PROFESSIONAL DEVELOPMENT TRAINING

Lean Six Sigma Black Belt from Green Belt Training Course Upgrade

1300 121 400

REQUEST QUOTE

5.0 DAY COURSE

This 5-day Black Belt Training Course is intended for existing Lean Six Sigma Green Belt's or those who have equivalent workplace experience.

In the Six Sigma Green Belt training course you learned how to plan and design experiments, while the Black Belt upgrade course teaches you how to run, assess, quantify and control experiments and their outputs.

This highly significant and intensive training course is taught by Black Belts and Master Black Belts and is conducted across Australia including Brisbane, Sydney, Melbourne, Canberra, Adelaide and Perth.

What You'll Gain:

The PD Training training materials are much more than simple "tools training". This curriculum is formatted in such a way that the problem-solving strategy is demonstrated throughout the course. By utilising various Statistical and Business Improvement tools, you will be able to clearly see and communicate the flow and process of the methodology in order to instill both the tactical and strategic aspects of the LSS Black Belt skill set.

The implementation roadmaps within each phase provide a clear line-of-sight for putting into practice the problem-solving technology. Various group exercises, utilising training aids, pre-formatted data sets and templates, facilitate interactive group learning within the course.

These training materials are the industry standard used by thousands of industry trainers, coaches and mentors to train Lean Six Sigma Black Belts around the world.

Note: PD Training provides the Lean Six Sigma Black Belt training and exam preparation. Certification is awarded separately by the International Association of Six Sigma Certification (IASSC) upon passing their official exam.

Outcomes

During this course, you will develop:

- Understanding and implementation of the concepts of Six Sigma
- Ability to plan projects to achieve maximum process efficiency

- Capability to recognise elements of waste and countering them
- Skill to measure key aspects of a process to collect relevant data
- Ability to create a process map
- Ability to identify and measure process capability
- Ability to analysis data accurately to find cause-and-effect relationship and identify the root cause of errors
- Hypothesis testing knowledge
- Ability to improve processes based on analysis
- Understanding of how to use various industry models for process improvement
- Ability to control processes
- Ability to ensure errors are removed before they can damage a process
- Understanding of capability analysis
- Understanding and use of lean
- Skill to control processes, productivity and waste

Pre-Requsite: Lean Six Sigma Green Belt (or equivalent workplace experience)

Modules

Lesson 1: Quick Review/Refresher (Define Phase)

Lesson 2: Quick Review/Refresher (Measure Phase)

Lesson 3: "X" Sifting (Analyse Phase Module 1)

LSS Black Belt Analyse Phase - The Analyse Phase of the DMAIC methodology is constructed to introduce important Six Sigma tools for isolating critical factors.

- Perform a Multi-Vari Analysis
- Interpret and a Multi-Vari Graph
- Identify when a Multi-Vari Analysis is applicable
- Interpret what Skewed data looks like
- Explain how data distributions become Non-normal when they are really Normal

Lesson 4: Inferential Statistics (Analyse Phase Module 2)

- Explain the meaning of the term "Inferential Statistics".
- Describe the basic tenets of the Central Limit Theorem.
- Describe the impact of sample size on your estimates of population parameters.
- Explain Standard Error

Lesson 5: Intro to Hypothesis Testing (Analyse Phase Module 3)

- Articulate the purpose of Hypothesis Testing

Lesson 6: Hypothesis Testing Normal Data Part 1 (Analyse Phase Module 4)

- Determine appropriate sample sizes for testing Means

- Explain the concepts of the Central Tendency
- Be familiar with the types of Hypothesis Tests
- Conduct various Hypothesis Tests for Means
- Properly Analyse Results

Lesson 7: Hypothesis Testing Normal Data Part 2 (Analyse Phase Module 5)

- Be able to conduct Hypothesis Testing of Variances
- Understand how to Analyse Hypothesis Testing Results

Lesson 8: Hypothesis Testing Non-Normal Data Part 1 (Analyse Phase Module 6)

- Conduct Hypothesis Testing for equal variance
- Conduct Hypothesis Testing for Medians
- Analyse and interpret the results

Lesson 9: Hypothesis Testing Non-Normal Data Part 2 (Analyse Phase Module 7)

- Calculate and explain test for proportions
- Calculate and explain contingency tests

Lesson 10: Wrap Up & Action Items (Analyse Phase)

Lesson 11: Process Modeling Regression (Improve Phase Module 1)

LSS Black Belt Improve Phase - The Improve Phase of the DMAIC methodology is constructed to introduce important Lean Six Sigma tools for properly controlling solutions.

- Perform the steps in a Correlation and a Regression Analysis
- Explain when Correlation and Regression is appropriate

Lesson 12: Advanced Process Modeling (Improve Phase Module 2)

- Perform Non-Linear Regression Analysis
- Perform Multiple Linear Regression Analysis
- Determine the reason for experimenting
- Describe the difference between a physical model and a DOE model
- Explain an OFAT experiment and its primary weakness
- Shown Main Effects Plots and interactions, determine which effects and interactions may be significant
- Create a Full Factorial Design

Lesson 13: Experimental Methods (Improve Phase Module 3)

- Be able to Design, Conduct and Analyse an Experiment

Lesson 14: Full Factorial Experiments (Improve Phase Module 4)

- Understand how to Create Balanced & Orthogonal Designs

- Explain how Fit & Diagnose & Center Points factors into an experiment

Lesson 15: Fractional Factorial Experiments (Improve Phase Module 5)

- Explain why & how to use a Fractional Factorial Design
- Create a proper Fractional Factorial Design
- Analyse a proper model with aliased interactions

Lesson 16: Wrap Up & Action Items (Improve Phase)

Lesson 17: Advanced Experiments (Control Phase Module 1)

LSS Black Belt Control Phase - The Control Phase of the DMAIC methodology is constructed to introduce important Lean Six Sigma tools for properly controlling solutions.

- Use the results of a DOE to determine how to further optimise a process using the steepest ascent/descent method

Lesson 18: Capability Analysis (Control Phase Module 2)

- Understand the importance of Capability Analysis as it is applied in the Control Phase
- Select the appropriate method for Capability Analysis based on the type of data distribution of your process
- Interpret the output of MINITABTM's Capability functions
- Understand how the use for Capability Analysis may alter through the DMAIC phases

Lesson 19: Lean Controls (Control Phase Module 3)

- Describe Lean tools
- Understand how these tools can help with project sustainability
- Understand how the Lean tools depends on each other
- Understand how tools must document the defect prevention created in the Control Phase

Lesson 20: Defect Controls (Control Phase Module 4)

- Describe some methods of defect prevention
- Understand how these techniques can help with project sustainability
- Including reducing those outliers as seen in the Advanced Process Capability section
- If the vital X was identified, prevent the cause of defective Y
- Understand what tools must document the defect prevention created in the Control Phase

Lesson 21: Statistical Process Control - SPC (Control Phase Module 5)

Lesson 22: Six Sigma Control Plans (Control Phase Module 6)

- Describe the elements of an SPC Chart and the purposes of SPC
- Understand how SPC ranks in defect prevention
- Describe the 9 Step route or methodology of implementing a chart
- Design subgroups if needed for SPC usage
- Determine the frequency of sampling
- Understand the Control Chart selection methodology
- Be familiar with Control Chart parameter calculations such as UCL, LCL and the Center Line
- Understand the 5 phases of the Control Plan
- Training
- Documentation
- Monitoring
- Response
- Aligning Systems and Structures

Lesson 23: Wrap Up & Action Items (Control Phase)

Talk to our expert team

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