

## Lean Six Sigma Green Belt Onsite & Virtual Bootcamp Workshop - 5 days

<b>Define Phase</b>	Summary List of White Belt and Yellow Belt Knowledge - prerequisite
	<b>1.0 Define Phase</b>
	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
	1.2.2 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
	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
<b>Measure Phase</b>	<b>2.0 Measure Phase</b>
	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	

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<b>Analyze Phase</b>	<b>3.0 Analyze Phase</b>
	3.1 Patterns of Variation
	3.1.1 Multi-Vari Analysis
	3.1.2 Classes of Distributions
	3.2 Inferential 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
	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)	
<b>Improve Phase</b>	<b>4.0 Improve Phase</b>
	4.1 Simple Linear Regression
	4.1.1 Correlation
	4.1.2 Regression Equations
	4.1.3 Residuals 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 Residuals Analysis
4.2.5 Data Transformation, Box Cox	

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<b>Control Phase</b>	<b>5.0 Control Plan</b>
	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 Xbar-S Chart
	5.2.8 CuSum Chart
	5.2.9 EWMA Chart
5.2.10 Control Chart Anatomy	
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	
<b>Certification Exam Requirements</b>	Caldwell & Associate Certification Exam included with the course. LSSGB project must be approved.
	You must have a lean six sigma green belt project and pass the exam by 70% or higher for certification.
	Lean Six Sigma Master Black Belt Project consulting consultation to completion of the project.