



• C R E A T I N G E X C E L L E N C E •

LEAN SIX SIGMA **GREEN** BELT TRAINING & CERTIFICATION PROGRAM



  gazellesmc



KEY TAKE AWAY —

- Understand Lean & Six Sigma approach and methodology.
- Learn to apply more than 80 tools & techniques for improving process efficiency and effectiveness
- Achieve cost optimization by reducing defects and cycle time and improving over customer satisfaction
- Provide organization and individual an edge to their competitors by applying world class practices

BENEFITS OF LIVE INSTRUCTOR BASED ONLINE TRAINING

SIMPLE SET-UP

Easy registration through email.

INTERACTIVE

Live video interaction among participants and instructors. In-built chat to exchange messages individually or with the group.

ENGAGING

Knowledge retention with in-session Activities.

LIVE BROADCASTING

Students see PowerPoint slides in a split-screen to follow along with the instructor.

COURSE CONTENT SHARING

Learning materials and additional reading resources, case studies and exercises available for all participants as PDF.

CONVENIENCE

Attendees can join training sessions from their mobile or desktop device.

TECH SUPPORT

Dedicated host to ensure that everything runs smoothly.

ACCREDITED BY IASSC

(International Association for Six Sigma Certification) is the only independent third-party certification body within the Lean Six Sigma Industry that does not provide training, mentoring and coaching or consulting services. IASSC exclusively facilitates and delivers centralized universal Lean Six Sigma Certification Standards testing and organizational Accreditation's.



COURSE OVERVIEW

Six Sigma Green Belt is one of the most recognized business management strategies focusing on quality and process improvement. It is widely used across industries and it includes the utilization of a variety of business process improvement tools, including Statistical Tools.

Variability and variations are a source of loss of productivity, customer dissatisfaction with the product/service, increased cost and delays in delivery hence Six Sigma is a customer driven top management which leads the battle against variability and variations of all types using the DMAIC (Define, Measure, Analyze, Improve, and Control) methodology. This standardized approach, if applied throughout the organization, can lead to substantial reduction of variability and variations by creating sensitivity for noticing, analyzing and reducing variability and variations to a predetermined standard for the organization (the Six Sigma scale). It inculcates the approach of economic and innovative solutions by involving all the concerned persons, with appropriate training and teamwork.

The Six Sigma Green Belt operates under the supervision of a Six Sigma Black Belt, analyzes and solves quality problems and is involved in quality improvement projects. A Green Belt is someone with adequate work experience wants to demonstrate his or her knowledge of Six Sigma tools and processes.

WHO SHOULD ATTEND ?

This course is designed for individuals from diverse organizational functions-operations, quality, logistics, finance, production, engineering and other staff functions. Participants are normally process owners or leaders and are well versed in technical aspects of their jobs and have worked on project teams.

FORMAT

This course is an instructor-led, online - based environment. The instruction is a blend of lecture, application, individual and team based exercises.

- Laptop computers will be used extensively during the class.
- There is normally additional 50 hours recommended of self-study and practice where the individual returns to their work environment to apply the knowledge and skills learned in class to their projects.
- This entire course is 10 days in length.



PROGRAM TIMING

- ☐ Morning / Afternoon live online presentation throughout the week
- ☐ Learning materials and additional reading resources, case studies and exercises available.

COURSE DETAILS

Delivery type Live Virtual Training

Prerequisites None

Level Advanced Training

PRE / POST COURSE READINGS

Pre-post reading

Gazelles shall provide pre reading online study material studying materials

Post course reading

- ☐ Online e learning access for Lean Six Sigma content
- ☐ Exam Preparation
- ☐ Project Support
- ☐ Mock exam access
- ☐ Ebooks, case studies, various templates

INCLUDED

Online E earning material and minitab

30 Days



COURSE CONTENT

Phase Description:

The Define Phase of the DMAIC methodology is constructed to introduce the fundamentals of Lean Six Sigma. There are five modules in this phase:

MODULE 1 UNDERSTANDING SIX SIGMA (37 SLIDES)

Deliverable

- Describe the objectives of Six Sigma
- Describe the relationship between variation and sigma
- Recognize some Six Sigma concepts
- Recognize the Six Sigma implementation model
- Describe your role and responsibilities in Six Sigma

SIX SIGMA FUNDAMENTALS (36 SLIDES)

Deliverable

- Describe what is meant by “Process Focus”
- Describe the importance of VOC, VOB, and VOE, and CTQ's
- Explain COPQ
- Generate a Process Map
- Describe the Basic Six Sigma metrics
- Explain the difference between FTY and RTY
- Explain the difference between DPU and DPMO

SIX SELECTING PROJECTS (41 SLIDES)

Deliverable

- Utilize a structured approach to select projects
- Refine and Define the problem into a Project Charter
- Make an initial estimate of your project's benefits

ELEMENTS OF WASTE (20 SLIDES)

Deliverable

- Have a clear understanding of the specific deliverables
- Have started to develop a Project Plan to meet the deliverables
- Have identified ways to deal with potential roadblocks
- Be ready to apply the Six Sigma method through your project

WRAP UP & ACTION ITEMS (9 SLIDES)

MODULE 2 UNDERSTANDING SIX SIGMA (37 SLIDES) 1

Phase Description:

The Measure Phase of the DMAIC methodology is constructed to introduce important Lean Six Sigma tools for characterizing your business issues. There are six modules in this phase:

WELCOME TO MEASURE (4 SLIDES)

PROCESS DISCOVERY (81 SLIDES)

Deliverable

- Have a clear understanding of the specific deliverables
- Have started to develop a Project Plan to meet the deliverables
- Have identified ways to deal with potential roadblocks
- Be ready to apply the Six Sigma method through your project

SIX SIGMA STATISTICS (60 SLIDES)

Deliverable

- Explain the various statistics used to express location and spread of data
- Describe the characteristics of a Normal Distribution
- Test for Normality
- Describe the difference between Special Cause and Common Cause Variation
- Generate a variety of graphs for data

MEASUREMENT SYSTEM ANALYSIS (63 SLIDES)

Deliverable

- Perform the step by step methodology in Variable and Attribute MSA's
- Identify the various components of variation so corrections can be made and the gage error reduced
- Recognize the differences between Repeatability, Reproducibility, Accuracy and Calibration

PROCESS CAPABILITY (39 SLIDES)

Deliverable

- Estimate Capability for Continuous Data
- Describe the impact of Non-normal Data on the analysis presented in this module for Continuous Capability
- Estimate Capability for Attribute Data

WRAP UP & ACTION ITEMS (10 SLIDES)

MODULE 3 LSS GREEN BELT ANALYZE PHASE

Phase Description:

The Measure Phase of the DMAIC methodology is constructed to introduce important Lean Six Sigma tools for characterizing your business issues. There are six modules in this phase:

WELCOME TO ANALYZE (4 SLIDES)

“X” SIFTING (54 SLIDES)

Deliverable

- Perform a Multi-Vari Analysis
- Interpret and a Multi-Vari Graph
- Identify when a Multi-Vari Analysis is applicable
- Interpret what Skewed data looks like
- Explain how data distributions become Non-normal when they are really Normal

INFERENCEAL STATISTICS (28 SLIDES)

Deliverable

- Explain the meaning of the term “Inferential Statistics”.
- Describe the basic tenets of the Central Limit Theorem.
- Describe the impact of sample size on your estimates of population parameters.
- Explain Standard Error

INTRO TO HYPOTHESIS TESTING (28 SLIDES)

Deliverable

- Articulate the purpose of Hypothesis Testing
- Explain the concepts of the Central Tendency
- Be familiar with the types of Hypothesis Tests

HYPOTHESIS TESTING NORMAL DATA PART 1 (84 SLIDES)

Deliverable

- Determine appropriate sample sizes for testing Means
- Conduct various Hypothesis Tests for Means
- Properly Analyze Results

HYPOTHESIS TESTING NORMAL DATA PART 2 (49 SLIDES)

Deliverable

- Be able to conduct Hypothesis Testing of Variances
- Understand how to Analyze Hypothesis Testing Results

MODULE 3 LSS GREEN BELT ANALYZE PHASE

HYPOTHESIS TESTING NON-NORMAL DATA PART 1 (51 SLIDES)

Deliverable

- Conduct Hypothesis Testing for equal variance
- Conduct Hypothesis Testing for Medians
- Analyze and interpret the results

HYPOTHESIS TESTING NON-NORMAL DATA PART 2 (36 SLIDES)

Deliverable

- Calculate and explain test for proportions
- Calculate and explain contingency tests

WRAP UP & ACTION ITEMS (10 SLIDES)

MODULE 4 LSS GREEN BELT IMPROVE PHASE

Phase Description:

The Improve Phase of the DMAIC methodology is constructed to introduce important Lean Six Sigma tools for properly controlling solutions. There are eight modules in this phase:

WELCOME TO IMPROVE (4 SLIDES)

PROCESS MODELING REGRESSION (33 SLIDES)

Deliverable

- Perform the steps in a Correlation and a Regression Analysis
- Explain when Correlation and Regression is appropriate

ADVANCED PROCESS MODELING (51 SLIDES)

Deliverable

- Perform Non-Linear Regression Analysis
- Perform Multiple Linear Regression Analysis (MLR)
- Examine Residuals Analysis and understand its effects

DESIGNING EXPERIMENTS (28 SLIDES)

Deliverable

- Determine the reason for experimenting
- Describe the difference between a physical model and a DOE model
- Explain an OFAT experiment and its primary weakness
- Shown Main Effects Plots and interactions, determine which effects and interactions may be significant
- Create a Full Factorial Design
- Analyze a proper model with aliased interactions

WRAP UP & ACTION ITEMS (10 SLIDES)

MODULE **5** LSS GREEN BELT CONTROL PHASE

Phase Description:

The Control Phase of the DMAIC methodology is constructed to introduce important Lean Six Sigma tools for properly controlling solutions. There are eight modules in this phase:

WELCOME TO CONTROL (5 SLIDES)

LEAN CONTROLS (27 SLIDES)

Deliverable

- Describe Lean tools
- Understand how these tools can help with project sustainability
- Understand how the Lean tools depends on each other
- Understand how tools must document the defect prevention created in the Control Phase

STATISTICAL PROCESS CONTROL - SPC (66 SLIDES)

Deliverable

- Describe the elements of an SPC Chart and the purposes of SPC
- Understand how SPC ranks in defect prevention
- Describe the 9 Step route or methodology of implementing a chart
- Design subgroups if needed for SPC usage
- Determine the frequency of sampling
- Understand the Control Chart selection methodology
- Be familiar with Control Chart parameter calculations such as UCL, LCL and the Center Line

SIX SIGMA CONTROL PLANS (40 SLIDES)

Deliverable

- Understand the 5 phases of the Control Plan
- Training
- Documentation
- Monitoring
- Response
- Aligning Systems and Structures

WRAP UP & ACTION ITEMS (10 SLIDES)



COURSE CONTENT







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