

# Lean six sigma black belt





## Lean six sigma black belt

Ref: 321575\_129539 Date: 02 - 13 Feb 2025 Location: Manama (Bahrain) Fees: 6200

**Euro** 

## Introduction

This Lean Six Sigma course has been created for people who already hold the Lean Six Sigma Green Belt course and want to upgrade to the Black Belt certification. Lean Six Sigma Black Belt is in high demand as it shows that the individual has the skills to use DMAIC methods for quality improvement in the project. During the Lean six sigma course, you will learn useful techniques that can be applied to your business. Furthermore, you will receive a course workbook that you can refer to once you have completed the Lean Six Sigma training course.

## Course Objectives of Lean six sigma black belt

- Acquire knowledge about measurement system analysis.
- Learn how to create a plan for data collection for hypothesis tests.
- Candidates will be able to report on performance management efficiently.
- Learn advanced business improvement tools and techniques.
- Learn how to lead business improvement projects in an organisation.

## Lean six sigma black belt Course Outlines

## Day 1

## The Role of the Black Belt

- The Black Belts' Place in the Business
- Black Belt Skill Set
- Green Belt's and Black Belt's View of the World
- How the Industry Identifies Black Belts?
- Who Does the Black Belt Work With?

#### Day 2

## **Black Belt DMAIC**

- How the BB helps the GB during DMAIC?
- Pre Define & Define
- DMAIC Programmes

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- Governance
- Enterprise Risk Management
- Risks Lie in Two Area
- DMAIC Risk
- A View of Business Risk Management
- Basic Risk Management Procedure

#### Day 3

## **Physical Cell Design & Optimising Flow**

- In a Nutshell
- Work Cells
- Flow improvement objectives
- Physical Cell design & Optimising Flow

## Day 4

#### **Statistics Basics**

- Introduction and SPC Refresh
- Common Terminology
- Measuring Uncertainty
- Minitab Run-Through

## **Process Capability**

- Process Capability: Review from Green Belt
- Using Minitab to Estimate Process Capability

#### Day 5

## **Hypotheses Tests**

- Introduction to Hypotheses Testing
- Working with Hypotheses Tests

## **Data Collection Planning for Hypothesis Tests**

- General Points
- Sample Size
- How a Greater Sample Size Reduces Uncertainty?

## Day 6

## **Design of Experiments DOE**

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- Overview of DOE
- Where to use Design of Experiments?
- DOE Terminology 1 and 2
- Design of Experiments Flow Diagram
- Walkthrough: SB Glass Co

## Day 7

### **Probability Distributions**

- Overview
- Normal and Binomial Distribution
- · Poisson, Exponential, and Weibull

#### **Advanced Control Charts**

- Introduction and Refresher
- Key Control Charts
- Data Collection Planning for Control Charts

## Day 8

## **Measurement System Analysis MSA**

- Overview Of Measurement System Analysis MSA
- Understanding Gauge R&R
- Minitab Walkthrough
- Numeric Data walkthrough of Gauge R&R study using Minitab
- Two-ANOVA Table with Interaction
- Gauge R&R
- X Bar & R Chart

## Day 9

## **Lessons from Queue Theory**

- Modelling Queues
- The Psychology of Queuing

## **Lean Metrics**

- General Overview of Metrics
- Using Lean Metrics

## **Day 10**

## Conclusion

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- Revision and Review
- The Final Case Study
- Self-Study
- Black Belt Exam



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