

# Course Guide + Information



**LEAN SIX SIGMA**

LEAN SIX SIGMA  
MASTER BLACK BELT

## LEAN SIX SIGMA MASTER BLACK BELT

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Providing a simple, smart and affordable route  
to Lean & Six Sigma training and certification.

**CBIS** Business  
Compliance  
and Excellence



## About CBIS

CBIS (Comprehensive Business Improvement Solutions), is a boutique training and consulting firm that works collaboratively with business owners and line managers to achieve compliance and excellence by drawing on cross-disciplinary expertise in business improvement frameworks such as Lean and Six Sigma. We are experts in Lean Six Sigma Training, Coaching and Consulting and have worked extensively on a range of business efficiency issues.

At CBIS, we offer Lean & Six Sigma training courses in the various levels from basic to advanced qualifications through different training delivery methods such as Public Classroom or Virtual, Online as well as In-house settings. Our training courses will be delivered under various accreditations listed below.

## Our Accreditations





## Just a handful of our clients





# LEAN SIX SIGMA MASTER BLACK BELT

## | Course Overview

This Lean Six Sigma Master Black Belt course prepares participants to perform the role of a Lean Six Sigma Master Black Belt. The Lean Six Sigma Master Black Belt training materials comprise a comprehensive curriculum covering everything within the Lean Six Sigma Body of Knowledge required to successfully complete Master Black Belt certification. After achieving this qualification, Master Black Belts utilise the extensive acquired DMAIC methodology and the advanced tools during the execution of a project as a coach and consultant, as well as coach and mentor a team of Green Belts and Black Belts.

## | Certification

After passing the knowledge exam (IASSC or Exemplar Global), participants will be certified as Lean Six Sigma Master Black Belts.

As a bonus, if the participants want to apply their knowledge and complete a project, after successful completion of the Lean Six Sigma Master Black Belt Project Portfolio within 6 months, they will achieve another certificate that includes the project title. A project examination fee of \$1400+GST is payable if applicable.

The certificates will be granted under the Exemplar Global banner according to the ISO 18404 international standard.

## | Target Audience

The Lean Six Sigma Master Black Belt certification program is perfect for participants with limited or no exposure to Lean Six Sigma who want to achieve their Lean Six Sigma Master Black Belt Certificate without achieving Yellow Belt, Green Belt and Black Belt Certificates. The Lean Six Sigma Black Belt Body of Knowledge is covered in the first 10-days with the additional topics covered in the remaining 5-days for upgrading to Lean Six Sigma Master Black Belt.



**Duration:** 15 full days (9am - 5pm)



## What is included

- Pre-course On-line Introduction Video
- Master Black Belt Course Material
- Data files for Minitab practices
- Master Black Belt project templates pack to be used for the Lean Six Sigma Project
- Master Black Belt practice test
- Master Black Belt Certification Exam
- Master Black Belt Project Portfolio (if applicable)
- Six months project support service (if applicable)
- One-month Minitab exercise support (if applicable)



## Prerequisites

**As all Lean Six Sigma Master Belt topics are covered during the course, there is no formal prerequisite for the Lean Six Sigma Master Black Belt Certification. Advanced numeracy and statistical knowledge are required.**



# LEAN SIX SIGMA MASTER BLACK BELT

## | Course Outline

### Introduction to Lean Six Sigma

- What is Lean
- Lean Principles
- Evolution of Lean
- Eight Types of Waste (MUDA)
- Waste and Value
- What is Six Sigma?
- Six Sigma History
- DMAIC Vs. DMADV
- Lean Six Sigma (LSS)
- Similarities of Lean and Six Sigma
- Differences of Lean and Six Sigma
- LSS Tools Overview
- Limitations to LSS projects

### Define Phase

- Team, Teamworking, Team Building, Team roles and responsibilities
- Creative Thinking and Brainstorming
- Creativity Models (TRIZ, ...)
- Generating Project Ideas
- Balanced Scorecard (BSC)
- Hoshin Planning
- Affinity Diagram
- Project Selection Matrix
- Project Planning / Project Management
- Stakeholders Analysis
- Project Risk Assessment
- Communication Skills and Communication Planning
- Project Charter
- Project Measures (Metrics) Incl. Yield, RTY, DPO, DPMO, ...
- Cost of Poor Quality (COPQ)
- LSS and Cost
- Process Definition
- SIPOC
- Voice of Customer (VOC)
- Critical to Quality (CTQ)
- Quality Function Deployment (QFD)

### Measure Phase

- C&E (Fishbone) Diagram
- Pareto Chart
- C&E Matrix (X-Y Diagram)
- FMEA
- Different types of Data
- Inferential and descriptive statistics
- Population and Sampling
- Sample Size Calculation
- Stratification
- Data Collection Plan
- Measurement System Analysis (MSA)
- Accuracy and Precision
- Bias and Linearity
- Stability
- Repeatability & Reproducibility (G R&R)
- Attribute MSA (KAPPA)
- Destructive Measurement Systems
- Statistical Measures (Mean, Median, Mode, Range, Variance, Standard Deviation, Skewness, Kurtosis)
- Different Types of Variation
- Histogram
- Normal Distribution and Normality
- Data Transformation, Box Cox, Johnson
- Run Chart
- Individual Control Chart
- Discrete Statistical Distributions (Binomial, Poisson)
- Normal and standardised normal distributions
- Central Limit Theorem
- Process Capability Indices (Cp, Cpk, Pp, Ppk)
- Short Term and Long Term Sigma Level





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