

LEAN SIX SIGMA PROBLEM-SOLVING MASTERY

"Mastering Data-Driven Problem Solving and Continuous Improvement Using Lean Six Sigma Methodologies"

Schedule

Date	Venue	Fees (Face-to-Face)
01 - 05 Nov 2026	Manama - Bahrain	USD 3495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Lean Six Sigma is a globally respected methodology that combines the efficiency-focused mindset of Lean with the precision and data analytics of Six Sigma. It is widely adopted to enhance quality, eliminate waste, and solve complex operational problems. This hands-on masterclass is designed for professionals who want to deepen their expertise in Lean Six Sigma tools and techniques to lead improvement initiatives and solve business challenges effectively.

Participants will gain practical knowledge of DMAIC (Define, Measure, Analyze, Improve, Control), statistical thinking, root cause analysis, and team-based problem solving. Through case studies, simulations, and real-world application, attendees will be empowered to deliver measurable results in productivity, quality, and customer satisfaction.

Objectives

By the end of this course, participants will be able to:

- Apply the DMAIC methodology to structured problem solving
- Use key Lean and Six Sigma tools such as SIPOC, Pareto, Fishbone, 5 Whys, and control charts
- Collect and analyze data to identify root causes and improvement opportunities
- Implement and validate solutions that deliver measurable performance improvements
- Design sustainable control systems to maintain process gains

Why Attend

- Master industry-standard problem-solving techniques used globally
- Strengthen your ability to lead or participate in Lean Six Sigma projects
- Improve performance, reduce variability, and eliminate defects in processes
- Gain analytical skills to drive evidence-based decision-making
- Earn recognition as a competent process improvement practitioner

Target Audience

This program is designed for:

- Process improvement professionals and Six Sigma team members
- Quality assurance and operations staff
- Engineers, analysts, and project managers
- Department heads responsible for performance metrics
- Anyone involved in resolving performance or quality issues

Individual Benefits

Key competencies that will be developed include:

- Structured problem solving using the DMAIC framework
- Data collection, statistical analysis, and process mapping
- Creating cause-and-effect logic and improvement plans
- Team facilitation and stakeholder communication
- Capability to implement and sustain improvements

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved quality and consistency in operations
- Reduced costs through defect and waste elimination
- Faster and more effective resolution of systemic issues
- A culture of continuous improvement driven by data
- Enhanced customer satisfaction and process capability

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings - Lean Six Sigma principles, DMAIC stages, and quality thinking
- Case Studies - Industry success stories using LSS techniques
- Workshops - Data analysis, root cause diagnosis, and improvement planning
- Peer Exchange - Group discussions and shared lessons from different sectors
- Tools - DMAIC templates, statistical tools, checklists, and control plans

Course Outline

Detailed 5-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM **Daily Format:** 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Lean Six Sigma Fundamentals and Define Phase

- Module 1: Introduction to Lean Six Sigma (07:30 – 09:30) • Overview of Lean, Six Sigma, and problem-solving culture
- Module 2: Define Phase – Problem Framing and Goal Setting (09:45 – 11:15) • Voice of Customer, CTQ, SIPOC, and project charters
- Module 3: Workshop – Creating a SIPOC and Problem Statement (11:30 – 01:00) • Develop process boundaries and objectives
- Module 4: Peer Exchange – Business Problems and LSS Opportunities (02:00 – 03:30) • Explore cross-sector applications of LSS

Day 2: Measure Phase – Data Collection and Process Mapping

- Module 5: Measurement Systems and Data Quality (07:30 – 09:30) • Operational definitions, Gage R&R, data reliability
- Module 6: Process Mapping and Baseline Performance (09:45 – 11:15) • Value stream maps, flowcharts, and time analysis
- Module 7: Workshop – Process Mapping and Data Plan (11:30 – 01:00) • Map a target process and plan data collection
- Module 8: Case Study – Analyzing Variation in Process Outputs (02:00 – 03:30) • Identify baseline capability and gaps

Day 3: Analyze Phase – Root Cause Identification

- Module 9: Root Cause Tools – 5 Whys, Fishbone, Pareto (07:30 – 09:30) • Structured brainstorming and prioritization
- Module 10: Statistical Analysis for Problem Solving (09:45 – 11:15) • Hypothesis testing, correlation, and regression basics
- Module 11: Workshop – Root Cause Analysis (11:30 – 01:00) • Apply RCA to case-based quality issues
- Module 12: Peer Exchange – Root Cause Challenges (02:00 – 03:30) • Group problem-solving practice

Day 4: Improve Phase – Solution Development

- Module 13: Creative Thinking and Solution Design (07:30 – 09:30) • Ideation, evaluation matrices, piloting plans
- Module 14: Failure Mode and Effects Analysis (FMEA) (09:45 – 11:15) • Prioritizing and mitigating implementation risks
- Module 15: Workshop – Improve Plan Simulation (11:30 – 01:00) • Design and document an improvement proposal
- Module 16: Case Study – Productivity Gains Through Process Redesign (02:00 – 03:30) • Analyze outcomes and change strategy

Day 5: Control Phase and Project Sustainability

- Module 17: Control Tools and Monitoring Systems (07:30 – 09:30) • Control charts, check sheets, and visual controls
- Module 18: Project Handoff and Documentation (09:45 – 11:15) • Standard operating procedures, training, and audits
- Module 19: Final Project – End-to-End DMAIC Application (11:30 – 01:00) • Present a full improvement cycle and outcomes
- Module 20: Wrap-Up, Feedback, and Certification (02:00 – 03:30) • Course review, Q&A, and awarding of certificates

Certification

Participants will receive a Certificate of Completion in Lean Six Sigma Problem-Solving Mastery, validating their proficiency in using Lean Six Sigma methods to resolve business problems and drive continuous improvement initiatives.

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