Caldwell & Associates LLC
P.O. Box 624
Springboro, OH 45066-0624

Lean Six Sigma Black Belt Boot Camp Workshop – Part 1

Course Content

This 5-day course focuses on advanced Lean Six Sigma concepts and methodologies that improve and enhance manufacturing, government, non-profit, and service operational systems. Knowledge of Lean Six Sigma Green Belt concepts and principles is required. Our M&M Sweet Statistics, Catapult, and Fitbit Data Analysis Workshops allow your employees to learn and apply the Lean Six Sigma techniques and equations. It will prepare professionals to improve future systems in Industry 4.0.

Certification Requirements

You must bring a Black Belt Level project for certification, and you can contact us before class for approval. Lean Six Sigma Black Belt Certification is achieved by writing a project report in Word and a PowerPoint presentation. The presentation is an individual effort in that you lead a group project. Since certification is achieved individually, each person must show how Lean Six Sigma concepts and techniques improved the process or solved the problem.

Price: $2,495/seat

Prerequisite

Caldwell & Associates
Lean Six Sigma Green Belt
Boot Camp Workshop

Course Outline – Part 1

- **Define Phase**
  - LSS Green Belt Review
- **Measure Phase**
  - Basic Statistical Concepts
  - Variance and Standard Deviation Calculation
  - Histogram and Boxplot
  - Scatter Plot and Pareto Analysis
  - Normal Distribution
  - Statistical Process Control (SPC)
  - Individuals-Moving Range (I-MR) Chart
  - X-Bar Control Charts
  - Fitbit Data Control Chart Analysis Workshop
- **Analyze Phase**
  - Graphical Analysis
  - LSS Problem-Solving Deep Depth of Analysis
  - Root Cause Data Analysis Approach
  - Check for Normality
  - Process Capability (Pp/Ppk)
  - Statistical Data Analysis with Hypothesis Testing
  - One Sample T-Test
  - Two-Sample T-Test
  - Paired T-test
  - P-Value Definitions
  - Type I and Type II Errors

Course available at your facility.

People learn more from doing and having fun than lecture only.
www.CaldwellLeanSixSigma.com

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Lean Six Sigma Black Belt Boot Camp Workshop – Part 2

Course Materials

Each participant will receive course documentation in pdf format. A trial version of Minitab is needed for classes. Utilize the free 10-day demo at www.Minitab.com (2020 Minitab version 20.1.3).

Course Goals

- Learn complex Lean Six Sigma concepts and techniques to improve operational systems in non-profit, business, manufacturing, service, and government organizations.
- Learn how to use complex statistical data to solve critical problems and improve processes
- To understand hypothesis testing, simple regression analysis, multiple regression analysis, ANOVA, and Design of Experiments (DOE)

Course Interactive Physical Learning

Each participant will participate in an interactive physical learning with Lean Six Sigma analysis using a catapult, M&M's candy packages, and Fitbit data. You get to eat the M&M's after you have learned the Chi-Square Test.☺

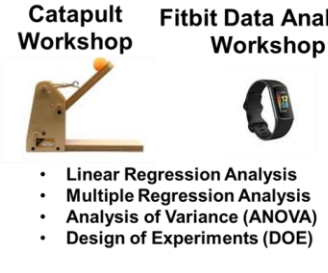
Course Outline – Part 2

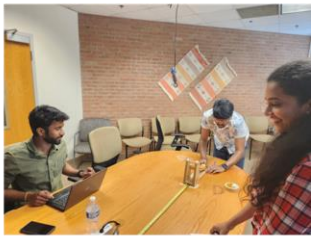
- M&M Sweet Statistics Workshop
- Measurement System Analysis
- Repeatability Study
- Gage R&R

- **Improve Phase**
  - Chi-Square Test
  - 1-Proportion Test
  - Linear Regression Analysis
  - Multiple Regression Analysis
  - Fitbit Data Multiple Regression Analysis Workshop
  - Catapult Multiple Regression Analysis Competition Workshop Team Project
  - Analysis of Variance (ANOVA)
  - Design of Experiments (DOE)

- **Control Phase**
  - Control Plan
  - Lean Six Sigma Controls
  - Implement Control Plan
  - Capture Improvement Data
  - Audit Improvements
  - Sustain Improvements

Course available at your facility.





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