Lean Six Sigma Green Belt Training Course

Written by
Bethany Quillinan, Tracy Camp & Joan Ambrose
Lean Six Sigma Master Black Belts
ETI Group

Presented by

Oregon: 503-484-5979
Washington: 360-681-2188
www.etigroupusa.com

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Lean Six Sigma Green Belt Learning Objectives

Upon successful completion of the course, you will be able to:

- Deliver a financial return to your organization by completing a management-sponsored and approved Lean Six Sigma Green Belt improvement project.
- Apply benefit-feasibility analysis to identify improvement projects aligned with your organization's priorities for quality, delivery, customer satisfaction, and profitability.
- Successfully apply appropriate Lean Six Sigma Green Belt tools to future projects.
- Perform basic statistical analyses using Excel.
- Develop, evaluate, and implement improvements that can dramatically reduce scrap, re-work, complexity, defects, delays, and other forms of waste in your organization's manufacturing and transactional processes.
- Translate Six Sigma analyses into recommendations for improving your workplace processes.
- Apply statistical and/or non-statistical control tools to sustain the gains from project improvements.

LSS GB Training Outline

DMAIC Phase	Description
LSS Overview	Lean overview, Six Sigma overview, combining Lean and Six Sigma, relation to other initiatives, deployment, overview of DMAIC project roadmap (Define-Measure-Analyze-Improve).
Define	Identifying and prioritizing improvement projects, project charter development, DMAIC case studies, establishing project scope via process/workflow boundaries using SIPOC analysis (Supplier-Inputs-Process-Outputs-Customer). Understanding stages of team development.
Measure	Mapping and observing the current-state process, value-stream data collection and analysis, X and Y variables, Cause and Effect Diagrams, prioritizing X variables, data formatting, types of data, basic statistics and Normal distribution, measurement system analysis, data collection, process sampling, sample size calculation, establishing baselines for current-state project metrics with quantitative and categorical Y variables, Pareto analysis of defect types or failure reasons, plotting data over time, Process Capability indices.
Analyze	Statistical significance testing for comparison and correlation hypotheses with quantitative and categorical Y variables, P values, standards of evidence, stratification analysis with quantitative and categorical Y variables, Box and Whisker plots, root cause analysis, Five Whys with Y = *f*(X) analysis, multi-level Pareto analysis.
Improve	Developing and prioritizing potential solutions, Lean solutions, evaluating the future state with FMEA (Failure Modes and Effects Analysis), piloting the future state, sample size calculation for pilot, statistical significance testing for before and after comparison, Margin of Error calculation for pilot.
Control	Establishing a control plan, statistical monitoring, calculating control limits for commonly used SPC (statistical process control) charts using quantitative and categorical Y variables, interpreting SPC charts, response plans, relation to Process Capability. Green Belt exam.