

Lean Six Sigma Black Belt Certification

Our self-paced online Lean Six Sigma Black Belt program covers all of the topics our classroom version covers. The format includes audio-visual presentation, case studies / readings, test completion, and project completion. And, like our classroom version, students will have the ability to contact the instructor with questions and requests for feedback on ideas and case exercises. The program is self-paced and up to 6 months are allotted to complete it; students will have access to the program for 1 year. Upon completion of the program (including a final test and project submittal), students will receive a certificate (Certified Lean Six Sigma Black Belt) and 12 CEU's (Continuing Education Units).

The program also provides students with a SigmaXL software license and multiple templates that they can modify to suit their own needs.

The program covers the following subject matter:

- Lean Six Sigma Principles and Overview
- Lean Six Sigma Implementation
- Project Selection
 - NPV (Net Present Value) Analysis
 - Value Stream Mapping
- Lean Six Sigma Teams
 - Team Facilitation
 - Brainstorming Techniques
- Define Phase
 - Team Project Charter and Work Plan
 - Project Stakeholder Analysis
 - Measurable Customer Requirements
 - Requirements Statements
 - Process Mapping
 - SIPOC
- Measure Phase
 - Measurement Concepts
 - How to Determine What to Measure
 - Sampling Plans
 - Data Collection Methods and Forms
 - Developing Baseline Defect Measures
 - Process Capability
 - Measurement Systems Analysis/Gage R&R
- Analyze Phase
 - Data Analysis- Exploring

- Pareto Analysis
 - Run Chart,
 - Histogram/Frequency Plot
 - Cause and Effect Analysis
 - Scatter Plot or Correlation Diagram
 - Multi-Vari Charts
 - FMEA
 - Inferential Statistics Primer
 - Hypothesis Testing: Normal and Non-Normal Data
 - Hypothesis Testing: Discrete Data
 - Hypothesis Testing: Correlation and Regression
 - Design of Experiments Overview
 - DOE: Factorial Designs
 - DOE: Fractional Factorial Designs
 - RSM: Response Surface Methods
- Improve Phase
 - Generating Creative Solutions- Brainstorming
 - Analyzing and Selecting Solutions- Decision Matrix
 - 5S
 - Autonomous Maintenance / TPM
 - Quick Changeover / SMED
 - Line Balancing/Operator Balance Charts
 - Continuous Flow Layouts
 - Kanban/Pull Systems
 - Kaizen Events
 - Pilot Testing
 - Full-Scale Implementation
- Control Phase
 - Control Plan Elements
 - Statistical Process Control

Features of the e-learning interface including audio-visual presentations, White Board, glossary, quiz/test, etc. are pictured on the following pages.

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Course Syllabus

The course is in PREVIEW MODE

CONTENT

- Course Syllabus
- Course Curriculum
- Introduction to Lean Six Sigma
- Lean Six Sigma Cartoon
- Chapter 1 Assignments
- Intro to Lean and Six Sigma
- Lean Six Sigma Implementation
- Basic LSS Templates
- NPV Analysis Cartoon
- Project Selection
- Value Stream Mapping Cartoon
- Value Stream Mapping Overview
- Current State Mapping
- Future State Mapping
- Arms-Wireless VRM

Lean Six Sigma Black Belt Syllabus (Self-Paced)

Instructor: Darren Dolcemascolo, darrend@emsstrategies.com

Program Requirements for Certification:

1. Readings from Required Book: [The Six Sigma Way Team Fieldbook](#), Peter S. Pande, Robert P. Neuman, and Roland R. Cavanagh, 2001. (Available in bookstores and online booksellers)
2. Online Audio-Visual Presentations
3. Final Test/Quiz (70 Questions, Multiple choice, 70% or better score)
4. Case Exercises (provided online as downloadable attachments)
5. Black Belt Project Requirement

Recommended Reference Book: [Lean Six Sigma Pocket Toolbook](#), Michael L. George, David Rowlands, Mark Price, and John Maxey, 2005. (Available in bookstores and online booksellers)

Additional Features (Glossary, Help, etc.)

Control-SPC-Char...mp4
Control-Overview...mp4
DOE-Fractional-F...mp4
Improve-Solution...mp4

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Current State Mapping

The course is in PREVIEW MODE

CONTENT

- Course Syllabus and Slides
- Introduction
- What is Continuous Improvement
- Cartoon
- Lean Overview
- The Seven Wastes
- Value Stream Mapping: Current State
- Value Stream Mapping Cartoon
- Value Stream Mapping Overview
- Current State Mapping
- Lean Value Stream Principles: Leveling and Connecting Flow



MP4 Audio-Visual Presentations

Control-SPC-Char...mp4
Control-Overview...mp4
DOE-Fractional-F...mp4
Improve-Solution...mp4

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Final Test

COURSE CONTENT QUIZ MY STUFF

CONTENT

- ✓ Course Syllabus and Slides
- Introduction to Lean and the 7 Wastes
- ✓ What is Continuous Improvement?
- ✓ Lean Overview
- ✓ The Seven Wastes
- ✓ Lean Healthcare: The Doctor's Office
- ✓ Lean Healthcare Overview
- Final Test**

Final Test

You have come to the end of the audio-visual lessons. Please ensure that you have completed all other assignments (see syllabus). If you are ready at this point for the final test, please click "Quiz" on the left or top of the screen. This is intended to show you formatting for our quizzes. This trial program includes a simple 7 question quiz. If you are ready to register for one of our certification or other training programs at this point, please visit the online lean training page of our website: <http://www.emsstrategies.com/Lean-Training/lean-training-online.html>. Courses include Lean Manufacturing Certification, Lean Six Sigma Black Belt, Lean Six Sigma Green Belt, Lean Six Sigma Yellow Belt, Lean Healthcare Certification, and many others.

[Click here to start your quiz](#)

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Final Test

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alpha
Probability of a type 1 error in hypothesis testing, usually chosen to be .05, .10, or .01.

Andon
A system of flashing lights used to indicate production status in one or more work centers/machines within a facility.

Autonomous Maintenance
A program in which equipment operators share responsibility with maintenance staff for the care of the equipment they use.

Balanced Experiment (DOE)
An experiment is balanced when each factor has the same number of experimental runs at both high and low levels.

Batch and Queue

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Glossary