

LEAN SIX SIGMA BLACK BELT TRAINING

Master Data-Driven Process Leadership

Empowering Leaders to Drive High-Impact
Changes in Operations



Overview

- **Audience:** Leaders in process optimization and quality improvement.
- **What's Covered:** Advanced analytics, complex problem-solving, strategic project leadership, and cost-benefit analysis.
- **Outcomes:** Execute and lead high-impact projects, optimizing large-scale processes.
- **Duration:** 48 Hours.
- **Certification:** Black Belt Certification.

About Us

StonePath Business Solutions specializes in transforming manufacturing and operational processes through expert Lean Six Sigma training and consulting. Focused on measurable results, we empower teams with the skills to drive efficiency, reduce waste, and enhance quality across all operational levels. With a commitment to continuous improvement and industry-leading expertise, StonePath is the partner of choice for companies aiming to achieve sustainable operational excellence.



Course Content

Module 1: Foundations

- Lean Six Sigma history and principle
- DMAIC framework
- Defining project scope and key metric
- Performing stakeholder analysis
- Introduction to data-driven problem solving
- Theory of Constraints
- Data driven solution selection
- Advanced project management

Module 2: Data Collection and Measurement System

- IoT and real-time data collection
- Measurement Systems Analysis (MSA)
- Gage R&R studies in Minitab
- Data quality and integrity
- Advanced mapping techniques using Minitab and Microsoft Suite

Module 3: Advanced Statistical Process Control (SPC) with Minitab

- Hypothesis testing
- Regression analysis and DOE
- Data visualization and dashboards
- Predictive analytics with machine learning models

Module 4: Facilitating Advanced Root Cause Analysis

- 5 Whys
- Cause & Effect, or Fishbone Diagrams
- Failure Modes & Effects Analysis (FMEA)
- Kaizen facilitation

Module 5: Process Automation and Smart Manufacturing

- Industry 4.0 technologies (IoT, AI)
- Automating process control
- Smart manufacturing case studies



Course Content

Module 6: Lean Tools and Waste Reduction

Value stream mapping with real-time data
Digital support for 5S, Kanban, and Kaizen
Automating waste detection and process tracking

Module 7: Control and Sustainability Using Technology

Control charts and real-time SPC with Minitab
Process capability analysis
Real-time dashboards and IoT platforms
Control plan development
Transition to sustaining process

Module 8: Capstone Project (if applying for Black Belt Certification)

Capstone Project
Practical project applying learned concepts
Requires company project with goal of saving at least 50K annually
utilizing the tools and techniques learned throughout the training
Company letter with Controller or Project Champion signature attesting to project savings.
Project presentation and evaluation

