

ON-DEMAND TRAINING FOR PROFESSIONALS



LEAN SIX SIGMA GREEN + BLACK BELT

After training 19,000+ professionals and reaching out more than 50 countries, these are the defined components which will assure you to get lean six sigma certified.



INSTRUCTOR-LED LIVE ONLINE TRAINING

Led by experienced Six Sigma Certified instructors.



MULTIPLE TRAINING COMPONENTS

Learning aids such as 1 year e-Learning access, flash cards, simulated mock exams and downloadable e-books are provided.



CHOICE OF TRAINING DELIVERY MODE

Choose from Instructor led live online or eLearning training. Instructor Led Live online training provides professionals with the flexibility to undertake this training at their convenience.



LEAN SIX SIGMA GREEN AND BLACK BELT COMBO CERTIFICATE

Receive a lean six sigma green and black belt certificate upon completion of the course. IASSC exam optional.

IASSC
ATO

98.7%
pass rate

19897 and
counting
professional
trained

IASSC exam
optional

1.0 DEFINE PHASE

1.1 THE BASICS OF SIX SIGMA

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

1.2 THE FUNDAMENTALS OF SIX SIGMA

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

1.3 SELECTING LEAN SIX SIGMA PROJECTS

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

1.4 THE LEAN ENTERPRISE

- 1.4.1 Understanding Lean
- 1.4.2 The History of Lean
- 1.4.3 Lean & Six Sigma
- 1.4.4 The Seven Elements of Waste
 - a. Overproduction, Correction, Inventory, Motion, Overprocessing, Conveyance, Waiting.
- 1.4.5 5S
 - a. Straighten, Shine, Standardize, Self-Discipline & Sort

2.0 MEASURE PHASE

2.1 PROCESS DEFINITION

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

2.2 SIX SIGMA STATISTICS

- 2.2.1 Basic Statistics
- 2.2.2 Descriptive Statistics
- 2.2.3 Normal Distributions & Normality
- 2.2.4 Graphical Analysis

2.3 MEASUREMENT SYSTEM ANALYSIS

- 2.3.1 Precision & Accuracy
- 2.3.2 Bias, Linearity & Stability
- 2.3.3 Gage Repeatability & Reproducibility
- 2.3.4 Variable & Attribute MSA

2.4 PROCESS CAPABILITY

- 2.4.1 Capability Analysis
- 2.4.2 Concept of Stability
- 2.4.3 Attribute & Discrete Capability
- 2.4.4 Monitoring Techniques

3.0 ANALYZE PHASE

3.1 PATTERNS OF VARIATION

- 3.1.1 Multi-Vari Analysis
- 3.1.2 Classes of Distributions

3.2 INFERENCE STATISTICS

- 3.2.1 Understanding Inference
- 3.2.2 Sampling Techniques & Uses
- 3.2.3 Central Limit Theorem

3.3 HYPOTHESIS TESTING

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

3.4 HYPOTHESIS TESTING WITH NORMAL DATA

- 3.4.1 1 & 2 sample t-tests
- 3.4.2 1 sample variance
- 3.4.3 One Way ANOVA
 - a. Including Tests of Equal Variance, Normality Testing and Sample Size calculation, performing tests and interpreting results.

3.5 HYPOTHESIS TESTING WITH NON-NORMAL DATA

- 3.5.1 Mann-Whitney
 - 3.5.2 Kruskal-Wallis
 - 3.5.3 Mood's Median
 - 3.5.4 Friedman
 - 3.5.5 1 Sample Sign
 - 3.5.6 1 Sample Wilcoxon
 - 3.5.7 One and Two Sample Proportion
 - 3.5.8 Chi-Squared (Contingency Tables)
- a. Including Tests of Equal Variance, Normality Testing and Sample Size calculation, performing tests and interpreting results.

5.3 SIX SIGMA CONTROL PLANS

- 5.3.1 Cost Benefit Analysis
- 5.3.2 Elements of the Control Plan
- 5.3.3 Elements of the Response Plan

IASSC LEAN SIX SIGMA GREEN BELT CERTIFICATION EXAM

4.0 IMPROVE PHASE

4.1 SIMPLE LINEAR REGRESSION

- 4.1.1 Correlation
- 4.1.2 Regression Equations
- 4.1.3 Residual Analysis

4.2 MULTIPLE REGRESSION ANALYSIS

- 4.2.1 Non-Linear Regression
- 4.2.2 Multiple Linear Regression
- 4.2.3 Confidence & Prediction Intervals
- 4.2.4 Residual Analysis
- 4.2.5 Data Transformation, Box Cox

5.0 CONTROL PHASE

5.1 LEAN CONTROLS

- 5.1.1 Control Methods for 5S
- 5.1.2 Kanban
- 5.1.3 Poka-Yoke (Mistake Proofing)

5.2 STATISTICAL PROCESS CONTROL (SPC)

- 5.2.1 Data Collection for SPC
- 5.2.2 I-MR Chart
- 5.2.3 Xbar-R Chart
- 5.2.4 U Chart
- 5.2.5 P Chart
- 5.2.6 NP Chart
- 5.2.7 X-S chart
- 5.2.8 CumSum Chart
- 5.2.9 EWMA Chart
- 5.2.10 Control Chart Anatomy

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4.3 DESIGNED EXPERIMENTS

- 4.3.1 Experiment Objectives
- 4.3.2 Experimental Methods
- 4.3.3 Experiment Design Considerations

4.4 FULL FACTORIAL EXPERIMENTS

- 4.4.1 2k Full Factorial Designs
- 4.4.2 Linear & Quadratic Mathematical Models
- 4.4.3 Balanced & Orthogonal Designs
- 4.4.4 Fit, Diagnose Model and Center Points

4.5 FRACTIONAL FACTORIAL EXPERIMENTS

- 4.5.1 Designs
- 4.5.2 Confounding Effects
- 4.5.3 Experimental Resolution

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- 5.2.8 CumSum Chart
- 5.2.9 EWMA Chart
- 5.2.10 Control Methods
- 5.2.11 Control Chart Anatomy
- 5.2.12 Subgroups, Impact of Variation, Frequency of Sampling
- 5.2.13 Center Line & Control Limit Calculations

5.3 SIX SIGMA CONTROL PLANS

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TESTIMONIALS

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“ The trainer very well managed to engage all the participants to the course. The course material provided is very interactive and easy to revise. I recommend the course to all my peers. ”

“ All the concepts are well explained and the trainer never compromised in the the quality of training. All the topics are well explained with relevant and real life examples. ”

“ I was very much satisfied with the in-person training session accompanied with Online Self learning material helping me to revise all the topics covered in the session whenever and wherever I want ”

“ The best part of the training is working on the mini projects provided in the class. There was immediate support and assistance while working on those and the doubts were clarified on the spot ”