MERCURY

Six Sigma Black Belt Training Course

5 – 9 July 2027
Barcelona (Spain)



Dubai - UAE: +971 4 450 5697
Istanbul - Türkiye: +90 539 599 1206
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Ref: 15374_1078456 **Date:** 5 – 9 July 2027 **Location:** Barcelona (Spain) **Fees:** 5600 Euro

Introduction:

Although Six Sigma is disciplined to achieve customer expectations and eliminate defects in any process, Lean methodologies focus on reducing waste. This Six Sigma Black Belt training offers an innovative combination of Lean methodologies and Six Sigma approaches coalesced into one comprehensive certificate program.

By completing this Six Sigma Black Belt program, you will develop an in-depth foundational understanding of the theory, elements, and enactment of a Lean Six Sigma initiative. Furthermore, you will learn how to apply each analytical tool to establish, quantify, analyze, enhance, use, and control improvement efforts within your organization.

Six Sigma Black Belt Principles:

Six Sigma Black Belt professionals are experts in implementing Six Sigma principles. Through the Six Sigma Black Belt Training Course, participants will dive into critical methodologies that characterize the Six Sigma approach.

Emphasis will be given to defining the meaning and importance of the Six Sigma Black Belt, understanding its role within management, and understanding how becoming a Six Sigma Black Belt can bring significant benefits to an organization.

Course Objectives:

At the end of this Six Sigma Black Belt course, participants will be able to:

- Establish demand-based setups.
- Construct lean process flows.
- Implement Lean in your business operations.
- Reduce cycle time by eliminating unnecessary wait times.
- Perform comprehensive statistical analyses for handling and evaluating data.
- Oversee the process to ensure continued improvement.
- Detecting opportunities to augment customer satisfaction.
- Implement suggested modifications.
- Decrease variability to upgrade existing processes.
- Measure and enhance the essential components of the process to boost quality.

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Targeted Groups:

This Six Sigma Black Belt course is particularly beneficial for:

- Individuals holding a Green Belt in Six Sigma
- Senior Leadership planning to deploy Lean Six Sigma
- Team Leaders
- Professionals specialized in ITSM Process Manager Software
- Project Managers
- Quality Assurance Engineers
- Software Quality Assurance Team Members
- Supervisors and Managers

Targeted Competencies:

Participants competencies in this Six Sigma Black Belt training will:

- Advanced Statistical Analysis.
- Process Improvement Techniques.
- Project Management Skills.
- Leadership and Team Management.
- Strategic Planning and Implementation.
- Problem-Solving Abilities.
- Risk Management and Mitigation.
- Data-Driven Decision Making.
- Lean Methodologies.
- Quality Control and Assurance.

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Six Sigma Black Belt Course Content:

Unit 1: Introduction to Lean and Six Sigma:

- Overview of Lean and Six Sigma.
- History and Evolution of Six Sigma and Lean.
- Lean Principles and Six Sigma Black Belt Tools.
- DMAIC Methodology Overview.
- Define Phase: Project Selection and Project Charter.
- Understanding Key Concepts of Quality and Efficiency.
- Role of a Six Sigma Black Belt in Organizations.
- Introduction to Process Improvement Frameworks.
- Benefits of Integrating Lean and Six Sigma.
- Basics of Cost Reduction and Waste Elimination.

Unit 2: Measure Phase:

- Data Collection Strategies and Measurement System Analysis MSA.
- Process Mapping and Lean Analysis.
- Measurement and Six Sigma Data Analysis Tools.
- Fundamentals of Statistics and Probability for Six Sigma.
- Advanced Statistical Analysis Using Six Sigma Methodologies.
- Techniques for Accurate Data Measurement.
- Identifying and Measuring Key Performance Indicators KPIs.
- Application of Statistical Software Tools.
- Ensuring Data Integrity and Reliability.
- Identifying Variability and Measurement Errors.

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Unit 3: Analyze Phase and Lean Tools:

- Hypothesis Testing and Root Cause Analysis in Six Sigma.
- Design of Experiments DOE for Six Sigma.
- Employing Lean Tools and Value Stream Mapping.
- Organizing Kaizen Events and Process Optimization.
- Advanced Problem-Solving Techniques in Six Sigma.
- Conducting Detailed Process Analysis.
- Identifying Root Causes of Process Defects.
- Utilizing Fishbone Diagrams and 5 Whys.
- Performing Capability Analysis.
- Developing Action Plans for Process Improvement.

Unit 4: Improve and Control Phases:

- Implementation of Lean Solutions and Error Proofing.
- Solution Roll-out and Change Management.
- Statistical Process Control SPC and Control Plan Development.
- Monitoring, Controlling, and Sustaining Improvements.
- Project Review and Six Sigma Black Belt Certification Process.
- Developing and Testing Improvement Plans.
- Managing and Reducing Process Variation.
- Implementing Control Charts and Monitoring Systems.
- Ensuring Long-term Sustainability of Improvements.
- Preparing for Final Project Presentation and Certification.

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Unit 5: Advanced Six Sigma Black Belt Concepts:

- Leadership and Team Management for Six Sigma Projects.
- Strategic Planning and Six Sigma Integration.
- Financial Analysis and Cost Benefit Analysis.
- Risk Management and Mitigation Strategies.
- Lean Six Sigma in Service and Manufacturing Industries.
- Advanced Design for Six Sigma DFSS.
- Supply Chain Optimization and Six Sigma.
- Integrating Six Sigma with Other Management Systems.
- Building a Culture of Continuous Improvement.
- Ethical Considerations in Six Sigma Projects.

Conclusion:

Upon completing this Six Sigma Black Belt training course, participants will be prepared for the Six Sigma Black Belt certification, which will be instrumental in driving significant quality improvement in processes. The benefits of a Six Sigma Black Belt certification are manifold, entailing an enhanced understanding of rigorous statistical analysis, project management, leadership, and the acumen necessary to lead a team through dynamic process improvement operations.