Management and Strategy Institute, LLC.
Six Sigma Lean Green Belt in IT (LGBIT)
Course of Study

Introduction

The Six Sigma Lean Green Belt in IT certification, developed exclusively for the Management and Strategy Institute, is designed to give the student a solid understanding of Lean Six Sigma principles within the IT industry. It teaches you how to effectively work within a Six Sigma team, learn to improve quality and reduce defects within your organization, while also learning Lean principles.

Many of the country's largest IT organizations are looking to trim unneeded operations and processes from within the organization. Six Sigma gives companies a very precise way to demonstrate the real value of technology while improving costs.

The LGBIT exam is a timed, online exam. It consists of approximately 65 questions and has a required passing score of 65%.

Competencies

This course of study covers the following competencies:

History of Six Sigma

- Why is Six Sigma used in business, and where did it come from.
    - Learning Outcome: The Student will be able to define Six Sigma

y = f(x)

- It all begins with a simple equation. Although Six Sigma talks a lot about statistical analysis and measurements and various other mathematical applications, at the core of the process is one simple equation.
    - Learning Outcome: Understand the basic function of y=f(x)

Process Variances

- Identify where variances are occurring in a function
    - Learning Outcome: Basic understanding of Identifying where variances are occurring in a function.

TQM & others

- Discuss other process improvement methodologies
    - Learning Outcome: Have an understanding of the other process improvement methodologies and how they differ from Six Sigma.

Recognizing opportunities

- Fundamentally, the training and use of Six Sigma philosophies and principles will allow employees and project teams to understand how systems interrelate and how to use the application of quality improvement methodologies which complement Six Sigma, such as Lean.
    - Learning Outcome: Understand Six Sigma philosophies and how to recognize opportunity.

Managing Quality

- Quality is not about what you produce being accurate as you see it, but rather as the customer sees it.
    - Learning Outcome: Understand how to frame quality into what is important to the customer.

Deciding to start a Six Sigma project

- Six Sigma is a top-down methodology – that means that the decision to implement comes from the top – whether that is the top of the business, your division of the business, or some other production unit.
    - Learning Outcome: The student understands the "how and why" regarding a company launching a quality improvement initiative like Six Sigma.

Organizational Roles and Responsibilities

- How Six Sigma team are organized and understanding the role of each "belt"
    - Learning Outcome: Understand how team are formed and the role of each belt level within the Six Sigma project.

The DMAIC Method

- Every Six Sigma project will follow the same process in a systematic and uniform method known as DMAIC, an acronym made up from the first letters of each element – Define, Measure, Analyze, Improve, Control.
    - Learning Outcome: Understand and define DMAIC

Why is DMAIC used

- DMAIC is a formalized problem-solving method which is designed to improve the effectiveness and ultimate efficiency of the organization.
    - Learning Outcome: Understand why the DMAIC process is utilized.

DMADV variation

- DMADV is an acronym for Define, Measure, Analyze, Design and Verify.
    - Learning Outcome: Understand the basis of DMADV when you do not have an existing system or process to improve upon.

Project Communication

- Maintaining regular communications throughout the process from the outset of the project.
    - Learning Outcome: Understand why continual communication is critical to the success of the project.

Supporting Delivery

- The role of the Yellow Belt.
    - Learning Outcome: Understand the critical role that a Yellow Belt, or "Subject Matter Expert" plays within the Six Sigma team.

Defining a process

- Defining a process can be difficult at times, but it is important to determine which parts of a work task or tasks you are trying to measure.
    - Learning Outcome: Determine how to define a process. Process owners, scope and boundaries.

Critical to Quality Characteristics

- There may be several Critical to Quality characteristics for a Six Sigma project team.
    - Learning Outcome: Understand Critical to Quality (CTQ) measures.

Cost of Poor Quality (COPQ)

- The Cost of Poor Quality is the sum of internal and external failures.
    - Learning Outcome: Understand the cost of poor quality.

Six Sigma Metrics

- For Six Sigma projects, the goal is to maintain statistical process control.
    - Learning Outcome: Understand the Sigma level, RTY, DPU, DPMO, FPY. Consequential metrics, Quality Metrics, Cost Metrics, Scheduling Metrics.

Estimating the Baseline

- It's important to do this to provide an accurate metric to measure the analyzed and agreed upon improvements against.
    - Learning Outcome: Understand the process to estimate the baseline.

The Define Stage

- This unit provides information on the activities that would normally be expected at the initial Define stage of a Six Sigma Project.
    - Learning Outcome: The Project Definition and scoping of goals and objectives are discussed, how the process is defined in terms of stakeholders, and the functionalities of the process.

The Measure Phase

- This unit provides information on the activities that would normally be expected at the measure stage of a Six Sigma Project.
    - Learning Outcome: Getting more detail into the process, what metrics and measurements are involved as well as estimating the baseline of the current "as is" process.

Six Sigma Tools

- This unit provides information on a number of different tools that may be useful throughout the many parts of the Six Sigma project.
    - Learning Outcome: This unit has a slightly different look than others in that it does not necessarily flow from one page to the next but is a series of factually presented pieces of information.

The Analyze Phase

- This unit provides information on the activities that would normally be expected at the Analyze stage of a Six Sigma project.
    - Learning Outcome: The value stream proposition and analysis are examined as well as determination of the factors that influence the process output.

The Improve Stage

- This unit provides information on the activities that would normally be expected at the Improve stage of a Six Sigma project.
    - Learning Outcome: The new process is defined, potential benefits examined and verification of the new process determined.

The Control Stage

- This unit provides information on the activities that would normally be expected at the final control stage of a Six Sigma project.
    - Learning Outcome: We discuss the standardization of new practice, verifying the impacts /savings, and how to document lessons learned.

Valuing Six Sigma

- This unit concludes the overview understanding to the level of a Six Sigma Green Belt.
    - Learning Outcome: The unit covers some more detail about the role, like activities of a Green Belt and how that differs from a Black Belt. It also covers the communications project task that a Green Belt will likely be asked to undertake.

The Basics of Lean

- This module is designed to provide a general background regarding Lean methodology.
    - Learning Outcome: The content includes basic information on its development and creation as a process improvement vehicle and some of the concepts upon which it is built. We will also cover some of the frequent Lean terms and discuss the reasons for applying Lean in the workplace.

Lean in Action

- This module discusses some of the analysis and procedural activities of undertaking a Lean review.
    - Learning Outcome: We will discuss what they are and give appropriate examples where possible. The module is the core for understanding the actions of a Lean review of a production process.

The Impact of Lean

- This module looks at how to manage within a Lean environment and what considerations need to be taken account of when making management decisions.
    - Learning Outcome: We will look at the impact of Lean across several industry sectors and conclude by looking at the way Lean and Six Sigma have become closely integrated.

Six Sigma in IT

- Information Technology plays an integral role in the structure of a Six Sigma Program.
    - Learning Outcome: Understand the role of IT within a Six Sigma project.

IT Responsibilities

- Information Technology professionals help organizational leaders incorporate a proactive, data-driven Six Sigma culture in a manner that has the least resistance in terms of technological change.
    - Learning Outcome: Understand the responsibilities of IT within the company and how they support a Six Sigma project.

Gaining Six Sigma Skills

- IT employees facilitate organizational development in the underlying DMAIC methodology.
    - Learning Outcome: Aligning training and development

Projects within IT

- How do we implement the Six Sigma Culture within Information Technology?
    - Learning Outcome: Establish clear roles for Information Technology for institutionalizing the Six Sigma culture within the organization.

Learning Resources

Required:
Material included with your purchase is required reading.

- Free online training material provided by MSI. The material includes everything you will need to learn to pass the exam. This material is included for free with the purchase of your exam. It is in digital form, and available immediately after payment.

Optional:
This material is not required, however it will assist you in becoming a Lean Six Sigma Professional.

- Gitlow, Howard S. and Levine, David M (2004) Six Sigma for Green Belts and Champions: Foundations, DMAIC, Tools, Cases, and Certification, ISBN-13: 978-0131172623
- Peter K. Ghavami (Nov 2008), Lean, Agile And Six Sigma Information Technology Management: New Stratagems To Achieve Perfection, ISBN-13: 978-1440478123

Preparing for Success

In order to successfully complete the LGBIT exam, you will need to make sure you have the appropriate resources to support your learning.

- A quite location, free from distraction.
- Internet access.
- Current (newest) version of Internet Explorer, Firefox, or Chrome browser.
- Take study notes while going through the training.
- When you are ready to take the exam, you should allot 3-hours of time.

Frequently Asked Questions

What happens if I fail the exam?

- You are given two additional attempts to pass the exam at no additional cost.

Will I receive a physical certificate in the mail?

- Yes, MSI will mail you a certificate suitable for framing as well as transcripts.

Are There Prerequisites?

- No, this program does not have prerequisites.