

Lean Six Sigma Green Belt



Program Overview

The Lean Six Sigma Green Belt training is designed to provide delegates with an entry level understanding of Lean Six Sigma methods and prepare them to participate, as contributors, to Lean Six Sigma projects. Lean Six Sigma first emphasizes the use of Lean methodologies and tools to identify and remove waste and increase process velocity, then follows that with the use of Six Sigma methodologies and tools to identify and reduce or remove process variation.

Throughout this course you will attain a thorough understanding of all aspects within the phases of D-M-A-I-C. You will understand how to perform and interpret Six Sigma tools and how to use standard principles of Lean.

This interactive course will explore how Lean Six Sigma methodology can help your organization solve both technical and human challenges of sustainable projects and will improve the project management processes and mindsets alike. We will explore the lean six sigma through a series of dynamic presentations, cutting edge videos, exciting group activities, and real-world applicable case studies.



The iIET has successfully met the requirements set forth by the International Association for Six Sigma Certification (IASSC) for the designation of an Accredited Training Organization. This accreditation publically reflects that the iIET has met the standards established by IASSC such that those who participate in a training program led iIET can expect to receive an acceptable level of knowledge transfer consistent with the Lean Six Sigma belt Bodies of Knowledge as established by IASSC.

Key Takeaways



1. Be confident that your DMAIC and problem solving projects are effective



2. Ensure that the project proceeds effectively through all the essential phases, from concept through to completion.



Learn the lean six sigma tools tools needed for efficient project completion including project charters, FMEA, Kaizen and control charts



3. Improve efficiency, save time, cut costs and boost customer satisfaction



4. Encourage professional development and motivate employees



Gain confidence in basic statistical analysis tools such as Pareto charts, histograms and inferential statistics.

***Successful completion of the course materials, and the IASSC LSS Green Belt exam makes you a Lean Six Sigma Green Belt. You can use this designation on your resume and business card. Studies have shown that those who have completed a Lean Six Sigma training and certification can increase their earning potential as well as be better able to attain their career goals.**



Why People Choose to learn with the iIET...

Our unique approach brings together...

- latest case studies from the worlds top companies
- most cutting-edge multimedia available



Our course content is designed to fit every learning style and support the non-English speaking audience.

Who Should Attend This Program

This highly interactive program is designed for (but not limited to)

- Executives
- Managers
- Supervisors
- Project Team Leaders
- Waste Control Personnel
- Service Industry and Hotel Operational Staffing Managers
- Business and process managers and professionals
- Project leaders responsible for designing and implementing change projects

Preparation

This Lean Six Sigma Green Belt Training program is highly technical and content heavy.

1. The iIET will provide the delegates with program **preparation materials including readings, exercises and sample exam questions.**
2. Delegates will submit all completed preparation materials on the first day of the in-class session.
3. The iIET training does not guarantee that the delegate will pass the examination, it is up to each delegate to prepare thoroughly for the exam.

Course Requirements, and Exams

1. **Attendance** – delegates must attend all sessions of the course. Delegates who miss more than two hours of the course sessions will not be eligible to sit for the Lean Six Sigma Examination.
2. **Successful completion of the course work and exam** –Completion the course work will earn delegates a certificate of completion from iIET our instructional programs have been accredited by IASSC.
3. In order to achieve the professional designation of **IASSC Certified Green Belt (IASSC-CGB™)** from the International Association for Six Sigma Certification, candidates must sit for **the IASSC Certified Lean Six Sigma Green Belt Exam and achieve a minimum score of 385 points out of a total potential of 500 points.**

-Topics That Will Be Covered-

Define Phase

- The Basics of Six Sigma
- Meanings of Six Sigma
- General History of Six Sigma & Continuous Improvement
- Deliverables of a Lean Six Sigma Project
- The Problem Solving Strategy $Y = f(x)$
- Voice of the Customer, Business and Employee
- Six Sigma Roles & Responsibilities

The Fundamentals of Six Sigma

- Defining a Process
- Critical to Quality Characteristics (CTQ's)
- Cost of Poor Quality (COPQ)
- Pareto Analysis (80:20 rule)
- Basic Six Sigma Metrics including DPU, DPMO, FTY, RTY Cycle Time, deriving these metrics and these metrics

Selecting Lean Six Sigma Projects

- Building a Business Case & Project Charter
- Developing Project Metrics
- Financial Evaluation & Benefits Capture

- Understanding Lean
- The History of Lean
- Lean & Six Sigma
- The Seven Elements of Waste: Overproduction, Correction, Inventory, Motion, Overprocessing, Conveyance, Waiting.
- 5S: Straighten, Shine, Standardize, Self-Discipline, Sort

Measure Phase

Process Definition

- Cause & Effect / Fishbone Diagrams
- Process Mapping, SIPOC, Value Stream Map
- X-Y Diagram
- Failure Modes & Effects Analysis (FMEA)

Six Sigma Statistics

- Basic Statistics
- Descriptive Statistics
- Normal Distributions & Normality
- Graphical Analysis

Measurement System Analysis

- Precision & Accuracy
- Bias, Linearity & Stability
- Gage Repeatability & Reproducibility
- Variable & Attribute MSA

Process Capability

- Capability Analysis
- Concept of Stability

- Attribute & Discrete Capability
- Monitoring Techniques

Analyze Phase

Patterns of Variation

- Multi-Vari Analysis
- Classes of Distributions

Inferential Statistics

- Understanding Inference
- Sampling Techniques & Uses
- Central Limit Theorem

Hypothesis Testing

- General Concepts & Goals of Hypothesis Testing
- Significance; Practical vs. Statistical
- Risk; Alpha & Beta
- Types of Hypothesis Test

Hypothesis Testing with Normal Data

- 1 & 2 sample t-tests
- 1 sample variance
- One Way ANOVA: Including Tests of Equal Variance, Normality Testing and Sample Size calculation, performing tests and interpreting results.

Hypothesis Testing with Non-Normal Data

- Mann-Whitney
- Kruskal-Wallis
- Mood's Median
- Friedman
- 1 Sample Sign
- 1 Sample Wilcoxon
- One and Two Sample Proportion
- Chi-Squared (Contingency Tables: Including Tests of Equal Variance, Normality Testing and Sample Size calculation, performing tests and interpreting results.

Improve Phase

- Simple Linear Regression
- Correlation
- Regression Equations
- Residuals Analysis
- Multiple Regression Analysis
- Non- Linear Regression
- Multiple Linear Regression
- Confidence & Prediction Intervals
- Residuals Analysis
- Data Transformation, Box Cox

Control Phase

- Lean Controls
- Control Methods for 5S
- Kanban
- Poka-Yoke (Mistake Proofing)
- Statistical Process Control (SPC)
- Data Collection for SPC
- I-MR Chart
- Xbar-R Chart
- U Chart
- P Chart
- NP Chart
- X-S chart
- CumSum Chart
- EWMA Chart
- Control Chart Anatomy

Six Sigma Control Plans

- Cost Benefit Analysis
- Elements of the Control Plan
- Elements of the Response Plan

-Topics That Will Be Covered-