

Course No. 1588

Lean Six Sigma for Process Improvement Training Course

**QUALITY ENGINEERING & QUALITY MANAGEMENT
INDUSTRIAL ENGINEERING, MAINTENANCE & OPERATIONS**

DURATION

5 Days

DELIVERY

Classroom



Course Overview

The Lean Six Sigma for Process Improvement Training Course provides a comprehensive professional program designed to develop the knowledge and practical capabilities required to improve processes, eliminate waste, reduce variation, strengthen quality, and enhance operational performance. The course combines Lean principles focused on efficiency and value creation with Six Sigma methodologies focused on variation reduction, defect prevention, data-driven analysis, and sustainable process improvement.

The program examines the complete process improvement cycle, from identifying improvement opportunities and understanding customer requirements through process mapping, data collection, root cause analysis, solution development, implementation, and performance monitoring. Participants learn how to distinguish value-adding activities from waste, identify process constraints, analyze sources of variation, and establish measurable improvement priorities aligned with organizational objectives.

A key focus of the Lean Six Sigma for Process Improvement Training Course is the practical application of structured improvement methodologies. Participants explore the DMAIC framework, process mapping, value stream analysis, Pareto analysis, cause-and-effect analysis, the Five Whys, basic statistical analysis, process capability, performance measurement, and control techniques. The course emphasizes selecting appropriate tools according to the nature, complexity, and maturity of the process being improved.

The program also addresses organizational aspects of continuous improvement, including stakeholder engagement, improvement team roles, change management, performance indicators, process ownership, and sustainability of results. Participants learn how to translate analytical findings into practical improvement actions and establish controls that help prevent performance deterioration after implementation.

Through case studies, practical exercises, process simulations, data analysis activities, and improvement workshops, participants develop a structured approach to solving operational problems and improving business processes. The Lean Six Sigma for Process Improvement Training Course is suitable for government entities, ministries, banks and financial institutions, oil and gas organizations, manufacturing companies, service organizations, utilities, infrastructure providers, and large corporations seeking practical approaches to operational excellence and

continuous improvement.

Objectives

- Analyze existing business and operational processes to identify waste, inefficiencies, bottlenecks, defects, variation, and improvement opportunities within the course context.
- Develop clear process improvement objectives aligned with customer requirements, organizational priorities, operational performance, and measurable business outcomes.
- Apply Lean principles to identify non-value-adding activities and improve process flow, efficiency, responsiveness, and resource utilization.
- Apply the DMAIC methodology to structure process improvement initiatives from problem definition through control and sustainability.
- Evaluate process performance using appropriate operational data, process measures, performance indicators, and basic statistical techniques.
- Analyze process variation and identify significant factors contributing to defects, delays, errors, rework, and inconsistent performance.
- Design practical improvement solutions based on verified root causes, customer requirements, process constraints, and available organizational resources.
- Strengthen problem-solving capabilities through the application of process mapping, Pareto analysis, cause-and-effect analysis, the Five Whys, and other improvement tools.
- Implement appropriate process controls and performance measures to sustain improvements and reduce the risk of performance deterioration.
- Assess the effectiveness of improvement initiatives using measurable performance indicators, process results, stakeholder feedback, and customer requirements.
- Improve cross-functional collaboration by establishing clear improvement roles, responsibilities, communication mechanisms, and process ownership.
- Develop a practical Lean Six Sigma improvement plan for a selected organizational process, including implementation priorities, measures, controls, and sustainability actions.

Who Should Attend

The Lean Six Sigma for Process Improvement Training Course is designed for managers, department heads, process owners, operations managers, quality managers, continuous improvement professionals, business improvement specialists, process analysts, project managers, engineers, supervisors, team leaders, and professionals responsible for improving organizational

processes and operational performance.

The course is particularly relevant to professionals working in operations, quality management, process excellence, business performance, finance, banking operations, customer service, supply chain, procurement, maintenance, engineering, manufacturing, production, information services, risk management, compliance, and administrative functions. It is also valuable for professionals involved in process redesign, operational efficiency, productivity improvement, service quality, cost reduction, defect reduction, and performance management.

The program is suitable for executives, senior managers, decision makers, and improvement leaders in government entities, ministries, banks and financial institutions, oil and gas companies, energy organizations, utilities, manufacturing, construction, infrastructure, healthcare, transportation, telecommunications, and large corporations. It is also appropriate for professionals who are expected to lead or participate in structured Lean Six Sigma and continuous improvement initiatives within their organizations.

Learning Outcomes

- Explain the principles of Lean, Six Sigma, operational excellence, process improvement, and continuous improvement.
- Identify process waste, bottlenecks, delays, rework, defects, unnecessary movement, overprocessing, and other sources of inefficiency.
- Map current-state processes and identify opportunities for improving workflow, handoffs, cycle time, and resource utilization.
- Define improvement problems, project boundaries, customer requirements, objectives, and measurable performance targets.
- Apply the DMAIC methodology to organize and manage structured process improvement projects.
- Collect, organize, and interpret relevant process data to support evidence-based improvement decisions.
- Analyze process variation and identify root causes contributing to defects, delays, inconsistent outcomes, and performance gaps.
- Apply Lean Six Sigma analytical tools including Pareto analysis, cause-and-effect analysis, the Five Whys, process mapping, and basic statistical techniques.

- Develop and evaluate improvement solutions based on root causes, process requirements, organizational priorities, and implementation feasibility.
- Establish performance indicators, process controls, monitoring mechanisms, and ownership responsibilities to sustain improvements.
- Evaluate the results of a process improvement initiative against defined performance objectives and customer requirements.
- Develop a practical Lean Six Sigma improvement plan covering problem definition, analysis, solutions, implementation, measurement, and control.

Course Outline

DAY 01

Lean Six Sigma Foundations and Process Improvement Strategy

- Principles and business value of Lean Six Sigma
- Relationship between Lean, Six Sigma, operational excellence, and continuous improvement
- Understanding customer value, critical requirements, and process performance
- Identifying the eight forms of process waste and their operational impact
- Process efficiency, effectiveness, flow, cycle time, lead time, and productivity
- Process ownership and the role of improvement teams
- Selecting and prioritizing process improvement opportunities
- Defining improvement problems and establishing project boundaries
- Introduction to the DMAIC improvement methodology
- Linking improvement initiatives with organizational strategy and performance objectives

PRACTICAL APPLICATION

Select a business or operational process, identify major sources of waste and inefficiency, and develop an initial Lean Six Sigma improvement opportunity statement

DAY 02**Define and Measure – Understanding Process Performance**

- Developing a clear process improvement project definition
- Identifying internal and external customers and their requirements
- Translating customer expectations into measurable process requirements
- Developing project objectives, scope, assumptions, and success criteria
- Process mapping and documenting current-state processes
- Identifying process inputs, outputs, activities, decisions, and handoffs
- Value-added and non-value-added activity analysis
- Developing appropriate process performance measures
- Data collection planning, measurement definitions, and data quality
- Establishing process baselines and identifying performance gaps

PRACTICAL APPLICATION

Develop a current-state process map, identify value and non-value activities, define key performance measures, and establish a baseline for improvement

DAY 03**Analyze – Root Causes, Variation, and Process Performance**

- Understanding process variation and its impact on quality and performance
- Identifying common and special causes of variation
- Analyzing process data, trends, patterns, and performance gaps
- Pareto analysis for prioritizing significant problem areas
- Cause-and-effect analysis for identifying potential contributing factors
- Applying the Five Whys for deeper problem investigation
- Root Cause Analysis and evidence-based problem solving
- Basic statistical concepts for process improvement
- Introduction to process capability and performance assessment
- Identifying relationships between process inputs and outputs

DAY 03 — CONTINUED

PRACTICAL APPLICATION

Analyze a selected process using available data and Lean Six Sigma tools to identify significant causes of defects, delays, variation, or inefficiency

DAY 04

Improve – Designing and Implementing Sustainable Solutions

- Moving from verified root causes to improvement solutions
- Developing alternative solutions and evaluating implementation feasibility
- Waste elimination, process simplification, and workflow improvement
- Reducing cycle time, defects, rework, delays, and unnecessary process steps
- Improving process flow and balancing resources and activities
- Prioritizing improvement actions based on impact, effort, risk, and organizational value
- Developing implementation plans and assigning responsibilities
- Managing stakeholder expectations and cross-functional collaboration
- Evaluating improvement results and validating solution effectiveness
- Managing organizational change during process improvement initiatives

PRACTICAL APPLICATION

Develop an improvement solution for a selected process, prioritize implementation actions, assign responsibilities, define measures, and establish an implementation roadmap

DAY 05

Control – Sustaining Process Improvements and Operational Excellence

- Principles of process control and improvement sustainability
- Establishing control plans for improved processes
- Developing performance indicators and monitoring mechanisms
- Process ownership, accountability, and management review
- Using visual management and performance dashboards to monitor results

DAY 05 — CONTINUED

- Identifying early warning indicators of performance deterioration
- Standardizing improved processes and updating procedures and work instructions
- Auditing process performance and verifying continued improvement
- Capturing lessons learned and transferring improvement knowledge
- Building a continuous improvement culture and improvement pipeline
- Integrating Lean Six Sigma with quality management, risk management, and operational excellence

FINAL WORKSHOP

Complete a Lean Six Sigma improvement project covering problem definition, process mapping, measurement, root cause analysis, solution development, implementation planning, control measures, and a sustainability strategy

Register or Request More Information

Course page: <https://quest-training.com/courses/lean-six-sigma-for-process-improvement-training-course>

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