



CBIS Business
Compliance
and Excellence

We Provide a Simple, Smart and
Affordable route to Lean Six
Sigma Training and Certification

LEAN SIX SIGMA

LEAN SIX SIGMA GREEN
TO BLACK BELT UPGRADE



**CLASSROOM
TRAINING**

WHO WE ARE



At CBIS, we offer classroom training for Lean Six Sigma Yellow Belt, Green Belt and Black Belt courses under accreditation of International Association for Six Sigma Certification (IASSC) and the Council for Six Sigma Certification. We are also Exemplar Global Certified TPECS Provider for the various Lean, Six Sigma, Lean & Six Sigma training courses from introductory to advanced level in compliance with ISO 18404:2015 international standard.

Here is a handful of our clients:



COURSE OVERVIEW



This Lean Six Sigma Green to Black Belt Upgrade course prepares participants to perform the role of a Lean Six Sigma Black Belt. The Lean Six Sigma Green to Black Belt Upgrade training materials comprise a comprehensive curriculum covering everything within the Lean Six Sigma Body of Knowledge required to successfully complete Black Belt certification.

After achieving this qualification, Black Belts utilise the newly acquired DMAIC methodology and the relevant tools during the execution of a project as a Project Manager as well as lead a team of Yellow Belts and Green Belts.

DURATION



5 Full days – 9 am to 5 pm

CERTIFICATION



After successful completion of the course and passing the IASSC web-based or paper-based exam, participants will be certified by the International Association of Six Sigma Certification, as Lean Six Sigma Black Belt.

The second certificate will be granted under Exemplar Global banner according to ISO 18404 international standard and with the project title after successful completion of the Lean Six Sigma Black Belt Project Portfolio within 6 months.

TARGET AUDIENCE



The Lean Six Sigma Green to Black Belt Upgrade certification program is perfect for participants who are already Certified Lean Six Sigma Green Belts who want to upgrade their knowledge to become a Lean Six Sigma Black Belt.

WHAT IS INCLUDED



- ✓ Pre-course On-line Introduction Video
- ✓ Black Belt Course Material (Hard Copy)
- ✓ Minitab Exercises Manual (Hard Copy)
- ✓ Data files for Minitab practices
- ✓ One-month Minitab exercise support
- ✓ Black Belt project templates pack to be used for the Lean Six Sigma Project
- ✓ Black Belt practice test
- ✓ Black Belt Certification Exam (paper-based or web-based)
- ✓ Black Belt Project Portfolio
- ✓ Six months project support service

PREREQUISITES



A Lean Six Sigma Green Belt Certificate issued by an accredited training service provider is a prerequisite for this course. Without this accreditation, CBIS cannot guarantee the adequacy of the Green Belt training. The Green Belt Body of Knowledge is not covered in detail during this course. Intermediate level numeracy and statistical knowledge are required.



COURSE OUTLINE



Define Phase

- Creative Thinking and Brainstorming
- Generating Project Ideas
- 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)

Measure Phase

- 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
- Linearity
- Stability
- Repeatability & Reproducibility (G R&R)
- Attribute MSA (KAPPA)
- Different Types of Variation
- 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

Analyse Phase

- Process Mapping Tools
- SIPOC, Spaghetti Diagram, Process Flow Chart, etc.
- Value and Non-value Add Analysis
- Value Stream Map (VSM) - Current State
- Graphical Cause Validation Tools (Fishbone Diagram, 5 Whys, ...)
- Statistical Cause Validation Tools
- Box Plot, Dot Plot, Main Effect Plot, Multi-vari Chart
- Hypothesis Test
- Chi-square Test
- Scatter Plot and Correlation
- Simple Linear Regression
- Non-Linear Regression
- Multiple Linear Regression

Improve Phase

- Just-In-Time (JIT)
- Pull and Push Systems
- Kanban
- Batch Flow and Single Piece Flow
- Standardised Work
- Layout Planning
- Total Productive Maintenance (TPM)
- Overall Equipment Effectiveness (OEE)
- Single Minutes Exchange of Die (SMED)
- Value Stream Map (VSM) - Future State
- Design of Experiment (DOE)
- Cost-Benefit Analysis
- Improvement Solution Selection
- Resistance Management and Force Field Analysis
- Motivation and Motivating Others
- Project Pilot
- Project Planning

Control Phase

- Self-Review and Self Development
- Individual and organisational changes
- Statistical Process Control
- Variable Control Charts (Xbar-R, Xbar-S, ...)
- Attribute Control Charts (C chart, P chart, ...)
- Advanced Control Charts (EWMA, CUSUM,...)
- Before and After Analysis
- Presentation and Report Writing Skills
- Project Closure

CONTACT US



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