



Six Sigma Green Belt Certification Prep

MSB110 / 130 Hours / 12 Months / Self-Paced / Materials Included

Course Overview:

The purpose of this course is to prepare students to be an ASQ Certified Six Sigma Green Belt (CSSGB) professional. Students will develop a thorough understanding of all aspects within the phases of D-M-A-I-C. They will also develop an understanding of how to perform and interpret Six Sigma tools and how to use standard principles of Lean.

The content in the certification course will prepare students to take the associated industry recognized exam. Please note that the individual state requirements may vary. Students will be responsible to check with their state's governing body for state specific requirements.

Course Outline:

Lesson 1: Building the Responsive Six Sigma Organization

Six Sigma is a rigorous, focused, and highly effective implementation of proven quality principles and techniques. Incorporating elements from the work of many quality pioneers, Six Sigma aims for virtually error-free business performance. In this lesson, we will introduce the Six System Organization.

Lesson 2: Recognizing and Capitalizing on Opportunity

Lesson 2 describes the organizational mechanisms required to recognize the key stakeholder needs, which provide opportunities for organizational growth and, in some cases, survival. This chapter describes a number of approaches for gathering customer input on their value definition. It then explores other means of identifying opportunities, including quantifying costs of poor quality, benchmarking best practices, and innovation.

Lesson 3: Data-Driven Management

In this lesson, we will develop an understanding of how data-driven management provides a means of achieving organizational objectives by quantifying needs or wants of stakeholder groups relative to current baselines, and acting upon the data to reduce those critical gaps in performance.

Lesson 4: Maximizing Resources

This lesson addresses Six Sigma project selection and the management support activities related to project success. Topics will include goals, project management, project selection, and project execution.

Lesson 5: Project Management Using DMAIC and DMADV

In this lesson, we will discuss and develop an understanding of the Define-Measure-Analyze-Improve-Control model and the Define-Measure-Analyze-Design-Verify model by examining the aspects of each as well as comparing and contrasting the two.

Lesson 6: The Define Phase

In this lesson, we will discuss the key objectives within the Define phase:

- Develop the Project Charter
- Define scope, objectives, and schedule
- Define the process (top-level) and its stakeholders
- Select team members

- Obtain authorization from sponsor
- Assemble and train the team

Lesson 7: The Measure Phase

In this lesson, we will discuss the objectives of the Measure stage, which include:

- Process definition: to ensure the specific process under investigation is clearly defined.
- Metric definition: to define a reliable means of measuring the process, relative to the project deliverables.
- Establish the process baseline: to quantify the current operating results as a means of verifying previously defined business needs, and to properly substantiate improvement results.
- Evaluate measurement system: to validate the reliability of data for drawing meaningful conclusions.

Lesson 8: Process Behavior Charts

In this lesson, we will discuss various topics related to behavior charts, including distribution, control charts for variable data and attributes data, control chart selection and organization, short run statistical process control, SPC techniques, and process capability indices.

Lesson 9: Measurement Systems Evaluation

A good measurement system possesses certain properties. First, it should produce a number that is “close” to the actual property being measured. Second, if the measurement system is applied repeatedly to the same object, the measurements produced should be close to one another. Third, the measurement system should be able to produce accurate and consistent results over the entire range of concern. Fourth, the measurement system should produce the same results when used by any properly trained individual. Finally, when applied to the same items the measurement system should produce the same results in the future as it did in the past.

Lesson 10: Analyze Phase

In this lesson, we will develop an understanding of the key objectives of the Analyze phase, including:

- For existing processes, analyze the value stream to identify ways to eliminate the gap between the current performance and the desired performance.
- Analyze the sources of variation that contribute to the gap (for DMAIC) or that will contribute to the design performance (for DMADV).
- Determine the drivers, the little x's that correlate to the customer requirements (CFQ, CFS, CFC) and significantly influence the process or design.
- Use benchmarking techniques described in Chap. 3 to evaluate best in class or similar products or services.

Lesson 11: The Improve/Design Phase

The primary objective of the Improve or Design stage of DMAIC/DMADV is to implement the new system. The first consideration is to prioritize the various opportunities, if more than one proposal exists. Once a preferred approach has been determined, the new process or product design is defined and optimal settings established. This new design can then be evaluated for risks and potential failure modes.

Lesson 12: The Control/Verify Phase

In this lesson we will discuss the main objectives of the Control/Verify stage, including:

- Statistically validate that the new process or design meets the objectives and benefits sought through the project
- Develop and implement a control plan to institutionalize the new process or design
- Document lessons learned and project findings, as discussed in the “Tracking Six Sigma Project Results” section of Lesson 4

Lesson 13: Final Test

All necessary materials are included.

Certifications:

This course prepares students to take the **ASQ Six Sigma Green Belt** certification exam. **The price of the course includes the price of the**

certification exam.

System Requirements:

Internet Connectivity Requirements:

- Cable and DSL internet connections are recommended.

Hardware Requirements:

- Minimum Pentium 400 Mhz CPU or G3 Macintosh. 1 GHz or greater CPU recommended.
- 256MB RAM minimum. 1 GB RAM recommended.
- 800x600 video resolution minimum. 1025x768 recommended.
- Speakers/Headphones to listen to Dialogue steaming audio sessions.
- A microphone to speak in Dialogue streaming audio sessions.

Operating System Requirements:

- Windows Vista, 7, 8, 8.1, 9, 10
- Mac OSX 10 or higher.
- OpenSUSE Linux 9.2 or higher.

Web Browser Requirements:

- Google Chrome is recommended.
- Firefox 13.x or greater.
- Internet Explorer 6.x or greater.
- Safari 3.2.2 or greater.

Software Requirements:

- Adobe Flash Player 6 or greater.
- Oracle Java 7 or greater.
- Adobe Reader 7 or greater.

Web Browser Settings:

- Accept Cookies
- Disable Pop-up Blocker.

****Outlines are subject to change, as courses and materials are updated.****