Lean Six Sigma Practitioners Black Belt - week 2 Training

Duration: **5 Day**

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- **Optimise complex business processes using advanced Design of Experiments (DOE) and regression analysis techniques.**
- **Designed for experienced Green Belt professionals preparing to lead large-scale process improvement initiatives.**
- **Strengthen your analytical expertise through practical Minitab exercises and expert-guided DMAIC project coaching.**

The **Lean Six Sigma Practitioners Black Belt – Week 2 Training** focuses on developing the advanced statistical analysis, problem-solving and process optimisation skills experienced **Green Belt professionals** need to manage complex improvement initiatives.

The complete **Lean Six Sigma Black Belt programme** runs for **10 days across two separate five-day training weeks (LSSBBWK1 and LSSBBWK2)**. During the second week, participants build on their existing knowledge and develop the advanced capabilities required to support larger and more challenging process improvement and business transformation projects.

Lean and Six Sigma are well-established business improvement methodologies that help organisations maximise value for customers, employees and shareholders by reducing process variation and eliminating waste. These approaches enable businesses to improve operational performance, increase efficiency and achieve sustainable improvement outcomes.

The course combines **theoretical learning with hands-on practical activities**, giving participants the opportunity to strengthen their technical understanding and apply advanced statistical methods. Using **Minitab**, learners explore **regression analysis**, **Design of Experiments (DOE)** and analytical techniques that support the development of effective process improvement solutions.

Through **expert-led DMAIC project coaching** and practical exercises, participants learn how to apply advanced analytical tools to realistic business scenarios. This approach helps them build the confidence and capability to evaluate complex processes, develop suitable solutions and lead significant improvement initiatives.

Prerequisites

Participants are expected to meet the following requirements before attending the course:

- Delegates must have completed a **Lean Six Sigma Green Belt training course** through **Bilginç IT Academy** or another recognised training provider.
- Previous completion of a **Green Belt improvement project using the DMAIC methodology** is recommended.
- Participants must have attended the **Lean Six Sigma Black Belt – Week 1 (LSSBBWK1)** training course.

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- Delegates must have **a second process improvement project identified for completion after the training**, as this is a requirement for accreditation.
- **Access to Minitab software** is required throughout the course. Participants are therefore strongly encouraged to bring their own computers.

Suggested Pre-reading

To prepare for the advanced statistical and analytical topics covered during the training, participants are encouraged to review the following publications:

- **Lean Six Sigma and Minitab** – Quentin Brook
- **Statistics Without Tears** – Derek Rowntree

Who Should Attend

This training is intended for **experienced Lean Six Sigma Green Belt professionals** who want to expand their existing capabilities and apply advanced improvement techniques to larger, more complex projects.

It is particularly suitable for individuals looking to strengthen their expertise in **advanced statistical analysis**, **process optimisation** and **data-driven problem-solving**, while developing the skills required to lead organisational improvement initiatives and gain recognition as **Lean Six Sigma Black Belt practitioners**.

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What You Will Learn

The **Lean Six Sigma Practitioners Black Belt Training** consists of **10 days delivered across two five-day sessions**. The programme is designed to help experienced Green Belt professionals become **independent process improvement practitioners** capable of identifying improvement opportunities, optimising solutions and managing complex projects using **Minitab**.

By the end of Week 2, participants will be able to:

- Apply **advanced statistical and analytical techniques** to develop reliable and effective process improvement solutions.
- Plan, conduct and interpret **full factorial and fractional factorial Design of Experiments (DOE)** to optimise process inputs and outputs.
- Use **regression analysis and multivariate analytical methods** to identify and quantify relationships between process variables and outcomes.
- Apply **change management and stakeholder engagement strategies** to support the successful implementation of process improvements within organisations.
- Perform **hypothesis testing and statistical validation** to provide evidence-based justification for improvement decisions.
- Prepare for the **Lean Six Sigma Black Belt examination** and develop the knowledge and skills required to complete the assessment successfully.
- Demonstrate leadership in **DMAIC improvement projects** by applying suitable tools, templates and software to achieve measurable business results.
- Develop the capabilities needed to become **independent Black Belt practitioners** who can lead complex process improvement initiatives.

The **Lean Six Sigma Practitioners Black Belt – Week 2 Training** provides an opportunity for experienced Green Belt professionals to advance their expertise in **statistical analysis**, **Design of Experiments**, **regression techniques** and **continuous improvement**, enabling them to take greater responsibility for complex and large-scale business improvement projects.

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Training Outline

Week 2 focuses on the **Analyse, Improve and Control phases of the DMAIC methodology**. The programme continues the advanced analytical topics introduced during the first week and explores techniques for developing, selecting and sustaining effective process improvement solutions.

1. Analyse (Continued from Week 1)

- **General Linear Models**
- **Linear Regression**
- **Multiple Regression**

2. Improve

- **Design of Experiments (DOE)**
- **Full Factorial Experiments**
- **Fractional Factorial Experiments**
- **Creative Thinking Techniques**
- **Pattern Breaking**
- **Solution Selection**

3. Control

- **Control Charts**
- **Deploying Continuous Improvement**