

# Lean Six Sigma Black Belt

Duration: 5 days

## Course Overview

The accelerated lean Six Sigma Black Belt program and methodology allows students to complete certification requirements faster than traditional Six Sigma and Lean training programs. NOTE: The cost of the certification exam is included with the price of the course.

## Who Should Attend

This course is designed for business professionals with a college degree or those professionals who have significant experience in business operations. Also invited to attend are students who have completed a Green Belt program through an external vendor or through an in-house program.

## Suggested Prerequisites

Lean Six Sigma Green Belt

## Course Outline

### 1 - Lean Six Sigma Overview

- Review Lean Six Sigma
- DMAIC Model
- Black Belt Roles and Responsibilities

### 2 - Lean Six Sigma Leadership

- Stakeholder Management
- Tollgate Reviews
- Leading Teams
- Change Management
- Project Selection Strategies

### 3 - Measure Phase

- Introduction to SPC XL software
- Measurement Systems Analysis
- Sampling Strategies and Calculations
- Process Capability; DPMO Calculations
- Rolled Throughput Yield
- Charts: Histogram, Pareto, Box Plot and Scatter Plot
- Lean Metrics

### 4 - Analyze Phase

- Generating Root Cause Hypothesis
- Validating Hypothesis
- Scientific Method and P-Values
- Statistical Testing: T-Tests, ANOVA
- Statistical Testing: Proportion Tests, Chi-Square
- Statistical Testing: Correlation and Regression

## 5 - Improve Phase

- Lean Solution Concepts
- Design of Experiments (DOE)
- Failure Modes and Effects Analysis (FMEA)
- Capturing Improvement Data

## 6 - Control Phase

- Statistical Process Control
- Control Charts: C Chart, P Chart, X-bar & R Chart
- Project Communication and Replication

## 7 - Black Belt Test