

LSSGB: Lean Six Sigma Green Belt

Lead process improvement projects with DMAIC, Lean tools and data you can defend.

DURATION

5 days · 40 hours

LEVEL

Intermediate

CURRICULUM

16 modules · 10 labs

DELIVERY

Live online, Onsite,
Corporate

Course overview

Every organisation has processes that waste time, money or customer goodwill. Green Belts are the people who find out why, prove it with data and make improvements stick. This five-day course teaches you the Lean Six Sigma toolkit in the order you would use it on a real project.

The course follows the DMAIC roadmap. In Define you scope a problem, write a charter and capture the voice of the customer. In Measure you map the process, plan data collection, check your measurement system and calculate baseline capability. Analyse covers root-cause tools and the hypothesis tests a Green Belt needs. Improve introduces solution selection, pilot planning and an introduction to designed experiments, and Control locks in the gains with control charts and a control plan.

Lean thinking runs alongside: value stream mapping, the eight wastes, 5S, flow and pull, and quick wins. Each day ends with a case-project step, so by Friday you have a complete project storyboard you can adapt for your own workplace.

Statistics are taught with worked examples rather than formulas alone, using Minitab or Excel. Learners from manufacturing, IT services, banking, healthcare and shared services will all find relevant examples.

This course is aligned to the body of knowledge common to Lean Six Sigma Green Belt certification. Certifying bodies differ, so the exam option is confirmed with you at enrolment. Ace Skills does not guarantee a pass.

Highlights

- 40 hours of live, trainer-led sessions
- Full DMAIC cycle on a realistic case project
- Hands-on statistics in Minitab or Excel
- Templates for charter, SIPOC, FMEA and control plan
- Practice questions with review

What's included

- Complete DMAIC roadmap with tollgate reviews
- Case project built step by step across the week
- Statistics in Minitab or Excel with datasets provided
- Lean tools: VSM, 5S, wastes, flow and pull
- Reusable project templates
- Course completion certificate from Ace Skills Consulting
- Post-training support while you start your own project

Who this course is for

Who should attend

- Process owners and team leads in operations or shared services
- Quality and continuous improvement professionals
- IT service and delivery managers
- Business analysts and project managers
- Yellow Belts ready to lead their own projects

Prerequisites

- Comfort with basic arithmetic and spreadsheets
- Some experience working within a business process
- A laptop with Excel; a Minitab trial is optional

Detailed curriculum — 5 days, 40 hours, 16 modules, 10 hands-on labs

Day 1 Define: Framing the Problem

8 hours

1.1 Lean Six Sigma foundations

- History and philosophy
- DMAIC roadmap
- Variation and its cost
- Roles: Champion, Black Belt, Green Belt

1.2 Project selection and chartering

- Problem and goal statements
- Business case and benefits
- Scope and boundaries
- Stakeholder analysis

LAB Write a project charter for the case · 45 min

1.3 Voice of the customer

- VOC collection methods
- Kano model
- Critical-to-quality trees
- SIPOC

LAB Build a SIPOC and CTQ tree · 40 min

Day 2 Measure: Baselining the Process

8 hours

2.1 Process mapping

- Swimlane maps
- Eight wastes
- Value stream mapping
- Value-added analysis

LAB Map the current-state value stream · 50 min

2.2 Data and statistics basics

- Data types
- Descriptive statistics
- Normal distribution
- Sampling
- Graphical analysis

2.3 Measurement system analysis

- Accuracy and precision
- Attribute agreement analysis
- Gauge R&R

LAB Run a gauge R&R study · 40 min

2.4 Process capability

- Cp, Cpk and sigma level
- DPMO and yield

Day 3 Analyse: Finding Root Causes

8 hours

3.1 Root-cause tools

- Fishbone diagrams
- Pareto analysis
- 5 Whys
- Process FMEA

LAB Fishbone and Pareto on case data · 40 min

3.2 Hypothesis testing

- Null and alternative hypotheses
- t-tests
- ANOVA introduction
- p-values and errors
- Chi-square

LAB Test competing root causes with real data · 55 min

3.3 Relationships in data

- Correlation
- Simple linear regression
- Interpreting results for stakeholders

Day 4 Improve: Designing Solutions

8 hours

4.1 Generating solutions

- Brainstorming techniques
- Flow and pull
- Lean solutions: 5S, standard work, mistake-proofing
- Quick wins

4.2 Selecting and testing

- Solution selection matrix
- Pilot planning
- Cost-benefit analysis
- Risk review with FMEA

LAB Select and plan a pilot · 45 min

4.3 Introduction to DOE

- Factors and levels
- Main effects and interactions
- Full factorial designs

LAB Analyse a two-factor experiment · 45 min

Day 5 Control and Exam Readiness

8 hours

5.1 Statistical process control

- Control chart selection
- Special vs common cause
- X-bar R, I-MR and p charts

LAB Build and interpret control charts · 45 min

5.2 Sustaining gains

- Control plan
- Handover to process owner
- Response plans
- Project closure and storyboard

LAB Present the case-project storyboard · 50 min

5.3 Exam readiness

- Body of knowledge review
- Practice questions with review
- Question styles

Skills and tools

Skills you will build

DMAIC

Project chartering

SIPOC

Value stream mapping

Measurement system analysis

Process capability

Root-cause analysis

Hypothesis testing

Regression

FMEA

Design of experiments

Control charts

Control planning

Tools used in class

Minitab

Microsoft Excel

Project templates

Value stream mapping template

Certification exam

This course is aligned to the exam below and prepares you for it. The exam itself is booked and taken with the vendor.

Exam	Lean Six Sigma Green Belt certification exam
Exam code	LSSGB

Exam skill areas covered

Exam details are pending verification. Confirm the current exam code, format and fee on the official vendor page before booking.

Frequently asked questions

Which body certifies the Green Belt?

Several bodies offer Green Belt certification with slightly different requirements. We confirm the certifying body and exam option with you at enrolment.

Do I need Minitab?

No. Every exercise can be done in Excel, and Minitab is used for demonstrations if you do not have a licence.

Do I need to complete a real project?

Some certifying bodies require project evidence and others do not. The case project in class prepares you either way.

How much statistics is involved?

Enough to make decisions with data — descriptive statistics, capability, basic hypothesis tests and control charts — all taught with worked examples.

Is this relevant outside manufacturing?

Yes. Examples cover IT services, banking, healthcare and shared services as well as production.

Book a batch or talk to an advisor

Course page: aceskillsconsulting.com/course/lssgb-lean-six-sigma-green-belt · Email: info@aceskillsconsulting.com

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