MERCURY

Structured Problem-Solving using Lean Sigma



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Introduction

The Structured Problem-Solving using Lean Sigma course builds a disciplined, data-driven approach to solving recurring business and operational problems. It introduces participants to a clear problem-solving framework that connects Lean thinking, process improvement, and quality management. It shows how to identify waste, define problems accurately, and move from symptoms to root causes with confidence. The program explains how structured analysis improves decision-making, reduces variation, and supports sustainable performance improvement. Participants will learn how Lean Sigma tools strengthen clarity, consistency, and accountability in problem resolution. Learners will apply a systematic method that supports operational excellence, continuous improvement, and stronger business results.

Targeted Groups

This Structured Problem-Solving using Lean Sigma training targets professionals seeking knowledge and skills:

- Quality and process improvement teams.
- Operations and production supervisors.
- Business analysts and performance managers.
- Continuous improvement and excellence specialists.
- Supervisors handling recurring process issues.
- Professionals involved in waste reduction.
- Managers are responsible for problem resolution.

Course Objectives

Participants will achieve the following objectives by completing the Structured Problem-Solving using Lean Sigma course:

- Understand the logic of structured problem-solving.
- Explain Lean Sigma principles and their business value.
- Distinguish symptoms from root causes clearly.
- Apply problem definition and scope-setting techniques.
- Select suitable tools for analysis and improvement.
- Interpret process data for better decisions.
- Identify waste, variation, and process gaps.
- Develop practical improvement actions with measurable outcomes.
- Strengthen consistency in problem-solving across functions.
- Support continuous improvement and operational excellence.

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Targeted Competencies

Participants will gain the following competencies during the Structured Problem-Solving using Lean Sigma program:

- Problem framing and clear issue definition.
- Root cause analysis and logical thinking.
- Process mapping and waste identification.
- Data interpretation and evidence-based judgment.
- Lean Sigma awareness and improvement mindset.
- Prioritization and structured decision-making.
- Action planning and solution alignment.
- Quality focus and performance discipline.

Studying Scenarios

In this Structured Problem-Solving using Lean Sigma training, participants develop skills through the following scenarios:

- Repeated service delays across a workflow.
- Customer complaints linked to process variation.
- High rework caused by unclear steps.
- Bottlenecks in the approval or handoff stages.
- Errors caused by missing standard procedures.
- Slow response times in support operations.

Course Content

Unit 1: Foundations of Structured Problem-Solving

- Understand the purpose of structured problem-solving in modern organizations.
- Recognize why random solutions often fail to deliver lasting results.
- Learn the core logic behind Lean Sigma problem-solving.
- Connect process improvement with quality, speed, and consistency.
- Identify how variation affects performance and customer experience.
- Distinguish between urgent issues and important root problems.
- Build a problem-solving mindset based on facts and discipline.
- See how operational excellence depends on clear thinking.

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Unit 2: Defining the Problem with Clarity

- Write a problem statement that is specific and measurable.
- Separate the real problem from its visible symptoms.
- Define the process boundaries before starting analysis.
- Identify stakeholders affected by the issue.
- Clarify what is happening, where, when, and how often.
- Set the scope to avoid confusion and wasted effort.
- Determine the impact on cost, time, quality, or service.
- Establish a shared understanding of the issue.

Unit 3: Analyzing Causes and Process Gaps

- Use structured questioning to explore possible causes.
- Apply root cause analysis to move beyond assumptions.
- Examine process steps for delays, defects, and waste.
- Review data to confirm patterns and trends.
- Identify bottlenecks, variation, and repeated failures.
- Compare current performance against expected standards.
- Use simple Lean Sigma tools to organize findings.
- Focus on evidence before choosing a solution.

Unit 4: Developing Practical Improvement Solutions

- Turn analysis results into focused improvement ideas.
- Select solutions that address root causes directly.
- Avoid fixes that only treat the visible problem.
- Evaluate solutions using impact and feasibility.
- Align actions with process simplicity and efficiency.
- Design improvements that reduce waste and variation.
- Define responsibilities, timelines, and success measures.
- Support implementation with clear communication and ownership.

Unit 5: Sustaining Results and Building Continuous Improvement

- Monitor results after the improvement is implemented.
- Compare the new performance with the original baseline.
- Identify whether the solution is stable and effective.
- Use follow-up checks to prevent recurrence of problems.
- Document lessons learned for future problem-solving.
- Strengthen standard work and process discipline.
- Encourage ongoing improvement across teams and roles.
- Build a culture that values structured thinking.

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Final Insights & Key Takeaways

Structured Problem-Solving using Lean Sigma gives professionals a reliable way to resolve problems with clarity, discipline, and measurable impact. It strengthens continuous improvement by turning everyday challenges into opportunities for better performance, stronger quality, and smarter decision-making.