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Lean Six Sigma Green Belt Training

This course is part of **Lean Management and Six Sigma Green Belt Program Specialization**

Instructor: <u>Priyanka Mehta</u>

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5 modules
Gain insight into a topic and learn the fundamentals.

Beginner level
Recommended experience ⓘ

2 weeks to complete
at 10 hours a week

Flexible schedule
Learn at your own pace

What you'll learn

✓ Lead end-to-end Six Sigma projects using the DMAIC framework.

✓ Analyze and improve processes with statistical and Lean tools.

✓ Apply DOE, SCAMPER, and prioritization techniques to optimize solutions.

✓ Sustain improvements using SPC, 5S, and structured control plans.

Skills you'll gain

Regression Analysis | Process Improvement | Lean Manufacturing | Statistical Analysis | Project Management | Process Mapping | Statistical Process Controls

Kaizen Methodology | Process Capability | Quality Management | Lean Six Sigma | Six Sigma Methodology | Root Cause Analysis | Customer Analysis | **View less skills**

Details to know

in

Shareable certificate
Add to your LinkedIn profile

Taught in English
2 languages available

📋 **Assessments**

26 assignments

See how employees at top companies are mastering in-demand skills

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Build your subject-matter expertise

This course is part of the **Lean Management and Six Sigma Green Belt Program Specialization**
When you enroll in this course, you'll also be enrolled in this Specialization.

- Learn new concepts from industry experts

- Gain a foundational understanding of a subject or tool

- Develop job-relevant skills with hands-on projects

- Earn a shareable career certificate

There are 5 modules in this course

This comprehensive Six Sigma DMAIC course equips you with the skills to drive data-backed process improvements and sustain quality excellence. Begin by mastering the Define and Measure phases—learn to build project charters, capture customer requirements (VoC), and analyze processes through mapping and capability studies. Progress to the Analyze phase with tools like hypothesis testing, regression, and exploratory data analysis to uncover root causes. In the Improve phase, implement solutions using Design of Experiments (DOE), Lean techniques, and decision tools like SCAMPER and Pugh Matrix. Conclude with the Control phase, applying SPC, control plans, and Lean methods like 5S and TPM for long-term impact.

You should have a background in operations, project management, or quality control, along with a basic understanding of business processes and statistical concepts.

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

- Apply DMAIC: Lead Six Sigma projects from problem identification to solution control
- Use Statistical Tools: Conduct root cause analysis with testing, regression, and capability studies
- Optimize Processes: Apply DOE, Lean tools, and solution selection methods for effective improvements
- Sustain Improvements: Use SPC, 5S, and control plans to maintain long-term results

Ideal for quality professionals, process owners, and team leads.

Read less

Define Phase

Module 1 • 4 hours to complete

Module details ⌃

Master the Define Phase of Six Sigma with a focus on project identification, voice of the customer (VoC), and team dynamics. Learn to build project charters, define CTQs, apply SIPOC and HOQ models, and use planning tools like affinity diagrams and matrix charts. Understand process metrics, risk analysis, and team roles to launch high-impact, customer-focused improvement projects.

What's included

▶ 55 videos   📖 1 reading   📋 7 assignments

Hide info about module content ⌃

▶ **55 videos • Total 157 minutes**

Introduction • 0 minutes

Benchmarking: Types and Best Practices • 5 minutes

Process elements • 2 minutes

SIPOC Process • 4 minutes

Negative Team Dynamics • 1 minute

Team Stages • 4 minutes

Types of Challenges • 2 minutes

Team Roles and Responsibilities • 2 minutes

Team Communication • 3 minutes

Team Tools • 4 minutes

Key Takeaways • 0 minutes

Case Study • 12 minutes

📖 **1 reading • Total 10 minutes**

Course Syllabus • 10 minutes

📑 **7 assignments • Total 130 minutes**

Assessment for Define Phase • 40 minutes

Quiz on Project Identification • 15 minutes

Quiz on Voice of Customer • 15 minutes

Quiz on Project Management Basics • 15 minutes

Quiz on Management and Planning Tools • 15 minutes

Quiz on Business Results for Projects • 15 minutes

Quiz on Team Dynamics and Performance • 15 minutes

Measure Phase

Module 2 • 5 hours to complete

Gain in-depth skills in the Measure Phase of Six Sigma by mastering process analysis, statistical tools, and data collection methods. Learn to map processes, apply probability and statistical concepts, and summarize data using Excel. Explore measurement system analysis, Gage R&R, and process capability studies to assess performance and ensure data-driven decision-making.

What's included

▶ 45 videos   📑 7 assignments

Hide info about module content ⌃

▶ **45 videos • Total 186 minutes**

Introduction • 0 minutes

Process Maps • 5 minutes

Flowcharts • 3 minutes

Process Documentation • 5 minutes

Key Takeaways • 0 minutes

Introduction • 1 minute

Roles of Probability and Statistics • 6 minutes

Addition Rules and Multiplication Rules • 6 minutes

Permutation and Combination • 3 minutes

Key Takeaways • 0 minutes

Introduction • 0 minutes

Data, Its types, and Selection • 3 minutes

Measurement Scales, Collection Methods, and Sampling • 6 minutes

Data Collection Plan and Data Coding • 3 minutes

Measures of Central Tendency and Dispersion • 8 minutes

Microsoft Excel for Descriptive Statistics • 2 minutes

Frequency Distribution • 6 minutes

Stem and Leaf Plots and Box and Whisker Plots • 5 minutes

Scatter Diagrams • 3 minutes

Other Visualization Tools and Normal Probability Plots • 3 minutes

Key Takeaways • 0 minutes

Introduction • 1 minute

Classes of Distribution and Key Terms • 2 minutes

Types of Statistical Distribution • 2 minutes

Binomial and Poisson Distribution • 8 minutes

Normal Distribution • 9 minutes

Chi-square, T, and F-Distribution • 4 minutes

Central Limit Theorem(CLT) • 5 minutes

Key Takeaways • 0 minutes

Introduction • 1 minute

Measurement System Analysis and Its Properties • 5 minutes

Measurement System Characteristics • 5 minutes

Measurement System Concepts • 3 minutes

Gage R&R Study • 9 minutes

Attribute Gage R&R • 5 minutes

Key Takeaways • 0 minutes

Introduction • 1 minute

Process Stability and Normality • 9 minutes

Process Capability Analysis and Studies • 5 minutes

Process Capability Index and Example • 8 minutes

Process Performance Indices • 2 minutes

Process Mean Shift and Variation • 8 minutes

Process Capability for Attribute Data • 2 minutes

Key Takeaways • 0 minutes

Case Study • 4 minutes

📋 **7 assignments** • **Total 130 minutes**

Assessment for Measure Phase • 40 minutes

Quiz on Process Analysis and Documentation • 15 minutes

Quiz on Probability and Statistics • 15 minutes

Quiz on Collecting and Summarizing Data • 15 minutes

Quiz on Statistical Distribution • 15 minutes

Quiz on Measurement System Analysis • 15 minutes

Quiz on Process and Performance Capability • 15 minutes

Analyze Phase

Module 3 • 2 hours to complete

Module details ⌃

Master the Analyze Phase of Six Sigma by learning how to identify root causes using data-driven techniques. Gain expertise in hypothesis testing, ANOVA, and T-tests to validate assumptions. Explore correlation, regression, and residual analysis for deeper insights. Learn to apply statistical methods and exploratory data analysis to drive meaningful process improvements.

What's included

▶ 20 videos   🗐 3 assignments

Hide info about module content ⌃

▶ **20 videos • Total 102 minutes**

Introduction • 0 minutes

Hypothesis Testing Basics • 5 minutes

Type 1 and Type 2 Errors • 5 minutes

Sample Size • 6 minutes

P-value and Test Statistics • 5 minutes

Tests for Means, Variance, and Proportions • 1 minute

1-Sample Test • 10 minutes

2-Sample Test • 5 minutes

T-Test • 3 minutes

ANOVA and Chi-Square Distribution • 6 minutes

Hypothesis Testing with Nonnormal Data • 8 minutes

Key Takeaways • 1 minute

Introduction • 1 minute

Multi-Vari Analysis • 7 minutes

Correlation • 6 minutes

Regression Analysis • 8 minutes

Residual Analysis and Linear Regression • 5 minutes

Multiple Regression • 8 minutes

Key Takeaways • 1 minute

Case Study • 4 minutes

🗐 **3 assignments • Total 70 minutes**

Assessment for Analyze Phase • 40 minutes

Quiz on Hypothesis Testing • 15 minutes

Quiz on Exploratory Data Analysis • 15 minutes

Improve Phase

Module 4 • 2 hours to complete

Module details ⌃

Advance through the Improve Phase of Six Sigma by learning how to implement effective solutions using root cause analysis and Lean tools. Explore Design of Experiments (DOE) for process optimization, apply Kaizen for cycle time reduction, and evaluate ideas with tools like Pugh Matrix and SCAMPER. Use cost-benefit analysis and piloting to select and implement impactful improvements.

What's included

▶ 17 videos   🗐 5 assignments

Hide info about module content ⌃

▶ **17 videos • Total 66 minutes**

Introduction • 1 minute

DOE Regression and Basic Terms • 6 minutes

DOE Error • 7 minutes

Key Takeaways • 0 minutes

Introduction • 1 minute

Root Cause Analysis (RCA) • 9 minutes

Key Takeaways • 0 minutes

Introduction • 0 minutes

Lean Tools and Techniques • 14 minutes

Cycle Time Reduction, Kaizen, and Kaizen Blitz • 4 minutes

Key Takeaways • 0 minutes

Introduction • 1 minute

Pugh Analysis and Solution Prioritization Matrix • 4 minutes

SCAMPER Tool • 3 minutes

Brainstorming, Cost Benefit Analysis, Solution Screening, and Piloting • 4 minutes

Key Takeaways • 0 minutes

Case Study • 3 minutes

📋 **5 assignments • Total 100 minutes**

Assessment for Improve Phase • 40 minutes

Quiz on Design of Experiments • 15 minutes

Quiz on Root Cause Analysis • 15 minutes

Quiz on Lean Tools • 15 minutes

Quiz of Selecting a Solution • 15 minutes

Control Phase

Module 5 • 2 hours to complete

Module details ⌃

Learn to sustain Six Sigma improvements in the Control Phase by applying Statistical Process Control (SPC) and control plans. Understand control charts like X̄, I-MR, p-chart, and c-chart, and use CUSUM and EWMA for advanced monitoring. Develop effective control plans, use Lean tools like 5S, TPM, and visual factory to maintain process stability and ensure long-term quality performance.

What's included

▶ 22 videos   📋 4 assignments

Hide info about module content ⌃

▶ **22 videos • Total 91 minutes**

Introduction • 0 minutes

SPC Basics • 7 minutes

Control Charts and Analysis • 6 minutes

Choosing an Appropriate Control Chart • 4 minutes

Xbar Chart and Principles • 4 minutes

I-MR Chart and Principles • 3 minutes

Control Charts for Attribute Data • 2 minutes

np-Chart and P-Chart • 4 minutes

c-Chart and u-Chart • 4 minutes

CUSUM and EWMA Charts • 5 minutes

Key Takeaways • 2 minutes

Introduction • 0 minutes

Control Plan and Response Plan • 5 minutes

Cost Benefit Analysis, KPIV, and KPOV • 6 minutes

Control Level and Transactional Control Plan • 9 minutes

Key Takeaways • 0 minutes

Introduction • 0 minutes

Total Productive Maintenance • 5 minutes

Visual Factory • 3 minutes

5S • 7 minutes

Key Takeaways • 0 minutes

Case Study • 3 minutes

📋 **4 assignments • Total 85 minutes**

Assessment for Control Phase • 40 minutes

Quiz on Statistical Process Control (SPC) • 15 minutes

Quiz on Control Plan • 15 minutes

Quiz on Lean Tools for Process Control • 15 minutes

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Instructor

Priyanka Mehta
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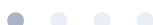troduction to Six Sigma Training
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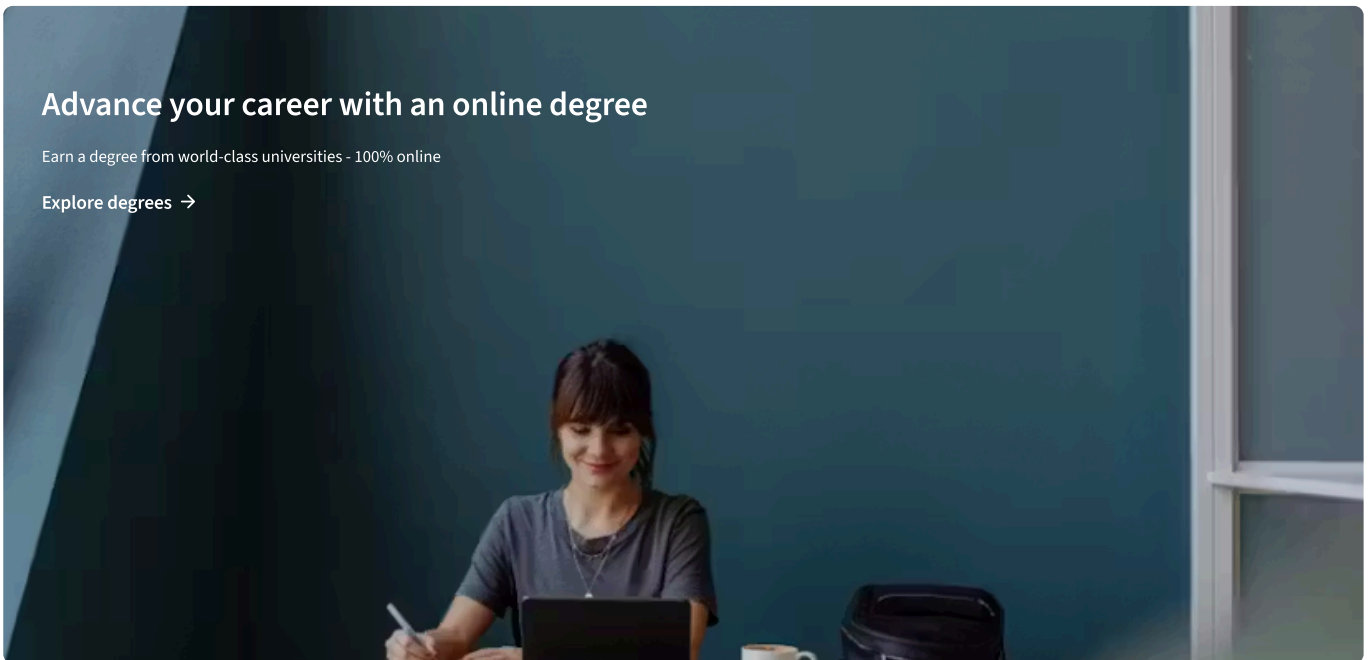
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Frequently asked questions

⌃ **What is Lean Six Sigma Green Belt training?**

Lean Six Sigma Green Belt training equips professionals with the skills to lead moderate-level process improvement projects. It focuses on applying the DMAIC methodology, data analysis, and Lean tools to reduce defects and improve efficiency.

⌃ **How long is Lean Six Sigma Green Belt training?**

The duration typically ranges from 2 to 6 weeks, depending on the training format (self-paced, live online, or in-person). Some programs also include project work and assessments for certification.

⌃ **Is Lean Six Sigma Green Belt worth it?**

Yes, it's highly valuable for professionals looking to advance in operations, quality management, or project leadership. It enhances problem-solving skills and boosts career opportunities across industries.

Show all 8 frequently asked questions ⌄

More questions

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