Lean Six Sigma Green Belt Certification Preparation

21 – 25 June 2027
London (UK)



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Lean Six Sigma Green Belt is the practitioner level of a process improvement method that joins Lean's removal of waste and delay with Six Sigma's reduction of variation through the DMAIC cycle. This 1-week certification preparation course is for staff who lead improvement projects within their own function, and each delegate completes a DMAIC project storyboard with current and future value stream maps. The subject is taught by Blackbird Training Centre.

Introduction

The course rests on three references. ISO 13053-1 sets out the DMAIC methodology of Six Sigma: Define, Measure, Analyse, Improve and Control. ISO 18404 defines the competences expected of Lean, Six Sigma and Lean Six Sigma practitioners, including the Green Belt. The IASSC Lean Six Sigma Green Belt Body of Knowledge lists the topics a Green Belt examination draws on. The level is practitioner. Teaching uses simulation and case study: delegates run a process simulation, then map and improve a hospital admissions flow and a warehouse order-picking process.

Course Objectives

- Distinguish waste and flow problems from variation problems, and select Lean or Six Sigma tools accordingly.
- Define a project charter with a problem statement, goal, scope and customer requirements.
- Compare a current-state with a future-state value stream map, and interpret lead time against process time.
- Interpret Pareto charts, hypothesis tests and capability indices to confirm root causes before acting.
- Apply pull flow, 5S, error proofing and kaizen to remove the causes found in analysis.
- Justify a control plan that keeps gains in place after the project closes.

Target Audience

- Team leaders and supervisors who must decide which process problem is worth a structured improvement project.
- Quality and operations analysts who must judge whether process figures are reliable enough to act on.
- Process owners in service and production units who must choose between a quick fix and a full DMAIC project.
- Continuous improvement coordinators who must decide when a Lean tool is enough and when statistical analysis is needed.
- Engineers and planners preparing for a Green Belt examination who must judge which topics of the body of knowledge need most revision.



Course Outline

Day 1: Lean Six Sigma Principles and the Project Charter

- Lean vs Six Sigma: Waste and Flow Compared With Variation and Defects
- Eight Wastes: Recognising Waiting, Motion, Inventory and Overprocessing in Service and Production
- Belt Roles: Champion, Black Belt, Green Belt and Process Owner Responsibilities
- Project Selection and Scoping: Linking Improvement Projects to Business Metrics
- Project Charter: Problem Statement, Goal Statement, Scope and Voice of the Customer

Day 2: Define and Measure With Value Stream Maps

- SIPOC vs Detailed Process Map: High-Level Scope Against Step-Level Flow
- Value Stream Mapping: Current-State Map With Lead Time and Process Time
- Critical to Quality Tree: Translating Customer Needs Into Measurable Requirements
- Measurement System Analysis: Gauge R&R and Attribute Agreement for Trustworthy Figures
- Data Collection Plan and Baseline: Sigma Level, DPMO and First Pass Yield

Day 3: Analyse Root Causes and Variation

- Common Cause vs Special Cause Variation: Reading Run Charts and Process Behaviour
- Cause-and-Effect Diagram and Five Whys: Structuring Root Cause Hypotheses
- Pareto Analysis: Ranking Defect Categories and Delay Sources by Frequency
- Hypothesis Testing and Correlation: t-Test, Chi-Square Test and Scatter Plots
- Process Capability Indices: Cp and Cpk Against Customer Specification Limits

Day 4: Improve With Lean Tools and Control the Gains

- Push vs Pull Flow: Kanban Signals and Work-in-Process Limits
- 5S and Visual Management: Sort, Set in Order, Shine, Standardise and Sustain
- Kaizen Event: Rapid Improvement Cycle With a Solution Selection Matrix
- Error Proofing Poka-Yoke: Designing Steps That Prevent Defects at Source
- Control Plan and Control Charts: Individuals and p-Charts for Sustaining Gains

Day 5: Green Belt Project Practice and Exam Readiness

- Future-State Value Stream Map: Redesigned Flow Built From the Earlier Analysis
- Change Management vs Technical Fix: Stakeholder Alignment and Communication for Adoption
- Financial Benefits: Validating Savings and Return on Investment of the Project
- Green Belt Exam Preparation: Body of Knowledge Review and Practice Questions
- Project Storyboard: Final DMAIC A3 Presented for Peer Review



Skills You Will Gain

- DMAIC project structure
- Value stream mapping
- Measurement system analysis
- Process capability analysis
- Root cause analysis
- Pull systems and kanban
- Error proofing poka-yoke
- Statistical process control

Why Attend This Course

- From fixing symptoms as they appear to tracing delays and defects back to a verified root cause.
- From process figures accepted at face value to measurements checked for repeatability before analysis.
- From improvements that fade after a few weeks to control charts and a control plan that hold the new level.
- From scattered improvement ideas to a DMAIC project storyboard with current and future value stream maps.

Conclusion

In short, Lean Six Sigma Green Belt practice means removing delay and variation from a process in a measured, step-by-step way. The course clarifies three distinctions: waste against variation, common cause against special cause variation, and push against pull flow. It is the right choice for practitioners who already work on process issues in their own area and now want to lead structured DMAIC projects and prepare for a Green Belt examination.

Course FAQs

What is Lean Six Sigma Green Belt?

It is the practitioner level of Lean Six Sigma. A Green Belt leads improvement projects within a functional area using DMAIC, combining Lean tools for waste and flow with Six Sigma statistics for variation, while keeping a regular role.

What is the difference between Lean and Six Sigma in a Lean Six Sigma Green Belt course?

Lean targets waste and delay, using value stream maps, pull systems and 5S to speed the flow of work. Six Sigma targets variation and defects, using measurement and statistics. A Green Belt chooses the toolset that fits the problem.



Which standards does the Lean Six Sigma Green Belt certification preparation course follow?

It follows ISO 13053-1 for the DMAIC method, ISO 18404 for Green Belt competences, and the IASSC Lean Six Sigma Green Belt Body of Knowledge for the topic coverage an examination draws on.

Is the Lean Six Sigma Green Belt certification preparation course right for a supervisor?

Yes. A supervisor learns to scope a project around a problem the team sees daily, collect trustworthy figures on it and apply Lean tools such as 5S and kanban on the floor, with statistics used where variation is the cause.

What does a delegate produce in the Lean Six Sigma Green Belt certification preparation course?

Each delegate produces a DMAIC project storyboard for a case process, holding a charter, current and future value stream maps, root cause evidence, the improvements chosen and a control plan.

