Dynamic web training
The Ultimate Training Experience

**Phone:** 1300 888 724
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# Lean Six Sigma Black Belt

## IT Solutions

## Introduction

Learn the skills required to lead, manage and implement Lean Six Sigma projects from start to finish. This course provides students with comprehensive understanding of both the complementary domains of Lean and Six Sigma.

**Duration:** 5 day

**Class size:** 10 students max

**Times:** 9:00am - 5:00pm

**Price:** *Refer to our website for current course and package pricing*

### After the course?

Each student will receive:

- Certificate of completion
- Training manual
- 12 months FREE email support
- FREE class re-sit (if necessary)

## About The Course

Our Six Sigma Black Belt course is designed to provide the skills needed for implementing and leading Six Sigma projects. The course covers advanced statistical tools and techniques required to improve the production process, reduce waste and minimise defects in the end product, with a greater focus on the practical implementation of these tool and techniques in the organisation.

## Who Should Do This Course?

This Six Sigma Black Belt course is suitable to participants who want to extend their skills to beyond the Green Belt and be able to lead and manage Six Sigma projects. Participants who manage, or want to manage, business improvement projects in a leadership role will gain the most out of this course.

## Prerequisites

Participants must be Six Sigma Green Belt certified before taking the Lean Black Belt certification course and exam.

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# Content

## Unit 1: Introduction to Six Sigma

- What is Quality?
- Enterprise-Wide view
- Leadership
- Six Sigma Roles and Responsibilities
- Team Formation
- Team Facilitation
- Team Dynamics
- Time Management for Teams
- Team Decision Making Tools
- Seven Management and Planning Tools
- Team Performance Evaluation and Reports

## Unit 2: Define Phase

- Important Stakeholders
- Impact on Stakeholders
- Critical to Quality Requirements
- Critical to Cost Requirements
- Critical to Process Requirements
- Critical to Safety Requirements
- Critical to Delivery Requirements
- Types of Benchmarking
- Business Performance Measures
- Financial Measures
- Voice of Customer (VOC)
- Kano Customer Satisfaction Levels
- Market Research
- Critical to Quality Flow Down
- Quality Function Deployment (QFD)
- Process, Performance and Business Metrics
- Project Charter and Performance Measures
- Charter Negotiation
- Project Management Plan
- Project Tracking

## Unit 3: Measure Phase

- Process Characteristics
- Process Flow Metrics
- Uses of Process Flow Metrics
- Process Maps and Flow Chart
- Understanding SIPOC
- Data Type and Measurement Scale
- Data Collection
- Sampling Strategies
- Fishbone Diagram
- Relational Matrix / Prioritization Matrix
- Basic Statistics
- Analytical Statistics
- Gauge R and R
- Process capability analysis

## Unit 4: Analyse Phase

- Correlation and Regression Analysis
- Testing of Hypothesis
- Failure Mode and Effects Analysis (FMEA)
- Procedures Involved in Conducting FEMA
- Understanding GAP Analysis
- The Five Whys
- Pareto Charts
- Tree Diagram
- Non-Value Added Activities
- Cost of Quality (COQ)

## Unit 5: Improve Phase

- Design of Experiments (DOE)
- Full and Functional Factorial
- Analysing Factorial Experiments
- Poka-yoke (Mistake Proofing)
- Understanding 5S Concept
- Single Minute Exchange of Die (SMED)
- Continuous Flow Manufacturing
- Understanding Kaizen
- The Deming Improvement Cycle used for Kaizen
- Working Process of Kaizen
- Understanding Kanban
- Theory of Constraints
- Risk Analysis and Mitigation
- Feasibility Study
- Risk Analysis
- SWOT Analysis
- PEST Analysis

## Unit 6: Control Phase

- Statistical Process Control
- Components of a Control Chart
- Rational Sub Grouping
- Visual factory
- Total Productive Maintenance (TPM)
- Maintain Controls
- Measurement System reanalysis
- Creating a Control Plan
- Sustaining Improvements
- Training Plan Deployment

## Unit 7: Design of Six Sigma (DFSS)

- Understanding DFSS Technologies
- Design for Cost
- Design for Manufacturability
- Design for Test
- design for Maintainability
- Robust Product Design

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- Noise Strategy
- Tolerance design
- Statistical Tolerance
- Special Design Tools
- Understanding TRIZ
- Pugh Analysis

## Unit 8: Lean Six Sigma

- The Essentials of Lean
- The Lean Metric Cycle Efficiency
- Finding and Eliminating Time Traps
- Sources of Cost Reduction
- Creating Value Stream Map
- Value Added and Non-Value-Added Activity
- Value Stream Map Tools
- Pull System - Kanban
- Understanding Strategic Buffer
- Calculating Strategic Buffer
- Synchronous and Asynchronous Pull System
- Lean Six Sigma Logistics
- Implementation of Lean Logistics
- Reduction of Inventory Maintenance Costs
- Benefits of Standard Work Operations
- Importance of Visual factory in Operator Work Instructions
- Cycle Time Reduction and Takt Time
- Techniques of Cycle Time Reduction
- Cycle Time vs Takt Time

## Unit 9: Case Studies