Lean Six Sigma Green Belt Syllabus

Star Global College of Workforce Development · Course + Certification · Live and self-paced formats

25 hrs	10 hrs	2 hrs	37 hrs
Instruction	A3 project	Certification exam	Total

Course information

Item	Details
Course	Lean Six Sigma Green Belt Course + Certification
Formats	**Live cohort:** November 16–20, 2026, 7:00–11:00 PM Eastern (5 sessions, 4 hours each) **Self-paced:** complete the Day 1–5 modules through the lesson videos on your own schedule
Program approval	Star Global College of Workforce Development is a WIOA-approved workforce development program (Workforce Innovation and Opportunity Act), working with workforce and economic development boards across the United States
Instructors	Dr. Zachary Cleghorn, Dr. Brian Nielson, Thomas Brandt, MBA
Cost	Free (scholarship-supported)
Prerequisite	Lean Six Sigma Yellow Belt, or a passing score on the Yellow Belt test-out
Open to	Veterans and service members, students, job seekers and working professionals
Tools	Excel with the Data Analysis ToolPak; Minitab optional
Next step	Students who complete this course are eligible to enroll in the Black Belt Program

Course hours

Both formats cover the same 25 instruction hours. Live students attend 20 hours of sessions plus 5 hours of labs. Self-paced students complete the same content through the Day 1–5 lesson videos and labs.

Component	Hours	When
Day 1–5 modules (live sessions or lesson videos)	20	Live: Nov 16–20, 7–11 PM ET · Self-paced: your schedule
Labs	5	Alongside the Day 1–5 modules
Instruction subtotal	**25**	
Green Belt A3 project	10	Built during Days 1–5, submitted in the Day 5 module
Certification exam	2	Day 5 module, after the A3 is submitted (12-hour window)
Total	**37**	

Learning outcomes

By the end of the course, students will be able to:

1. Lead a small-to-medium improvement project through all five DMAIC phases
2. Write a project charter with a measurable problem statement, goal and scope
3. Build a data collection plan and judge whether a measurement system can be trusted
4. Calculate and explain process capability (Cp, Cpk), DPMO, sigma level and rolled throughput yield
5. Select and interpret the right hypothesis test, correlation or regression for a root-cause question
6. Generate, prioritize and pilot solutions using FMEA, mistake-proofing and Lean tools
7. Choose the right control chart and build a control plan that sustains the gain

Schedule

The course runs as five daily modules, one per DMAIC phase. Live students attend each module on its date; self-paced students work through the same modules in order using the lesson videos. Each module ends with an A3 checkpoint, so students build their A3 section by section.

Day	Live date	Phase	Topics	Hrs
1	Mon, Nov 16	**Define**	Lean and Six Sigma foundations; Green Belt role and team roles; project selection; charter, problem statement and SMART goals; VOC, CTQ and the Kano model; SIPOC; COPQ	4
2	Tue, Nov 17	**Measure**	Data types; sampling and data collection plans; descriptive statistics and the normal distribution; measurement system analysis and Gage R&R; process capability (Cp, Cpk); DPMO, sigma level and rolled throughput yield	4
3	Wed, Nov 18	**Analyze**	Pareto, fishbone and 5 Whys; hypothesis testing logic, p-values and Type I/II errors; t-tests, ANOVA and chi-square; correlation and simple regression	4
4	Thu, Nov 19	**Improve**	Solution generation and prioritization matrices; FMEA; mistake-proofing; intro to design of experiments; Lean tools (5S, takt time, value stream mapping, kaizen); piloting	4
5	Fri, Nov 20	**Control**	Statistical process control and chart selection; control plans and standard work; handoff to the process owner; A3 submission and certification exam	4

Labs (5 hours, completed alongside the modules by all students)

Lab	Topic	Hrs
A	Excel statistics setup and descriptive statistics	1
B	Gage R&R and process capability walkthrough	1
C	Hypothesis testing practice: choosing and running the right test	1.5
D	Building control charts in Excel	1
E	DMAIC case study review	0.5

Green Belt A3 project (10 hours)

Each student completes one DMAIC project on a real process from work, the military, school or volunteer life, or on an instructor-provided case. **The only thing students submit is a single A3 report**, a one-page (11×17) summary of the project from problem to control. The A3 is submitted in the **Day 5 module, before taking the certification exam**.

Phase	A3 section	Est. hrs
Define	Background, problem statement, goal and scope	1.5
Measure	Current state: process map and baseline data (capability or DPMO)	2.5
Analyze	Root cause analysis: Pareto or fishbone, plus data supporting the root cause	2.5
Improve	Countermeasures, implementation plan and pilot or expected results	2
Control	Control plan and follow-up: how the gain is measured and sustained	1.5

Grading: the instructor reviews the A3 using a rubric covering correct use of DMAIC, quality of data and analysis, soundness of the countermeasures and the control plan. Each A3 can be resubmitted once after feedback.

Certification exam (2 hours)

The exam is an **open-book team exam** of 50 multiple-choice questions, taken in the Day 5 module after the A3 is submitted. Students work through it together with their team, and may use their notes, the lesson videos, a calculator and a standard normal (z) table. It is designed to take about 2 hours. **Teams have a 12-hour window to complete the exam.** Live students take it on Friday, November 20; self-paced students take it when they reach Day 5.

DMAIC phase	Share	Questions
Define	15%	8
Measure	30%	15
Analyze	25%	12
Improve	15%	8
Control	15%	7
Total	**100%**	**50**

Passing score: [80%] (40 of 50 correct). Students who do not pass may retake the exam once.

Certification requirements and policies

To earn the Lean Six Sigma Green Belt certification, students must:

- ☐ Complete all five Day 1–5 modules (live students: attend the sessions or watch the lesson video for any missed day; self-paced students: watch all lesson videos)
- ☐ Complete the five labs
- ☐ Submit a Green Belt A3 project that meets the rubric, in the Day 5 module
- ☐ Pass the open-book team certification exam within the 12-hour window

Black Belt eligibility: students who complete all of the requirements above are eligible to enroll in the Star Global College Black Belt Program.

Participation: live students are encouraged to keep cameras on. All students are expected to connect with classmates and complete each A3 checkpoint.

Academic integrity: project data and analysis must be the student's own work. Sensitive company or military data should be anonymized.

Questions: ask your questions during the live class sessions, and review the lesson videos for each topic. Self-paced students should rewatch the lesson videos and bring questions to a live session.