



Lean Sigma Green Belt Champion

Description: This Lean Sigma Green Belt training is designed to develop a professional who is well versed in the Lean Sigma Methodology who leads or supports improvement projects. This Lean Sigma Green Belt class will provide a thorough understanding of all aspects within the phases of D-M-A-I-C. In addition, you will learn how to perform and interpret Six Sigma tools and how to use standard principles of Lean. The Cases used in this class will be covered more in depth, allowing the student to experience the level of detail a Green Belt would support. At this level the student is also encouraged to take a Certification exam to quantify their skills based on an industry exam.

Session 1: Course Overview – Why Six Sigma?

- A Graphical View of Six Sigma
- Comparisons Between typical TQM and Six Sigma Programs
- Origins and Success Stories

Session 2: How to Deploy Six Sigma

- Leadership Responsibilities
- Description of the Roles and Responsibilities
- Resource Allocation
- Data Driven Decision Making
- Organizational Metrics and Dashboards

Session 3: DEFINE - Project Definition

- Tasks Work Breakdown Structure
- Pareto Diagrams
- Process Maps
- Matrix Diagrams
- Project Charters
- Reporting

Session 4: DEFINE: Project Scheduling

- Activity Network Diagram
- PERT Analysis
- GANNT Chart

Session 5: DEFINE: Change Management/Teams

- Problems with Change
- Achieving Buy-In
- Team Formation, Rules, and Responsibility
- Stages of Team Development
- Overcoming Problems
- Consensus Building Tools
- Affinity Diagram
- Nominal Group Technique
- Prioritization Matrix

Session 6: MEASURE: Tools and Objectives

- Measure Stage Objectives
- Flowcharts
- Process Maps
- SIPOC
- Box-Whisker Plots
- Cause and Effect Diagrams
- Check Sheets
- Interrelationship Diagram
- Stem and Leaf Plots

Session 7: MEASURE: Establishing

- Process Baseline
- Enumerative v. Analytic Statistics
- Process Variation
- Benefits of Control Charts
- Requirements v. Control
- Control Chart Interpretation



Session 8: MEASURE: X-Bar Charts

- Uses
- Construction and Calculations
- Assumptions
- Rational Subgroups
- Sampling Considerations
- Interpretation

Session 9: MEASURE: Individuals Data

- Construction and Calculations
- Assumptions
- Sampling Considerations
- Interpretation
- Overview of Other Individuals Charts
- Run Charts
- Moving Average Charts

Session 10: MEASURE: Process Capability

- Histograms
- Probability Plots
- Goodness of Fit Tests
- Capability and Performance Indices
- Relative to Process Control
- Interpretation
- Estimating Error

Session 11: MEASURE: Attribute Charts

- Uses
- Selection
- Construction and Calculations
- Sampling and Considerations

Session 12: ANALYZE: Introduction to

- Regression Analysis
- Scatter Diagrams
- Linear Model
- Interpreting the ANOVA Table
- Confidence and Prediction Limits
- Residuals Analysis
- Overview of Multiple Regression Tools

Session 13: ANALYZE: Lean Thinking

- Definition of Waste
- Analyzing Processes for NVA
- Cycle Efficiencies
- Lead Time and Velocity
- Methods to Increase Velocity
- Standardization
- Optimization
- Spaghetti Diagrams
- 5S
- Level Loading
- Flow
- Setup Reductions

Session 14: IMPROVE: Tools and

- Objectives
- Improve Stage Objectives
- Tools to Prioritize Improvement
- Opportunities
- Tools to Define New Process Flow
- Tools to Define and Mitigate Failure
- Modes
- PDPC
- FMECA
- Preventing Failures
- Reference to Tools for Defining
- New Process Levels

Session 15: CONTROL: Tools and Objectives

- Control Stage Objectives
- Control Plans
- Training
- Measuring Improvement