Sigma Management Institute offers online competency-based *Lean Six Sigma* (LSS) training programs, where each program is delivered through the proven MindPro® learning system.

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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.

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Core Competencies: A Lean Six Sigma competency is simply a standardized set of related knowledge, skills, and abilities that are essential to create and sustain processes improvements, regardless of process type or output volume. From this perspective, the core competencies commonly associated with the Lean Six Sigma Body-of-Knowledge (LSS-BOK) are as follows:

- ✦ Define process-centric problems
- ✦ Measure critical process outputs and inputs
- ✦ Analyze process performance data
- ✦ Improve existing process conditions
- ✦ Control critical process outputs and inputs

Naturally, the required scope and depth to which each competency must be practiced is largely dependent upon an individual's contributory role within the organization. For example, a Lean Sigma practitioner's LSS-BOK is generally less intensive than that of Green Belt or Black Belts

Of course, the Lean Sigma program (and qualification process) has been carefully designed to develop and reinforce each of the aforementioned competencies, as well as continually emphasize their intrinsic value.

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Program Description: The Lean Sigma Program-of-Study is intended to prepare individual contributors, supervisors and first-line managers for meaningful participation in an organization's process improvement activities.



Program Outline: The body of knowledge associated with this program-of-study has been configured to develop the essential entry-level skills that underpins the successful practice of Lean Six Sigma.

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

- Breakthrough Vision
- Business Principles
- Process Management

General Practices

- Value Focus
- Lean Practices
- Quality Tools

Program Goals: Upon completion of this training, the candidate will be able to:

- ✦ Understand the Six Sigma DMAIC methodology and the supporting set of basic analytical tools
- ✦ Apply basic Lean Six Sigma knowledge and skills in support of work-team goals, objectives and tasks
- ✦ Utilize the fundamental principles and practices of Lean Six Sigma to better frame and solve daily problems

Program Focus: The Lean Sigma program of study will focus on several key areas:

- ✦ Six Sigma principles, practices, tools and application tactics
- ✦ Lean principles, practices and application tactics
- ✦ Types and uses of performance data, sampling schemes and data collection
- ✦ Principles and practices associated with process characterization and optimization.

Target Audience: This program of study has been designed for individual contributors, supervisors and front-line managers. The successful candidate enjoys working with data and solving process-centric problems, as well as

working in a project-based, team-oriented environment.

Training Prerequisites: 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. A readiness assessment is freely offered at www.mindprotesting.com.



Instructor Profile: Dr. Mikel J. Harry 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.com.

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. At the present time, Dr. Harry is President and Chairman of the Six Sigma Management Institute.



Program Schedule: The total instructional time for the Lean Sigma program is approximately 8 hours. The actual task-time will vary, depending on the selected delivery system. If a candidate is pursuing an independent self-paced program of study (via MindPro®), the recommended schedule is 2 hours per day. At this rate of progress, the typical candidate will have completed the formal training in less than one week. If the candidate is training through their organization, the assigned program schedule may be established by the local instructor or facilitator.

Program Orientation: The MindPro® learning system is extremely easy to use and includes a complete tutorial. The tutorial provides a fully illustrated discussion on how to

get started using the key features and functionality associated with MindPro[®] and the Lean Sigma program of study. Of course, the candidate can gain many insights into the MindPro[®] system and its many features by simply exploring the Lean Sigma syllabus.



Getting Started: Logging into the MindPro system is quite simple. Just enter a Group ID and Email address and then go to the tab entitled Training Programs. Once there, click on a program title (e.g., Lean Sigma) and then select a *Topic* and *Module*. Once at the module level, the instructional steps (i.e., videos) will be revealed. To launch a video, simply click on the related icon.



Instructional Methods: All of the MindPro[®] programs of study are delivered through video-based instruction. The *Instruction* videos present Dr. Harry's 5 minute lectures in progressive order, while the *Expansion* and *Application* videos extend the lectures through real-world examples, animations and simulations using Excel and analytical software:

- ✦ **Instruction Video:** Provides lecture type knowledge, utilizing over-the-experts-shoulder-style instruction
- ✦ **Expansion Video:** Builds upon what was learned in the instruction videos by using animations, simulations and examples to expand the content's scope and depth.
- ✦ **Application Video:** Demonstrates how the central ideas can be put to practical use through Excel and Minitab or JMP.

It should be noted that the Lean Sigma program of study does not make use of Application videos. However, it does rely on the Instruction and Expansion videos.

Delivery Platforms: The overall MindPro[®] training system for the Lean Sigma program is defined by three (3) delivery platforms:

- ✦ **Search:** Keyword search capability
- ✦ **Resources:** analytics and documents
- ✦ **Programs:** Executable training programs

Web Links: MindPro[™] offers a number of web links to information that can assist the candidate during the course of training, as well as back on-the-job. For example, there are links to process improvement resources such as professional glossaries, best practices and many other handy reference tools.

Threaded Discussion: The Six Sigma Management Institute hosts a threaded *Discussion Forum* for the convenience of its online candidates. This forum is a courtesy, not a right. As a consequence, participants are always expected to adhere to common protocols and conventions.

Participation in the forum can be terminated for improper posting (i.e., derogatory comments, defamatory remarks and so on). Acceptable social etiquette is essential to retain forum privileges. At all times, candidates are free to post questions or provide answers to other candidate's questions.

From time-to-time, and when possible, subject-matter-experts will visit the forum and answer a limited number of questions. However, this type of involvement should not be viewed as a candidate expectation; it's simply a courtesy when time and opportunity permit.

Reference Books: The following resource is highly recommended for the Lean Sigma program of study. Although not required, the candidate will find this book most helpful as a *source reference* during the course of training.

Harry, M.J., P. S. Mann, O. C. De Hodgins, R. L. Hulbert, C. J. Lacke (2010) *Practitioner's Guide to Statistics and Lean Six Sigma for Process Improvements*, Wiley, Hoboken, New Jersey (ISBN-13: 978-0470114940)

Harry, M. J., R. Schroeder (1999) *Six Sigma: The Breakthrough Management Strategy Revolutionizing the World's Top Corporations*. Doubleday, Random House Inc., New York (ISBN-13: 978-8129117731)



Evaluation System: After completing each instructional topic, the candidate can access the related *Topic Knowledge Exam* at www.mindprotesting.com. Minimum score for each Topic Knowledge Exam is 70%, where the candidate is provided 3 attempts for each exam.

After successfully completing all of the Topic Knowledge Exams, the candidate is then officially recognized as *Lean Sigma Program Qualified*. The related certificate is granted and signed by Dr. Mikel J. Harry.

Academic Integrity: The faculty and staff of the Six Sigma Management Institute fully support the concepts and conventions related to academic integrity. At all times, candidates are expected to perform their own work in an original way.

- ✦ Having a tutor or colleague complete a candidate's assignments is unacceptable.
- ✦ Having a reviewer make extensive revisions to an assignment or participate during the course of examinations is unacceptable.
- ✦ Use work previously submitted by another candidate or author is unacceptable.
- ✦ Using other's information without proper citation or expressed permission is unacceptable.

Should a candidate choose to violate these basic expectations, the result will be program expulsion. This means that further access to MindPro® will be immediately terminated, pending notification and appeal.

If the violation is discovered following completion of the candidate's training program, then any qualification letters or proficiency certificates that were previously granted by SSMI will be immediately recanted, pending notification and appeal.

At the discretion of SSMI, work accomplished in the Lean Sigma program of study is subject to verification of originality.

System Requirements: The minimum system requirements for all of the MindPro™ Lean Six Sigma programs of study are as follows:

- ✦ Pentium processor-based PC or compatible computer
- ✦ 128MB of RAM (256MB recommended)
- ✦ High-Speed Internet Connection
- ✦ Cookies, JavaScript and ActiveX must be enabled in your browser's security settings.
- ✦ Adobe Reader

✦ MP4 Player

Program Registration: To register for any MindPro® training program go to www.sixsigmamindpro.com. All program registration fees are due at the time of registration. Upon registration, the candidate will be provided with the information and instructions for how to access the MindPro® system and programs.

Refund Policy: The Six Sigma Management Institute (SSMI) supports and sustains a *Total Customer Satisfaction* policy. This means that SSMI stands behind its training programs (and delivery systems) in terms of product quality, reliability, availability and technical support.

If within 48 hours of system activation, a MindPro® customer (i.e., candidate) decides not to pursue the selected program of study, and requests a full refund (for any reason), SSMI will promptly cancel the transaction without discourse, return all monies related to that transaction (to the purchaser) and do so in the most expeditious manner possible. E-mail: mindpro@ss-mi.com.

License Agreement: The MindPro™ delivery system and programming code, as well as the related instructional content, videos, and documents, are the intellectual property of Dr. Mikel J. Harry, Ltd. This property has been licensed to SSMI under a separate reseller's agreement.

All candidates will be presented a single-user break-seal license agreement during the registration process. When presented the license agreement, the candidate has the ability to accept or reject its terms and conditions. SSMI strongly encourages each candidate to read this agreement prior to acceptance.

Under the terms of this agreement, the candidate must request permission (in writing) to copy or otherwise use any of the material or content contained within the MindPro™ system. All requests must be directed to Dr. Mikel J. Harry, Ltd. in care of SSMI at mindpro@ss-mi.com.

Technical Support: Candidates can receive technical assistance through the following channels:

- ✦ Toll Free: 800 335-6234
- ✦ Direct: 480 515-0890
- ✦ E-mail: mindpro@ss-mi.com

Revision Policy: In the spirit of continuous improvement, SSMI reserves the right to make changes, modifications or updates to any or all of the MindPro™ delivery system components, at any time it deems necessary. Such changes will be made at the sole discretion of SSMI. Furthermore, SSMI will make every reasonable effort to notify current users of such changes prior to enabling the related functionality.



Program Citations: MindPro®

was made possible through the asserted efforts and kind contributions of many people and organizations. The listing of key contributors credits their guidance, discussions, work, materials, copyrights, publications, presentations, and ideas. Thanks to such contributors, the benefits of Six Sigma as well as other process improvement initiatives can now be realized by large, medium, and small organizations, as well as individuals seeking professional advancement and recognition through digital learning, coaching and development.



SSMI Profile: The Dr. Mikel J.

Harry Six Sigma Management Institute (SSMI) is the world's leading innovator of Six Sigma methodologies, specializing in the research and development of Lean Six Sigma and process improvement training curriculums, delivery systems, supporting tools and resources. By combining Dr. Harry's 20-plus years of experience in the field of Six Sigma along with new technologies, SSMI is able to deliver expert knowledge at a fraction of traditional costs. The SSMI website can be accessed at the following address: www.ss-mi.com.