



Certified Lean Six Sigma

ASQ Model

QT&T provides you with a thorough knowledge of Lean Six Sigma philosophies and principles, including supporting systems and tools based on ASQ Body of knowledge. A certified Black Belt exhibits team leadership, understands team dynamics, and assigns his/her team members roles and responsibilities. They have a complete understanding of the DMAIC model in accordance with Lean Six Sigma principles, have a basic knowledge of lean enterprise concepts, and they can identify non-value-added elements and activities.

QT&T Lean Six Sigma Black Belt Training is ideal for engineers, business unit manager, program managers, students, or anyone looking to get the most out of their career. Here are just some of the things you will learn in your black belt training:

- Lean Six Sigma philosophy of process improvement
- Customer centered business
- Lean manufacturing
- Advanced statistics
- Coaching successful project teams
- Group/organizational assessment

Certified Lean Six Sigma Black Belt Program Highlights

- Program contents are mainly based on **ASQ Body of knowledge** and help participants for effective preparation of final ASQ Certification exam
- Gives the participants a comprehensive knowledge of Lean Six Sigma Methodology and the DMAIC process
- Enables participants to understand the role of a Black belt as a key change agent in their organizations
- Gives the participants a comprehensive understanding of Lean Six Sigma applications by exposing them to examples from cross functions and cross industry
- Gives participants an understanding to Define, Scope and Work on Lean Six Sigma Projects
- Gives participants an understanding to characterize a complex problem
- Enables participants to understand linkage between business priorities and Lean Six Sigma
- Post training support for the projects through mails and web interactions

Black Belt Curriculum ASQ Model

Enterprise Deployment	Design for Six Sigma (DFSS)	Leadership	Organizational Process Management and measures	Team Management
History of continuous improvement	Common DFSS methodologies	Enterprise leadership responsibilities	Impact on stakeholders	Team formation
Value and foundations of Six Sigma	Design for X (DFX)	Organizational roadblocks	Critical to x (CTx) requirements	Team facilitation
Value and foundations of Lean	Robust design and process	Change management	Benchmarking	Team dynamics
Integration of Lean and Six Sigma	Special design tools	Six Sigma projects and kaizen events	Business performance measures	Time management for teams
Business processes and systems		Six Sigma roles and responsibilities	Financial measures	Team decision-making tools
Six sigma and Lean applications				Management and planning tools
				Team performance evaluation and reward

Define	Measure	Analyze	Improve	Control
Identification of Customer Pain Areas	Importance of Measurements	Concept of Root Cause Analysis	Improvement Action Planning	Statistical process control (SPC)
Voice of the Customer (VoC)	Operational Definition	Fish Bone Diagram and Pareto Analysis	Design of experiments (DOE)	Maintain controls
Ways of Capturing VoC	CTQ Drill Down Tree	Detailed Process Mapping- Value Stream Mapping	Kaizen and kaizen blitz	Sustain improvements
Quality Function Deployment (QFD)	Data Collection Plan	Failure mode and effects analysis (FMEA)	Waste elimination	Process Audit Overview- How to Audit a Process on an ongoing basis
Project Charter & tracking	Data Stratification and Segmentation	Hypothesis testing	Theory of constraints (TOC)	Other control tools ;TPM and Visual Factory
CAP Tools- ARMI, GRPI, Stakeholder Analysis	Data Types- Discrete and Continuous	Measuring and modeling relationships between variables	Solution Implementation	
	Basic statistics and Probability	Concept of Normality and Stability	Risk analysis and mitigation	
	Sampling Strategies	Statistical tools and techniques- Analysis of Variance (ANOVA), Chi Square test, T-tests, Box Plots, Histograms etc.	Solution Design Matrix	
	Introduction to Process Mapping	Analyzing Non-Normal Data	Mistake Proofing	
	Concept of Yield	Correlation & Regression Analysis		
	Measurement System Analysis- Discrete and continues Data			
	Process Capability Analysis			

Entry Requirements

Diploma or Degree holders with minimum 3 years working experience with :

- Project Management Skills;
 - Analytical Skills;
 - Participants must have at least one potential project for execution; &
 - Basic skills in Excel and Powerpoint
- Already Certified Six Sigma Green Belt (Though it is not must requirement)

Who Should Attend

- Quality and/or Training Coordinators ;
- Engineers, Business Unit Managers, Program Managers and other practitioners/change agents who will be conducting Six Sigma projects ; or
- Individuals interested in having ASQ certification for Black Belts

Duration
120 hours



QUALITY TRAINING TECHNOLOGY

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