

Lean Six Sigma Black Belt*



Course Overview and Learning Objectives

***Course includes choice of software:** EngineRoom (included for free), Minitab (must purchase separately) or JMP (must purchase separately)

Note: This outline is identical for the Healthcare, Financial Services, and Services versions. The difference for each course lies in the customized case studies, examples and exercises.

SUMMARY

This Lean Six Sigma Black Belt course is comprised of twelve separate sessions. Each session is a collection of related lessons, and includes an interactive quiz at the end of the session. Individual lessons also include simulations and interactive practice exercises. All course material is available online, and sessions may be started and stopped at any point - content is delivered on-demand according to your schedule. The course is instructor supported if you need help.

By completing this course of study, you will gain a solid general knowledge of the theory, composition and implementation of a Lean Six Sigma initiative. You will also become proficient in all of the analytical tools necessary to Define, Measure, Analyze, Improve, and Control Lean Six Sigma improvement projects, including the design and analysis of general and fractional factorial experiments. You will learn team leadership and project management skills. In short, as a Black Belt you will master the skills necessary to lead a complex process improvement project that produces bottom-line results.

LEARNING OBJECTIVES

The overarching learning objective of the Lean Six Sigma Black Belt course is to develop a comprehensive set of skills that will allow you to function effectively as a Lean Six Sigma Black Belt. The Lean Six Sigma Black Belt body of knowledge includes techniques for both quantitative and non-quantitative analysis, as well as the team leadership skills necessary to get projects across the goal line.

After completing this course, you should be able to DO the following:

- Communicate using Lean Six Sigma concepts.
- Think about your organization as a collection of processes, with inputs that determine the output.
- Relate Lean Six Sigma concepts to the overall business mission and objectives.
- Use the concept of a Sigma Level to evaluate the capability of a process or organization.
- Understand and apply the five step D-M-A-I-C model as a framework to organize process improvement activity.
- Employ a wide range of process improvement techniques, including Design of Experiments, within the D-M-A-I-C model.
- Recognize the organizational factors that are necessary groundwork for a successful Lean Six Sigma effort.
- Employ your Lean Six Sigma skills to lead a successful process improvement project delivering meaningful results to the organization.

COURSE STRUCTURE AND REQUIREMENTS

MoreSteam courses provide content-on-demand to offer the highest degree of student flexibility. You can set your own schedule and progress at your own speed, terminating and re-entering sessions whenever you wish.

All course sessions use a mix of multimedia to present material, including text, synchronized audio slide shows, diagrams, charts, audio lectures, and simulations. Links to outside research resources are provided to explore chosen subjects in greater detail. Course access is provided for **365 days** beginning at the time of enrollment.

As you work through the course you will be asked to demonstrate knowledge and understanding in four ways:

- Interactive **Practice Exercises** will be presented throughout each session so that you can try your new skills and get immediate feedback.
- **Supplemental Exercises** will be presented at the end of every session to practice new concepts. Supplemental Exercises are self-graded and may be shared in the Virtual Classroom Discussion area.
- **Quizzes** will be conducted at the end of every session. Quizzes are interactive, and provide immediate feedback to close the learning loop.
- **Black Belt Project:** We strongly suggest that a meaningful project should accompany this coursework. The learning experience will be enhanced significantly if concepts and tools are practiced on a real-world project as the course is completed. Successful project work is also required for any certification process.

COURSE SEQUENCE

The course is presented in a logical sequence to follow the Six Sigma DMAIC improvement process. We believe that you will learn most efficiently by following the sequence presented. In particular, the first session presents an overview of Six Sigma, which will be helpful to put the remaining sessions in proper context.

However, the sessions are modular, and we encourage you to explore the material. You are free to move forward and backward throughout the course. You can skip ahead or go back and review material that you already covered. The course map feature allows you to move point to point, from anywhere to anywhere. The course map status column will tell you which pages you have visited.

HOW TO NAVIGATE AND USE RESOURCES

Navigation aids are located in the Navigation Frame to the left of the text screen, and can be activated by clicking on the icon or text.

- Return to the MoreSteam University home page by clicking on the icon in the upper left corner of the navigation frame.
- Click on **Course Overview** (the course name) in the navigation box to return to this page to review course requirements or other general information.

- Consult the dynamic **Course Map** to identify your current location or to move around the course. The Course Map bookmarking feature will take you back to the point where you last terminated your session.
- Join a Virtual Classroom Discussion through the **Discuss** link. The Virtual Classroom Discussion is a threaded discussion forum among all current students, with input from the instructor.
- Access the MoreSteam **Toolbox** through the navigation box to research process improvement tools.
- The **"What's New"** link highlights recent modifications to the course. This window will automatically appear upon log-in whenever there is a new update.
- Outside Research **Resources** provides links to useful websites and recommended books.
- The **"Instructor"** link provides a shortcut to send an email to the course instructor.
- Access a notepad to record your class notes by clicking on **"Notes"** link in the navigation box. Notes will be indexed by your current course location for easy reference, and can be printed in summary form.
- The **"Account Info"** link provides a vehicle to update your email address, phone number, or location, and shows the number of access days remaining.
- The **"Quiz Results"** link provides a summary of quiz results by session, including detail on any skipped or missed questions.
- The **"StatMaster"** link opens an interactive wizard to guide statistical analysis.
- The **"SigmaPedia"** link opens SigmaPedia, online Lean Six Sigma encyclopedia.
- The **"Templates"** link opens a Web page that links to the entire set of Microsoft® Excel® templates available for the course.
- From any point in the course you can open a D-M-A-I-C flowchart by clicking on the **Six Sigma icon** in the lower left corner of the navigation bar.
- The **Help** icon in the lower left corner of the navigation bar opens an Internal Search Function and a Glossary of Terms:
- Synchronized audio slide shows will display without use of a separate media player, but you must enable your browser to read Java (Tools/Internet Options/Advanced/Microsoft VM/Check All Boxes). When you see a slide show icon displayed in the right margin of the course, click on the icon to load the media.

CERTIFICATE OF COMPLETION

Upon completion of this course (review of all lessons and completion of quiz modules), MoreSteam will provide you with a certificate of training completion. By completing this course, you will earn 14.5 CEUs or 145 PDUs of credit.

COURSE MATERIALS

Materials Provided by MoreSteam

- Microsoft Excel templates for statistical analysis, available as downloads within the course material (dependant on version of course)
- Standard course version includes a copy of MoreSteam's EngineRoom® data analysis software for Microsoft Excel.

Materials Provided by Student/Company

- General-purpose statistics software is useful but not necessary. Excel templates are provided by the course for statistical analysis. If you do not have a statistics package, options range from free internet downloads to higher-end packages like Minitab, Statistica, JMP, etc. You can download a 30-day evaluation copy of most statistics packages over the Web.
- Microsoft Office (Word, Excel, PowerPoint), English version. Office 2000 or higher is recommended. Office 97 does not take advantage of all Excel template features. Non-English versions are not compatible with those templates using Macros.

SUPPORT

- Use the on-screen Help feature for a glossary of terms and site search.
- You can also contact the Course Instructor by email.

BELT CERTIFICATION

This course does not include belt certification unless it is purchased separately. You can find more information on the MoreSteam Web site: <http://www.moresteam.com/elearning/certification.cfm>.

For additional information on this course, visit <http://www.moresteam.com/university/enroll/>

Updated: 10/11/10

Copyright © 2000-2010 by MoreSteam.com LLC