



## Why choose our training?

- ◆ **Expert Curation:**  
Our courses are carefully curated by industry experts who understand the intricacies of Six Sigma and Lean principles.
- ◆ **Comprehensive Coverage:**  
From Six Sigma fundamentals to advanced process improvement techniques, our training covers it all.
- ◆ **Practical Application:**  
Learn how to apply Six Sigma and Lean tools in real-world scenarios to drive tangible results

## Course Breakdown

### I Six Sigma Fundamentals

#### A. Six Sigma Foundations and Principles

- Understand the purpose of Six Sigma, its methodology (DMAIC), and its evolution from quality management.
- Learn the value of Six Sigma to the organization as a whole.

#### B. Lean Foundations and Principles

- Understand the purpose of Lean (waste elimination) and its methodologies (just-in-time, poka-yoke, kanban, value stream mapping).
- Learn the value of Lean to the organization as a whole.

#### C. Six Sigma Roles and Responsibilities

- Define and describe the roles and responsibilities of Six Sigma team members (Yellow Belt, Green Belt, Black Belt, Master Black Belt, process owner, champion, sponsor).

#### D. Team Basics

- Identify various types of teams (continuous improvement, self-managed, cross-functional) and their value.
- Describe stages of team development (forming, storming, norming, performing, adjourning).
- Define and apply decision-making tools (brainstorming, multivoting, nominal group technique).
- Explain team communication methods (agendas, meeting minutes, project status reports).

#### E. Quality Tools and Six Sigma Metrics

- Select and use quality tools (Pareto charts, cause and effect diagrams, flowcharts, run charts, check sheets, scatter diagrams, histograms) throughout the DMAIC process.
- Select and use Six Sigma metrics (defects per unit, defects per million opportunities, rolled throughput yield, cycle time, cost of poor quality).

### II. Define Phase

#### A. Project Identification

- Define the voice of the customer and translate customer needs into critical-to-quality characteristics.
- Describe project selection using DMAIC methodology.
- Identify stakeholders and analyze their influence on the project.
- Use SIPOC to identify important process elements and understand supply chain management.

#### B. Project Management (PM) Basics

- Describe the purpose and components of a project charter.
- Explain the benefits of a communication plan.
- Define work breakdown structure and Gantt charts for project planning and monitoring.
- Select and use various PM tools (activity network diagrams, affinity diagrams, matrix charts, relations charts, tree diagrams).
- Explain tollgate or phase reviews throughout the DMAIC lifecycle.



### III Measure Phase

#### A. Basic Statistics

- Define, calculate, and interpret measures of central tendency (mean, median, mode) and dispersion (standard deviation, range, variance).

#### B. Data Collection

- Describe elements of a data collection plan and its importance.
- Define qualitative and quantitative data and distinguish between them.
- Use data collection techniques (surveys, interviews, check sheets, checklists) to gather relevant data.

#### C. Measurement System Analysis (MSA)

- Define MSA terms (precision, accuracy, bias, linearity, stability) and their application.
- Describe gauge repeatability and reproducibility and its use in measurement.

### IV. Analyze Phase

#### A. Process Analysis Tools

- Define how 5S and value analysis are used to identify and eliminate waste.
- Use FMEA to identify potential failures and calculate risk priority numbers.

#### B. Root Cause Analysis

- Use tools like 5 Whys, process mapping, 8D, force-field analysis, and matrix charts to identify root causes.

#### C. Corrective and Preventive Actions

- Explain the corrective action process and apply its elements to solve problems and prevent recurrence.
- Explain preventive action processes to improve processes and verify effectiveness.

#### D. Data Analysis

- Define and distinguish between normal and binomial distributions.
- Describe common and special cause variation.
- Use correlation and regression analysis to identify relationships and predict outcomes.
- Understand hypothesis testing terms (null and alternative hypothesis, type I and type II errors, p-value, power).

### V. Improve and Control Phases

#### A. Improvement Techniques

- Define and distinguish methods like Kaizen and Kaizen Blitz.
- Understand the steps of the Plan-Do-Check-Act (PDCA) cycle.
- Explain the importance of cost-benefit analysis in process improvement.

#### B. Control Tools and Documentation

- Describe the importance of control plans and control charts for maintaining improvements.
- Understand the purpose and use of documenting changes, work instructions, and standard operating procedures (SOPs).
- Select and use various PM tools (activity network diagrams, affinity diagrams, matrix charts, relations charts, tree diagrams).
- Explain tollgate or phase reviews throughout the DMAIC lifecycle.