Black Belt Lean Six Sigma

Description

Business success in any organisation requires vision, products and services that add value, processes that are efficient, people who are competent and a culture that supports the behaviours of improvement and development. This course will address all these aspects with a significant focus on the cultural change and the role of the Lean Sigma Black Belt in the facilitation, change management and application of the tools to change a culture.

Course Content

Module 1 : Define Phase

- Lesson 1: Voice of the customer
- Lesson 2: Project charter
- Lesson 3: Problem statement
- Lesson 4: Project scope
- Lesson 5: Goals and objectives
- Lesson 6: Project performance measures
- Lesson 7: Project tracking
- Lesson 8: Project Stakeholder Analysis
- Lesson 9: Measurable Customer Requirements
- Lesson 10: Requirements Statements
- Lesson 11: Process Mapping
- Lesson 12: SIPOC

Module 2 : Measure Phase
- Lesson 1: Process characteristics
- Lesson 2: Input and output variables
- Lesson 3: Process flow metrics
- Lesson 4: Process analysis tools
- Lesson 5: Data collection
- Lesson 6: Types of data
- Lesson 7: Measurement scales
- Lesson 8: Sampling methods
- Lesson 9: Collecting data
- Lesson 10: Measurement systems, methods, systems analysis
- Lesson 11: Basic statistics
- Lesson 12: Basic terms
- Lesson 13: Central limit theorem
- Lesson 14: Descriptive statistics
- Lesson 15: Graphical methods
- Lesson 16: Valid statistical-conclusions
- Lesson 17: Probability
- Lesson 18: Basic concepts and Distributions
- Lesson 19: Process capability
- Lesson 20: Process capability indices
- Lesson 21: Process performance indices

- Lesson 22: Short-term and long-term capability
- Lesson 23: Process capability for non-normal data
- Lesson 24: Process capability for attributes data
- Lesson 25: Process capability studies and Process performance vs. specification

Module 3 : Analyse Phase
- Lesson 1: Data Analysis Overview
- Lesson 2: Pareto Analysis
- Lesson 3: Gap analysis
- Lesson 4: Root cause analysis
- Lesson 5: Waste analysis
- Lesson 6: Run Charts
- Lesson 7: Histogram/Frequency Plot
- Lesson 8: Cause and Effect Analysis
- Lesson 9: Scatter Plot or Correlation Diagram
- Lesson 10: Multi-Variant Analysis
- Lesson 11: Correlation coefficient
- Lesson 12: Regression
- Lesson 13: Multivariate tools
- Lesson 14: Multi-vari studies
- Lesson 15: Attributes data analysis
- Lesson 16: Inferential Statistics Primer
- Lesson 17: Hypothesis testing
- Lesson 18: Terminology
- Lesson 19: Statistical vs. practical
- Lesson 20: Significance
- Lesson 21: Sample size
- Lesson 22: Design of Experiments Overview
- Lesson 23: Failure mode and effects analysis (FMEA)

Module 4 : Improve Phase
- Lesson 1: Generating Creative Solutions
- Lesson 2: Brainstorming
- Lesson 3: Analysing and Selecting Solutions
- Lesson 4: Decision Matrix
- Lesson 5: Autonomous Maintenance / TPM
- Lesson 6: Quick Changeover / SMED
- Lesson 7: Line Balancing/Operator Balance Charts
- Lesson 8: Continuous Flow Layouts
- Lesson 9: Kanban/Pull Systems
- Lesson 10: Kaizen Events
- Lesson 11: Pilot Testing
- Lesson 12: Full-Scale Implementation
- Lesson 13: Creativity and Innovation
- Lesson 14: Eliminate, Combine, Redesign, Simplify (ECRS)
- Lesson 15: Design of experiments (DOE)
- Lesson 16: Waste elimination
- Lesson 17: Cycle-time reduction
- Lesson 18: Kaizen and Kaizen Blitz-Theory of constraints (TOC)
- Lesson 19: TRIZ
- Lesson 20: Risk analysis and mitigation

Module 5 : Control Phase
- Lesson 1: Control Plan Elements
- Lesson 2: Statistical Process Control
- Lesson 3: Statistical process control
- Lesson 4: Objectives
- Lesson 5: Selection of variables
- Lesson 6: Rational sub-grouping
- Lesson 7: Control chart selection
- Lesson 8: Control chart analysis
- Lesson 9: Other control tools
- Lesson 10: Total productive maintenance
- Lesson 11: Visual factory
- Lesson 12: Maintain controls
- Lesson 13: Measurement system re-analysis
- Lesson 14: Control plan
- Lesson 15: Sustain improvements
- Lesson 16: Documentation
- Lesson 17: Design for Six Sigma (DFSS) Frameworks and Methodologies
- Lesson 18: Common DFSS methodologies
- Lesson 19: Customer Expectations
- Lesson 20: House of Quality
- Lesson 21: Critical to Quality Deployment
- Lesson 22: Critical Parameter Management
- Lesson 23: Design for X (DFX)
- Lesson 24: Robust design and process (Special design tools)

Lab / Exercises
This course offers:

- Practical exercises
- Group Restitution
- Case Scenarios

Exam
This course prepares to the exam IASSC Certified Lean Six Sigma Black Belt.
Participant profiles

- Managers
- Internal consultants
- Change agents
- Project managers
- Team leaders
- Business improvement leaders
- Facilitators

Prerequisites
Have followed the course or have the knowledge cover by: Green Belt Lean Six Sigma
Objectives

- Understand the fundamentals of Agile Project Management
- Fully describe and relate the Agile Project Management process
- Understand the key Agile Project Management practices and how to manage Agile Project teams

- Understand project control in the Agile environment

Niveau
Avancé
Classroom Registration Price (CHF)
2950
Virtual Classroom Registration Price (CHF)
2800
Duration (in Days)
3
Reference
LSS3-BLACKBELT