



# SIX SIGMA BLACK BELT

International Training & Certification in Pakistan



An Advance Course and Certification for  
Quality, Production, Operations, and  
Supply Chain Managers of World Class  
companies



Singapore Quality  
Institute International



## Get a top class international Quality credential in Pakistan with extensive practical skills

Six Sigma is an emerging tool of Quality Management with extensive power for improving performance of products, processes and systems of organizations. For organizations looking for breakthrough improvement in their organizations cannot ignore this program. Unlike, ISO 9000 where the focus is on standardization, Six Sigma builds many management teams in organizations who are developed with exhaustive problem solving and analytical tools, statistical tools, process improvement tools, and process control tools. Creating these unique capabilities, overall enterprise improvement methodology is deployed in organizations to reduce product or service failure rates to near zero levels. Utilizing a disciplined, data-driven approach, Six Sigma practitioners collect and use various data like customer feedback, product inspection results, process parameters, key performance indicators and their long term trends, supplier performance results in the supply chain etc. to monitor, control, and improve operational performance by eliminating and preventing defects in products / and associated processes, including management, service delivery, design, production and customer satisfaction.

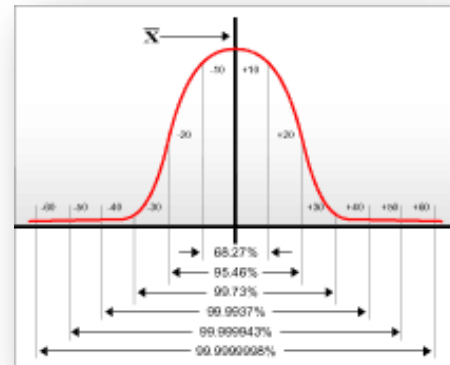
Six Sigma Black Belt International Certification and Training provides you with a thorough knowledge, strategies, tools, and approaches of Six Sigma programs (including supporting computer software hands on skills advance statistical analysis on special computer software). Successful completion of this course will ensure a thorough professional in the field of Quality Management, which is not only a necessary body of knowledge for any Quality Manager, but equally important for Production, Operations, Supply Chain and Factory Managers or Managers of Service organizations, like Banks, Hospitals, Airlines, etc.





## Who is Black Belt

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



## Gain Advance Knowledge and Practical Skills through 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.

## Duration

This is a four months course with 18 days of classes in the first three month and a take home project to be submitted in the 4<sup>th</sup> month. The distribution of days is as follows:

- Phase I: Six days classes with take home assignments
- Phase II: Six days classes with take home assignments
- Phase III: Six 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.

## Venues

Classes are held at PIQC training centers in Lahore and Karachi.

## Course Instructors

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

## Fee

US\$ 1650 per participant (or equivalent Pak Rs). Please note that his course is internationally licensed and highly expensive internationally. The fee is specially discounted for Pakistani participants.



## Body of Knowledge and Topics

The body of knowledge of this course compatible to the one defined by the American Society of Quality – ASQ®. The instructors and the teaching methodology is also ensured to the highest level. The following is the guidelines of the topics which will be covered in the course.

Phase	Topics
Phase I	<p><b>Introduction and Foundation:</b> Business Process Management; Process Mapping; Standardization, Innovation and Improvement; Overview of Six Sigma (SS); SS Methodologies and DMAIC Process; SS Metrics, KPIs and CTQs; How to Setup SS in organizations; Establishing SS Infrastructure and Teams Requirements (Champions, Black Belt, Green Belts, etc).</p> <p><b>Starting Six Sigma Projects:</b> Identification of organizational strategic Quality issues related to products, processes and customer satisfaction; Prioritizing and aligning SS projects with company goals; Forming SS Teams and studying team dynamics; Cause &amp; Effect Matrix/Diagrams for project selection; Developing Project Proposals and Charters, Integrating Quality with costs using Cost of Quality.</p> <p><b>Initial Study and Measurements:</b> Surveys and Data Collection related to history of Quality issues; Learning Minitab® and/or other relevant Software for data analysis; Understanding the depth of Descriptive Statistics with plenty of exercises on Statistical Software; Identifying nature of data if Normal or Non-Normal for using suitable statistical tool; Sampling Techniques and Methods; Measurement System Analysis (MSA) and Gage Repeatability &amp; Reproducibility (GRR); Calculating Process Capability Index in production and for suppliers; Take home exercises on real life six sigma projects from participants companies and related practical issues.</p>
Phase II	<p><b>Analyzing Corporate Issues in depth:</b> How to identify causes using Cause and Effective Diagrams, Pareto Diagrams, Failure Mode and Effect Diagrams (FMEA); Waste Analysis; Studying the types of probability distributions of the Quality data for deep study of process phenomenon through data; Validating reasons through Inferential Statistics using Test of Hypothesis, Parametric (t-test, ANOVA) and Non-Parametric tests (Mood Median/Kruskal); Chi-Square Test; Types of Sampling Errors and how to identify appropriate sample size; Correlation and Regression Analysis between outcomes and factors affecting Quality; Take home exercises on real life six sigma projects from participants companies and related practical issues.</p>
Phase III	<p><b>Identifying and Validating Solutions to Corporate Issues:</b> Identifying probable solutions to deep rooted quality issues; conducting experiments using Design of Experiments; designing, planning experiments on trials; one/two and full factorial experiments; cycle time reduction; Kaizen; and Simulation.</p> <p><b>Controlling and Standardizing Solutions:</b> detailed study of Statistical Process Control and Statistical Control Charts; Control chart analysis and interpretations; developing Control Plans and Tables; Standardization of building SOPs.</p>



### **LAHORE**

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