Applying Lean and Six Sigma Tools for Advanced Problem-Solving Training Course

19 - 23 Oct 2026

Amsterdam

5900 € (Per Person)

Ref: #QUA7899_64639

Course Introduction / Overview:

In today's complex business environment, organizations face a constant stream of complex problems, from process inefficiencies to product defects. This training course is designed to provide professionals, engineers, and managers with the frameworks and practical skills to use advanced Lean and Six Sigma tools to solve problems at their root. It goes beyond a simple focus on basic principles to explore the strategic application of these methodologies to achieve process improvement, reduce waste, and enhance customer satisfaction. We will explore how to define a problem, use data analysis to identify the root cause, and implement a sustainable solution. The curriculum is informed by the foundational work of global academics like Dr. Mikel Harry, who is considered the principal architect of Six Sigma. His work on the DMAIC (Define, Measure, Analyze, Improve, Control) methodology provides a valuable, structured approach to problem-solving. This program provides a clear blueprint for turning complex business challenges into an opportunity for operational excellence and strategic advantage. BIG BEN Training Center is committed to empowering professionals to become effective problem-solvers.

Target Audience / This training course is suitable for:

- Continuous improvement specialists.
- Quality engineers.
- Process managers.
- Project managers.
- Operations supervisors.
- Data analysts.
- Business leaders.

Target Sectors and Industries:

- Manufacturing.
- Healthcare.
- Financial services.
- Logistics and supply chain.
- Information technology.
- Retail.
- Government agencies and public services.

Target Organizations Departments:

- Operations.
- Quality Assurance.
- Process Improvement.
- Engineering.
- Project Management.
- Data Analytics.
- Supply Chain Management.

Course Offerings:

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

- Apply DMAIC methodology to solve complex problems.
- Use advanced Lean tools to identify and eliminate waste.
- Conduct a root cause analysis using Six Sigma techniques.
- Use statistical analysis to validate process improvements.
- Develop and implement a control plan.
- Lead a cross-functional improvement project.
- Communicate the results of a process improvement initiative.
- Develop a personal action plan for a leader.

Course Methodology:

This training course uses a highly interactive and case-based methodology to ensure participants gain actionable skills in Lean and Six Sigma problem-solving. The program incorporates detailed case studies from various industries, demonstrating how these methodologies can be applied to solve real-world problems. We will use interactive workshops and data analysis exercises to practice critical skills like creating a process map, performing a statistical analysis, and developing a control chart. The course includes a hands-on group project where participants will work together to apply the DMAIC methodology to a fictional business problem. BIG BEN Training Center believes that hands-on training is essential for mastering these new ways of working. Our expert facilitators will guide discussions and provide personalized feedback, ensuring that participants leave with the confidence and practical experience needed to lead a process improvement initiative.

Course Agenda (Course Units):

Unit One: Foundations of Problem-Solving

- Introduction to Lean and Six Sigma.
- The DMAIC methodology.
- Selecting the right problem to solve.
- Defining the project scope and charter.
- The voice of the customer.

Unit Two: Measuring the Process

- Developing a data collection plan.
- Understanding basic statistics.
- Creating a process map.
- Measuring a process's performance.
- Identifying key metrics and KPIs.

Unit Three: Analyzing the Root Cause

- Tools for root cause analysis (e.g., Fishbone diagram, 5 Whys).
- Conducting a statistical analysis.
- Hypothesis testing.
- Identifying the sources of variation.
- Using data to prove a hypothesis.

Unit Four: Improving the Process

- Brainstorming and selecting solutions.
- Implementing solutions.
- Creating a pilot project.
- Developing a control plan.
- Verifying the solution's effectiveness.

Unit Five: Controlling the Gains

- Creating a sustainable process.
- The role of Statistical Process Control (SPC).
- Documenting and standardizing the process.
- Leading a successful Lean and Six Sigma project.
- Developing a personal action plan.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can organizations, which are often focused on quick fixes, successfully implement a systematic, data-driven approach to problem-solving like Six Sigma that requires a significant investment in time and resources?

What unique qualities does this course offer compared to other courses?

This training course is a highly specialized program that focuses on the practical and integrated application of both Lean and Six Sigma methodologies for advanced problem-solving. We go beyond a simple focus on theory to provide a holistic framework for a structured and disciplined approach to process improvement. Our curriculum is tailored to address the specific needs of modern professionals, providing them with frameworks to not just identify problems but to solve them in a way that is verifiable and sustainable. The course distinguishes itself by emphasizing not only the technical skills needed to perform data analysis but also the strategic and leadership skills required to lead a successful improvement initiative. By focusing on both the practical and the strategic aspects of Lean and Six Sigma, this program provides an invaluable skill set that is essential for any professional committed to a career in operational excellence.