



SINGAPORE
QUALITY
INSTITUTE



Leading the Modern
Quality Movement in Pakistan

Lean Six Sigma Black Belt (LSSBB)

18 Days International Certification from SQII Singapore
spread over three months with 5 days classes in a week.



Valuable For:

One of the most credible programs of PIQC and SQII. We have conducted 57 batches of Black Belt and 82 batches of Green Belt since 2005 more than 300 Black Belts and 600 Green Belt are certified so far. This is one of the more preferred Six Sigma certification program for Managers, Engineers, quality professionals and quality driven organizations in Pakistan.



Professional Engineering Body





Introduction

This is an advance course in Six Sigma and considered one of the most important international courses for managing and improving organizational Quality. This program 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 organizations can successfully realize the full potential of both strategies. LSS enhances team problem solving with the use of advanced statistical and other Quality tools. It is a customer focused, data driven approach to optimize products, processes and services. LSS is a proven pathway for enterprise-wide productivity, quality and efficiency improvements.

Who is Six Sigma Black Belt

Six Sigma Black Belt is just a nomenclature used in Six Sigma programs which is an advance program in Total Quality Management or Process Improvement. Introductory level training is known as 'Six Sigma Yellow Belt'; middle level is called 'Six Sigma Green Belt'; while the advance level is called 'Six Sigma Black Belt'. There is no need to do these courses step by step. In case of six sigma black belt, there is no need to do other levels.

Six Sigma Black Belt Real Life Projects

This is one of the most advanced courses in Quality and includes a large number of Quality Tools and approaches. The course is specially designed to provide practical exposure to participants with practical projects and hands on experiences on advance statistical software packages so that they are useful in their companies from practical points of views and can actually build the company to the world-class level.

Learning Outcomes

On successful completion of this course, participants will be able to:

- Learn the Lean Six Sigma (LSS) methodology, tools and techniques.
- Learn to apply LSS for continuous improvement of work places.
- 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.
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Duration/ Timings

Six Sigma Black Belt is a 18 days course spread over three months and a take home project to be submitted in the 4th month. The distribution of days is as follows:

- **Phase I:** Five days classes with take home assignments.
- **Phase II:** Five days classes with take home assignments.
- **Phase III:** Five days classes with take home assignments.
- **Project submission after one month of Phase III.**

Training timings are from 9:30 am to 5:30 pm on the designated Phase I-III.

Course Instructors

Internationally qualified and experienced Six Sigma Black Belts. All course instructors are approved course tutors by Singapore Quality Institute International and have worked with large number of Six Sigma projects in companies.





Lean Six Sigma Black Belt

Course Contents

LEAN SIX SIGMA BLACK BELT

The course content include the following modules;

Six Sigma Theory & Practices

Basic Concepts of Lean, Integration of Lean & Six Sigma

1

Define Phase:

• Lean Six Sigma Overview, Voice of Customer (VoC), Project Selection & Prioritization SIPOC, Project Charter & Metrics, Process Mapping, Six Sigma Team Dynamics & Management, Development of Key Performance Indicators (KPIs), Calculating Process Performance Metrics, Enterprise Leadership Responsibilities.

2

Measure Phase:

• Gauge R&R, Collecting and Summarizing Data, Pivot Analysis, Graphical Methods, Non-Normal Data, Process Characteristics, Process Capability & Performance, Central Limit Theorem, Confidence Intervals, Measurement System Analysis (MSA), Value Stream Mapping (VSM).

3

Analyze Phase:

• Measuring and Modeling Relationships between Variables, Causal Analysis, Hypothesis Testing, Types of Correlation & Regression, Non-Parametric Statistics, Sampling, Waste Analysis, Analysis of Variance (ANOVA).

4

Improve Phase:

• Experimentation on Solutions, Advance Design of Experiment (DOE), DoE Exercises, Piloting and Implementation, Process FMEA, Response Surface Design, Basics of Total Productive Maintenance (TPM).

5

Control Phase:

• Control Methods, Fundamentals of Statistical Process Control (SPC), Lean Six Sigma, Control Charts, Control Plans.

6

Lean Management:

• 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).





SQII - Singapore Quality Institute

Singapore Quality Institute (SQI), previously known as Singapore Quality & Reliability Association (SQRA) was formed in 1971. SQI operates as a non-profit professional Institute, which promotes and advances excellence in the field of quality in Singapore, and actively champion quality initiatives in the region and worldwide through networking and collaboration with other international quality organizations. The Institute is a World Partner of the American Society for Quality (ASQ) and a Board Member of the Asian Network for Quality (ANQ).



PIQC - Center for Excellence

Leading Institute in Pakistan providing academic programs, professional diplomas & certifications, short courses and corporate development in Quality Control (QC), Quality Assurance (QA) and Total Quality Management (TQM), Human Resource Management (HRM) and Health, Safety and Environment (HSE). Celebrating the 30th year of its establishment, PIQC vision is to see Pakistan a hallmark of Quality in the national and global environments. With its leadership and team of specialists, it has provided academic education and professional courses to more than 50,000 students and professionals. It is the pioneer and most authentic source for running International Six Sigma and Lean Manufacturing programs, including Six Sigma Yellow Belt, Six Sigma Green Belt and Six Sigma Black Belt in Pakistan. PIQC is offering this course in Pakistan since 2005 with the collaboration of Singapore Quality Institute International (SQII), a subsidiary of Singapore Quality Institute (Pte.) Ltd.

PIQC is the Professional Engineering Body (PEB) of Pakistan Engineering Council (PEC) since 2019. The Pakistan Engineering Council is a statutory body, constituted under the PEC Act 1976 (V of 1976) amended upto 24th January 2011, to regulate the engineering profession in the country such that it shall function as key driving force for achieving rapid and sustainable growth in all national, economic and social fields.

Testimonials



Dr Khawar Hussain Qureshi,
Chief Executive Officer,
Elajzone Health Services.

It is an honor to be a part of PIQC. I found the critical key as LSSBB training. It gave me hope, joy , inspiration and a meaningful approach to create a quality culture. Thankyou PIQC for creating a wonderful team and leadership with incredible, collaborative environment.



Muhammad Hassan Ramzan,
Maintenance & HSE Manager,
Kansai Paints (Pvt.), Ltd.

I chose PIQC for my Lean Six Sigma Black Belt certification. I am very much happy with my decision because I was given the opportunity to learn from the gurus of this field. They have excellent command and expertise and their way of teaching is amazing. Highly recommended.

PIQC INSTITUTE OF QUALITY

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