LEAN SIX SIGMA BLACK BELT (ASQ SYLLABUS)

Six Sigma Courses

ASQ

Objectives
This programme imparts a thorough in-depth knowledge & understanding of all aspects of Lean and Six Sigma Black Belts have the ability to lead LSS projects and also provide expert guidance to other staff members in their LSS project work.

By integrating elements of Lean and Six Sigma organisations can successfully realise the full potential of both strategies. LSS enhances team problem solving with the use of statistical tools. It is a customer focussed, data driven approach to optimise products, processes and services. LSS is a proven pathway for enterprise-wide productivity improvement.

Duration
Weekdays (Monday, Wednesday, Friday) | 7pm to 10pm | 4 months | 137 hours

Who should attend
Managers, engineers, technical staff, process owners, quality professionals, preferably diploma holders and above with minimum two years of work experience.
• Quality and/or Training Coordinators
• Engineers, Business Unit Managers, Program Managers and other practitioners / change agents who will be conducting Six Sigma projects
• Individuals interested in having certification for Lean Six Sigma Black Belts

Entry Requirement
Diploma or Degree holders with relevant working experience; and possess Project Management Skills; Analytical Skills.
Participants must have at least one potential project for execution; and possess Basic Skills in MS Excel and Power-Point applications.

Course Fees
Member: S$6,211.35
Non-Member: S$7,453.62
Registration Fee of S$17.28 and Exam & Certification Fees of S$216 apply
All fees stated are inclusive of 8% GST

Learning Methodology
Various interactive activities, group discussions, class exercise and real life case studies are used to enable participants to learn the concepts, tools and techniques.
Participants are strongly encouraged to work closely with our in-house consultants (LSS experts) for guidance on their project work.
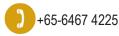
Assessment Method
Written examination - held approximately 4 weeks from end of course
Project assessment - within 1 year after the written exam

SQI INTERNATIONAL

enquiries@sqi.org.sg
www.sqi.org.sg
+65-6467 4225
1 Sophia Road #05-06/07 Peace Centre S(228149)

Course Contents

- Lean Six Sigma Overview
- Lean Overview
- Define Phase Methods: SIPOC, Project Charters and Teams
- Measure Phase Methods and Process Mapping
- Introduction to Minitab
- Probability Concepts
- Basic Statistics
- Define & Measure Phase Deliverables
- Project Presentations

Measure
- Gage R&R
- Introduction to Process Capability
- Cause and Effect and Failure Modes and Effects Analysis
- Advanced Process Capability
- Graphical Analysis
- Non-Normal Data
- Central Limit Theorem
- Confidence Intervals
- Introduction to Hypothesis Testing
- T Tests
- Hypothesis Testing for Discrete Data

Analyse
- Power and Sample Size
- Test for Equal Variances
- ANOVA
- Correlation and Regression
- Logistic Regression
- Nonparametric Statistics
- Introduction to Designed Experiments
- Randomised Blocks
- Full Factorial Designed Experiments
- Fractional Factorial Designed

Experiments
- Center Points in Two Level Designs
- Response Surface Designs
- Project Presentations

Improve
- Creating Future State Maps
- Catapult Activity
- DoE Exercises
- Improve Phase Deliverables
- DoE Exercises
- Piloting and Implementation
- Acceptance Sampling
- Statistical Process Control
- Project Presentations

Control
- Control Plans
- Managing Change
- Introduction to Design for Six Sigma
- Statistical Tolerancing
- Training and Certification Requirements
- Project Presentations

Lean Management Tools
- Cycle Time Reduction
- 5S
- Kaizen, Kanban, Just-in-Time (JIT)
- Value Stream Mapping (VSM)
- Waste Reduction (7 wastes)
- Mistake Proofing / Poka-Yoke
- Total Productive Maintenance (TPM)
- Takt time, Line Balancing, Standardised Work
- Concurrent Engineering
- Outsourcing
- Business Process Reengineering

Special Note:
Participants need to bring their own laptops for Minitab Software Application training.
Participants must pass a Six Sigma Black Belt project which has to be completed within 3 months from the last day of the course.

Please refer to this URL
https://www.sqi.org.sg/courses/
or QR Code for soft copy
and updated training schedule

Key Benefits

- Learn the Lean Six Sigma (LSS) methodology, tools and techniques.
- Learn to apply LSS for continuous improvement work and solve real life problems.
- Acquire the knowledge and skills to implement LSS projects.
- Ability to lead project teams to achieve breakthrough results.
- Be recognised as a LSS professional and expert coach to guide other staff members.
- Learn to do statistical data analysis using Minitab software.

Membership Application

Register membership online at **www.sqi.org.sg/membership-join/** or contact us to get the membership application form.

Membership Categories:
~ Organisation membership
~ Individual membership

SQI International is a subsidiary of Singapore Quality Institute (SQI). SQI operates as a non-profit professional institute that promotes and advances excellence in the field of quality in Singapore; and actively champions quality initiatives in the region and around the world through networking and collaborating with other international quality organisations.

SQI is a World Partner of the American Society for Quality (ASQ); and a Board Member of both the Asian Network for Quality (ANQ) and the World Alliance for Chinese Quality (WACQ).