

# **CERTIFIED LEAN** SIX SIGMA BLACK BELT



Starting August 18, 2024 | PIQC Institute of Quality | 🌣 16-Weeks Duration (Sunday Only) | 🕟 10:00 AM - 4:00 PM PKT





## **COURSE OVERVIEW**

This is an advance level certification course in Lean Six Sigma and is considered one of the most sought-after international courses for managing and improving company-wide operational excellence. This program imparts a thorough indepth knowledge and understanding of all aspects of Lean and Six Sigma. Being used extensively by Fortune 500 companies, Lean Six Sigma applies instruments and techniques with the aim of eliminating wastes and reducing the process variation. It is a proven pathway for enterprise-wide productivity, quality, and efficiency improvement.

Lean Six Sigma uses the analogy of belt colors (often associated with martial arts) to designate competence in applying lean six sigma tools to problem solving and process improvement. The advance level is called 'Six Sigma Black Belt '. A Black Belt leads complex problem-solving projects, trains and coaches project teams and understands all aspects of the DMAIC model in accordance with Six Sigma principles.

The Lean Six Sigma Black Belt (LSSBB®) course is specially designed to provide practical exposure to the participants with practical business improvement projects assigned to them by their management sponsor along with hands-on learning experience with advance Minitab statistical software so that they can boost their company's bottom line and can build the company to a world-class level. The body of knowledge of this course is compatible to the one defined by the American Society of Quality - ASQ ®.

## **LEARNING OUTCOMES**

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

- tools that a Black Belt would be expected to use when on a project team
- ✓ LEARN how to manage Lean Six Sigma projects ✓ relevant to their organizational growth
- ✓ UNDERSTAND the advance Lean Six Sigma ✓ APPLY Lean Six Sigma in organizations to solve complex quality problems and removal of wastage
  - ✓ BUILD a foundation for breakthrough performance
  - FUNCTION as the steppingstone towards Master Black Belt Certification

#### **COURSE CONTENT**

The body of knowledge of this course comprise of following topics:

- → Basics of Quality
- → Introduction and History of Lean & Six Sigma
- → Lean Manufacturing Fundamentals
- → Difference between Lean & Six Sigma
- → Eight Deadly Lean Wastes
- → Understanding of DMAIC Methodology & Advance Statistical Tools
- → Case Studies & Success Stories
- → Individual & Group Exercises
- → Phase-Wise Quizzes & Mock Exam
- → Lean Six Sigma Black Belt Project Discussion

Six Sigma & Lean Tools Covered (Phase-Wise):

#### PHASE I PHASE II PHASE III **Define** Measure **Analyze Improve** Control •5 Whys Analysis • Failure Mode & Project Selection & Introduction to Piloting & Minitab Software Implementation Effect Analysis Prioritization Basic Probability (FMEA) SWOT Analysis Collecting & Principles & Probability Basics of Statistical Summarizing Data Components of DPMO Calculations Distribution Types Process Control Experimental Design & Baseline Sigma Rolled Throughput Inferential Statistics Yield (RTY) Main Effects & Evolution of Project Charter Confidence Interval Interaction Plots Control Charts • Takt Time Communication · Sampling Technique Optimization Attribute & Plan Data Collection • Central Limit Method Variable Control Stakeholder Descriptive Theorem Charts •Solution Selection Statistics Measures **Analysis** Introduction to Matrix Control Plan Sources of Voice of Customer Hypothesis Testing •Impact-Effort •SOP / Work Variation Critical-To-Quality Hypothesis Tests Matrix Instructions Graphical Analysis (CTQ) Tree for Normal & Non-•Generate and (Histogram, • SIPOC: High Level Normal Data Validate Solutions Interval, Box Plot) Process Map Hypothesis Tests •To-Be Process Flow Cost of Quality • Six Sigma Team for Proportions •Revised DPMO & •X-Y Matrix Dynamics & Analysis of Variance Sigma Calculations Management Cause & Effect (ANOVA) •Lean Tools: Development of Diagram Correlation **Key Performance** o Kaizen Pareto Chart Scatter Plot Indicators (KPIs) ○ Gemba Measurement Simple & Multiple KANO Model of o Push Vs Pull System Analysis Linear Regression Quality System Process Capability Analysis o Poke-Yoke Value Stream Studies (Cpk/Ppk) Best Subsets o 5S: Industrial Mapping (VSM) Regression Housekeeping

# **LEAN SIX SIGMA BLACK BELT PROJECT**



The participants are required to work on real life projects assigned to them by their management sponsor from their respective organizations. The projects will be of a practical nature to be completed within the stipulated timeframe. A LSSBB Project Report is required to be submitted in accordance with the laid down criteria, format, and course coverage.

#### **COURSE DURATION**

Certified Lean Six Sigma Black Belt is a 16-Weeks course spread over four months, with class conducted on Sunday Only and a take-home project to be submitted one month after completion of Phase-III.

## **PRE-REQUISITES**

Participants are expected to have a strong knowledge and understanding of basic statistics, fundamentals of quality management system and six sigma.

## WHO IS THIS COURSE FOR?



This course is designed for individuals from diverse organizational functions - Quality, Engineering, HSE, Production, Finance, HR, Healthcare, Aviation, Logistics, Sales, Security who are interested in understanding the concepts, tools, and methodologies of Lean and Six Sigma and wants to ensure a long-term continuous improvement culture and looking to get most out of their career.

Participants are normally process owners or leaders from service or product-based industry and are well versed in technical aspects of their jobs and have worked on project teams with sound knowledge of statistics and quality tools.

#### AWARD OF CERTIFICATION

Participants will receive internationally recognized Lean Six Sigma Black Belt Certification from SQI International, Singapore upon successful completion of course, as well as qualifying the written exam and Lean Six Sigma Black Belt project.



#### **ABOUT OUR TRAINERS**

Internationally experienced and qualified Lean Six Sigma Master Black Belts. All the trainers are approved tutors by SQII and have worked on number of Six Sigma and Operational Excellence Projects for multifarious companies, having hands-on experience in the field of QA, QMS, Process Excellence, Business Process Management and familiar with the industrial environment.

## **ABOUT PIQC**

PIQC Institute of Quality was established in 1991 by a group of Quality professionals dedicated to the field of Quality. Over the past three decades, the Institute has earned the national and international credibility and is considered Pakistan's leading and most authentic institute for professional development in the field of Quality.

# WHY TRAIN WITH PIQC?

We have provided corporate advisory, training, and consultancy services to more than 500 companies and trained more than 50,000 personnel in Pakistan and abroad in the areas ranging from Quality Control to Quality Assurance, TQM, Lean Six Sigma, Lean Manufacturing, Total Productive Maintenance, HSE, HR Management, Project Management, Labor Laws, and Healthcare Quality to mention few.

#### **OUR LEAN SIX SIGMA EXPERIENCE**

Since 2005, PIQC Institute of Quality is the most authentic source and International Lean Six Sigma certifications and training programs in Pakistan, including Lean Six Sigma Yellow Belt (LSSYB®), Lean Six Sigma Green Belt (LSSGB®), Lean Six Sigma Black Belt (LSSBB®) and Lean Six Sigma Champion (LSSC®).





#### Group discount on early bird registration or nominations from the same organization

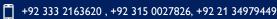
#### Fee includes:

- Course Material, Support Files, Books & Templates
- Certificate of Participation
- Lunch & Refreshments
- **Business Networking Opportunity**
- Post-Training Counselling Services

#### **FOR REGISTRATION AND FURTHER DETAILS:**







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