

## **Caldwell & Associates Course Body of Knowledge**

Lean Six Sigma Green Belt Onsite & Virtual Boot Camp Workshop - 3 days - \$1,495/seat

Leai	n Six Sigma Green Belt Onsite & Virtual Boot Camp Workshop - 3 days - \$1,495/seat
	1.0 Define Phase
	1.1 Introduction to Lean, Six Sigma, Operational Excellence, and Industry 4.0
	1.2 Operational Excellence Culture - Workshop 1 What is your company culture?
	1.3 Identifying and Eliminating Waste - Workshop 2 Identifying Lean Waste
	1.4 Lean Six Sigma Roles & Responsibilities
	1.1.1 DMIAC Problem-Solving Approach
	1.1.2 Develop Project Charter - Workshop 3 Identifying a good problem statement
	1.1.3 The Problem Solving Strategy Y = f(x)
Define	1.1.4 Voice of the Customer, Business and Employee
Phase	1.1.5 Cost Benefit Analysis (CBA) - Workshop 4 Cost Benefit Analysis
	1.1.6 Developing Project Metrics
	1.2.1 Financial Benefits & Risk
	1.2.2 Failure Modes & Effects Analysis (FMEA)
	1.2.3 Building a Business Case & Project Charter - Workshop 5 Project Charter
	1.3 Critical to Quality Characteristics (CTQ's) - Workshop 6 Critical-To-Quality Flow Chart
	1.4 Pareto Analysis (80:20 rule) - Workshop 7 Pareto Analysis
	1.4.1 Lean 5S Visual Management Systems to Support Workplace Safety
	1.4.2 Lean Six Sigma Design for Manufacturing
	2.0 Measure Phase
	2.0 Measure Phase 2.1 Process Analysis Tools
	2.1 Process Analysis Tools
	2.1 Process Analysis Tools  2.1.1 Process Definition
	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC
	2.1 Process Analysis Tools  2.1.1 Process Definition  2.1.2 SIPOC  2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams
	2.1 Process Analysis Tools  2.1.1 Process Definition  2.1.2 SIPOC  2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams  2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart
Measure	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC 2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams 2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart 2.1.5 Value Stream Map - Workshop 10 Value Stream Mapping
Measure Phase	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC 2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams 2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart 2.1.5 Value Stream Map - Workshop 10 Value Stream Mapping 2.1.6 Swinlane Diagram
	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC 2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams 2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart 2.1.5 Value Stream Map - Workshop 10 Value Stream Mapping 2.1.6 Swinlane Diagram 2.2 Principles of Product and Service Flow
	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC 2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams 2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart 2.1.5 Value Stream Map - Workshop 10 Value Stream Mapping 2.1.6 Swinlane Diagram 2.2 Principles of Product and Service Flow 2.2.1 Batch verses One Piece Flow Simulation
	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC 2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams 2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart 2.1.5 Value Stream Map - Workshop 10 Value Stream Mapping 2.1.6 Swinlane Diagram 2.2 Principles of Product and Service Flow 2.2.1 Batch verses One Piece Flow Simulation 2.2.2 Bottleneck and Dynamic Bottlenecks
	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC 2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams 2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart 2.1.5 Value Stream Map - Workshop 10 Value Stream Mapping 2.1.6 Swinlane Diagram 2.2 Principles of Product and Service Flow 2.2.1 Batch verses One Piece Flow Simulation 2.2.2 Bottleneck and Dynamic Bottlenecks 2.2.3 Takt Time
	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC 2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams 2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart 2.1.5 Value Stream Map - Workshop 10 Value Stream Mapping 2.1.6 Swinlane Diagram 2.2 Principles of Product and Service Flow 2.2.1 Batch verses One Piece Flow Simulation 2.2.2 Bottleneck and Dynamic Bottlenecks 2.2.3 Takt Time 2.2.4 Just-In-Time
	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC 2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams 2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart 2.1.5 Value Stream Map - Workshop 10 Value Stream Mapping 2.1.6 Swinlane Diagram 2.2 Principles of Product and Service Flow 2.2.1 Batch verses One Piece Flow Simulation 2.2.2 Bottleneck and Dynamic Bottlenecks 2.2.3 Takt Time 2.2.4 Just-In-Time 2.2.5 Kanbans
	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC 2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams 2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart 2.1.5 Value Stream Map - Workshop 10 Value Stream Mapping 2.1.6 Swinlane Diagram 2.2 Principles of Product and Service Flow 2.2.1 Batch verses One Piece Flow Simulation 2.2.2 Bottleneck and Dynamic Bottlenecks 2.2.3 Takt Time 2.2.4 Just-In-Time 2.2.5 Kanbans 2.3 Quality Improvement Approach 2.3.1 Total Cost of Quality - Cost of Poor Quality - Workshop 11 Cost of Poor Quality 2.3.2 Root Cause Analysis
	2.1 Process Analysis Tools 2.1.1 Process Definition 2.1.2 SIPOC 2.1.3 Spaghetti Diagram - Workshop 8 Spaghetti Diagrams 2.1.4 Service & Product Process Flow Charts - Workshop 9 Process Flow Chart 2.1.5 Value Stream Map - Workshop 10 Value Stream Mapping 2.1.6 Swinlane Diagram 2.2 Principles of Product and Service Flow 2.2.1 Batch verses One Piece Flow Simulation 2.2.2 Bottleneck and Dynamic Bottlenecks 2.2.3 Takt Time 2.2.4 Just-In-Time 2.2.5 Kanbans 2.3 Quality Improvement Approach 2.3.1 Total Cost of Quality - Cost of Poor Quality - Workshop 11 Cost of Poor Quality



## **Caldwell & Associates Course Body of Knowledge**

Lean Six Sigma Green Belt Onsite & Virtual Boot Camp Workshop - 3 days - \$1,495/seat		
	3.0 Analyze Phase	
	3.1 Patterns of Variation	
	3.1.1 Stratification - Workshop 12 Scatter Plot	
	3.1.2 Multi-Vari Analysis	
	3.1.3 Classes of Distributions	
	2.2 Rapid Changeover Setup Reduction - Workshop 13 Lean Edit Free Download Microsof	
	2.3 Six Sigma Statistics	
	2.3.1 Basic Statistics - Workshop 14 Histogram & Boxplot Minitab	
	2.3.2 Descriptive Statistics	
Analyze	2.3.3 Normal Distributions & Normality - Workshop 15 Normal Distribution Graph Minitab	
Phase	2.3.4 Graphical Analysis	
	2.4 Measurement System Analysis	
	2.4.1 Precision & Accuracy - Workshop 16 Precision & Accuracy	
	2.4.2 Bias, Linearity & Stability	
	2.4.3 Gage Repeatability & Reproducibility	
	2.4.4 Variable & Attribute MSA	
	2.5 Process Capability	
	2.5.1 Capability Analysis	
	2.5.2 Concept of Stability	
	2.5.3 Attribute & Discrete Capability	
	2.5.4 Monitoring Techniques	
	4.0 Improve Phase	
	4.1 Improve & Implementation Plan	
	4.1.1 Simple Linear Regression	

### 4.1.2 Correlation Improve

Phase

### 4.1.3 Regression Equations

**ABC Fighter Aircraft Plant Physical Interactive Learning Workshop with Knex Building Blocks** Only available with onsite training.









# **Caldwell & Associates Course Body of Knowledge**

Lean Six Sigma Green Belt Onsite & Virtual Boot Camp Workshop - 3 days - \$1,495/seat		
Control	5.0 Control Plan	
	5.1 Lean Six Sigma Controls	
	5.1.1 Control Methods for 5S	
	5.1.2 Poka-Yoke (Mistake Proofing)	
	5.2 Statistical Process Control (SPC)	
	5.2.1 Data Collection for SPC	
	5.2.2 I-MR Chart - Workshop 17 Individuals-Moving Range (I-MR) Chart Minitab	
Phase	5.2.3 Xbar-R Chart - Workshop 18 X-Bar-R Control Charts Minitab	
Pilase	5.2.4 U Chart	
	5.2.5 P Chart	
	5.2.6 NP Chart	
	5.2.7 Xbar-S Chart	
	5.3 Lean Six Sigma Comparison Analysis with Cost Benefit Analysis	
	5.3.1 Elements of the Control Plan	
	5.3.2 Elements of the Response Plan	
Certifica-	Caldwell & Associate Certification Exam included with the course. LSSGB project must be approved.	
tion Exam	You must have a lean six sigma green belt project and pass the exam by 70% or higher for certification.	
Require-	Lean Six Sigma Master Black Belt Project consulting consultation to completion of the project.	
ments		
Software	Lean Edit Software - 30 days Free Trial Download only available with Microsoft computers Minitab - 30 days Free Trial Download	