



Unlock the Power of Data to Drive Manufacturing Excellence

MANUFACTURING EXCELLENCE: DATA DRIVEN TECHNOLOGY

Dual Certification Option with Lean Six Sigma Green Belt

Empower your team with the knowledge and skills to leverage data-driven technologies for process improvement and manufacturing excellence.

Learning Outcomes

- Intermediate Statistical Analysis Techniques
- Statistical Process Control using Minitab
- Lean Six Sigma Methodologies
- Introduction to IoT
- Introduction to Limble CMMS
- Process Improvement Methodologies

Requirements

- 2 years industry experience
- Computer access with Microsoft suite
- Minitab software license*
- 6 month student license available

Why StonePath?

Our comprehensive 48-hour course combines Lean Six Sigma methodologies with the latest in IoT and digital tools to optimize processes and achieve measurable results. Our dual certification allows participants to also obtain their Lean Six Sigma Green Belt Certification.

Certification

- Manufacturing Excellence: Data Driven Technology
 - Attend training & pass final exam
- Lean Six Sigma Green Belt Certification
 - Meet above requirements
 - Meet project requirements



Curriculum

Module 1: Introduction to Lean Six Sigma

- Overview of Lean and Six Sigma
- History and evolution
- Key principles and methodologies
- Roles and Responsibilities (Green Belt, Black Belt, Master Black Belt)

Module 2: Foundational Principles and Tools

- Waste Identification and Elimination
 - 8 Wastes (Muda)
- Mapping using software tools (e.g., Lucidchart, Microsoft Visio, Minitab Workspace)
- Value Stream Map (VSM), Process Maps, etc.
- 5S Methodology
 - Sort, Set in order, Shine, Standardize, Sustain
 - Digital tools for 5S implementation
 - Kaizen and Continuous Improvement
 - Leading Kaizen events
- Project selection and tracking (ClickUp, Microsoft Project,)
- Collaborative tools (e.g., Trello, Asana)

Module 3: Six Sigma Fundamentals

- Manufacturing Excellence through DMAIC Framework (Define, Measure, Analyze, Improve, Control)
 - Introduction to statistical process control
 - Descriptive statistics, probability distributions
 - Standard Deviation and controlling variation through leading indicators and machine learning
 - Introduction to statistical process control
 - Introduction to statistical software (e.g., Minitab, Excel)

Module 4: Define Phase

- Project selection and charter
- Project scope, goals, and objectives
- Using project management software (e.g., Microsoft Project, Smartsheet)
- Understanding the Voice of the Customer (VoC)
 - Data collection methods (surveys, interviews)
- Customer feedback tools (e.g., SurveyMonkey, Google Forms, data analysis)

Module 5: Measure Phase

- Process Mapping and Data Collection
- Digital tools for process mapping (e.g., Lucidchart, Microsoft Visio, Minitab Workspace)
 - SIPOC diagrams
- Overall Equipment Effectiveness (OEE) evaluation
- Leveraging Computerized Maintenance Management Systems (CMMS) (e.g., Limble)
 - Leveraging IoT technology to improve OEE
- Conducting SMED (single minute exchange of die) to reduce change over times
- Measurement System Analysis (MSA)
 - Gage R&R studies
 - Minitab for MSA

Module 6: Analyze Phase
Data Analysis and Hypothesis Testing
Statistical analysis methods (ANOVA, regression)
Data analysis software (e.g., Minitab, Excel)
Calculating Process Capability using Minitab
Root Cause Analysis
Fishbone diagram, 5 Whys
Using Software for Failure Modes and Effects and Analysis (Minitab, Excel)
Prioritization Tools

Module 7: Improve Phase
Solution Selection Matrix
Brainstorming techniques
Piloting and Testing Solutions
Poka-Yoke Fundamentals

Module 8: Control Phase
Sustaining Improvements
Control plans and documentation
Digital Work Instruction platforms (e.g., VKS, Dozuki)
Monitoring tools (e.g., Real Time SPC using Minitab)
Automation and Control
Introduction to Change Management through Quality Management Systems
Software introduction for QMS (e.g., QPulse, iQMS)

Module 9: Technology Integration
IoT in process monitoring and control
IoT platforms and tools (e.g., AWS IoT, Azure IoT)
IoT and ERP
IoT and CMMS

Module 10: Capstone Project (if applying for Green Belt Certification)
Capstone Project
Practical project applying learned concepts
Requires company project with goal of saving at least 25K annually
Company letter with Controller or Project Champion signature attesting to project savings.
Project presentation and evaluation

Pricing:

\$1,099 per learner

\$500 per learner for Minitab 6 month student license if needed
(All students must have Minitab license for training)