

Motorola Six Sigma® e-Green Belt Training

powered by Novations

Six Sigma® has an impressive track record, with billions of dollars saved through business improvement. Traditionally, training employees in the basic skills and methodologies of a Six Sigma Green Belt has been handled in the classroom. And while this methodology works for some organizations, others require more flexibility and convenience in training their people.

Motorola, the Six Sigma pioneer and innovator, has created a new way to train prospective Green Belts – online. With the e-Green Belt Program, Green Belt candidates can access Motorola's almost two decades of Six Sigma experience at their convenience.

The Motorola e-Green Belt Program is designed for Green Belt candidates from all levels in an organization – frontline employees, engineers, human resource specialists, creative production designers, sales and marketing specialists, and general managers. The program concentrates on the basic problem solving, project management, and statistical tools needed for Green Belts to work effectively as members of business improvement teams. It presents concepts and techniques in an easy-to-understand way that allows learners to apply them immediately. After completing the course, participants will be able to:

- Apply the DMAIC methodology and associated tools and techniques to business improvement projects
- Serve as a high-performing team member on Black Belt project improvement teams
- Serve as a team leader on smaller improvement projects that do not require a Black Belt level of quantitative analysis

Presentation

Motorola and Novations have developed a whole new approach to online Six Sigma training. Through fully narrated audio and engaging animations and interactions, learners are able to see a team work through the entire DMAIC process. But learners do more than read a case study – they participate in one. The learner is actually assigned to a virtual Six Sigma team and works to complete a project throughout the course.

Learners are drawn into the course through the following:

- Highly detailed scenarios and case studies
- Flash animation
- Full audio narration
- MINITAB® software simulations
- Quizzes
- Games
- Full-motion video



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Course Length

This course covers seven modules and requires roughly 30 hours to complete. The seven modules include:

- Introduction to Green Belt Training
- Define
- Measure
- Analyze
- Improve
- Control
- Summary

Module	Learning Object	Module and Learning Object Objectives	Run Time ¹ (Minutes)
Introduction to Green Belt	Introduction		15
	Orientation Tour		16
Define	Overview	After completing the Define module, you will be able to identify and validate the improvement project, illustrate the business processes, define customer requirements, and prepare to be an effective team member.	5
	Identify, Prioritize, and Select the Improvement Opportunity	After completing this learning object, you will be able to identify the key elements of an improvement opportunity, define the role of a financial expert on an improvement project, describe five important financial metrics, and explain why financial metrics are important in an improvement opportunity.	20
	Develop a Project Team Charter	After completing this learning object, you will be able to identify the purpose of a Team Charter, define the elements of an effective Team Charter, evaluate the effectiveness of a Team Charter, determine guidelines for planning meetings, and ascertain effective milestones.	30
	Build Effective Teams	After completing this learning object, you will be able to identify the characteristics of effective teams, the four stages of team development and the various roles within teams, and determine the guidelines for meetings and effective brainstorming.	25
	Identify Customers and Customer Requirements	After completing this learning object, you will be able to identify your customers, determine reasons for listening to customers, and translate the Voice of the Customer (VOC) into Critical Customer Requirements (CCRs).	20
	Define and Map Process to be Improved	After completing this learning object, you will be able to map a process using SIPOC diagrams and functional deployment flow charts, conduct a qualitative review of a process, and identify quick-win opportunities for improvement.	35

Module	Learning Object	Module and Learning Object Objectives	Run Time ¹ (Minutes)
Define (continued)	Summary		15
Measure	Overview	<p>After completing the Measure module, you will be able to identify critical measures that are necessary to evaluate success, meet Critical Customer Requirements, and develop a methodology to effectively collect data to measure process performance.</p> <p>You will also be able to understand the elements of the Six Sigma calculation and establish baseline sigma for a process the team is analyzing.</p>	10
	Determine What to Measure	After completing this learning object, you will be able to define input, process, and output indicators and use the Cause and Effect Diagram and the Cause and Effect Matrix to determine relationships between indicators and what data to collect.	40
	Operational Definitions	After completing this learning object, you will be able to define and write an operational definition for key measures.	20
	Measurement Plans	After completing this learning object, you will be able to distinguish between continuous and discrete data and develop a measurement plan.	25
	Sampling	After completing this learning object, you will be able to define sampling and select appropriate sampling techniques for a variety of situations.	20
	Collect, Display, and Evaluate Data	After completing this learning object, you will be able to identify guidelines for collecting data and identify some data collection tools.	15
	Understanding Variation	After completing this learning object, you will be able to define and measure statistical variation, recognize the importance of variation in process improvement efforts, define and identify summary statistics, use three types of charts, and define normal distribution and standard deviation.	50

Module	Learning Object	Module and Learning Object Objectives	Run Time ¹ (Minutes)
Measure (continued)	Measurement System Analysis	After completing this learning object, you will be able to identify reasons for performing a Measurement System Analysis and identify possible sources of variation in a measurement system.	15
	Attribute MSA and Continuous MSA	After completing this learning object, you will be able to identify the steps to performing an MSA study for both discrete and continuous data, and define measurement system bias, precision, stability, linearity, and discrimination.	20
	MSA Metrics	After completing this learning object, you will be able to define Percent Repeatability and Reproducibility and Percent Precision to Tolerance ratio, and determine the amount of acceptable variance in a measurement system.	20
	Variability, Stability, and Capability	After completing this learning object, you will be able to define variability, stability, and capability and identify common cause and special cause variation.	20
	Determine Process Performance	After completing this learning object, you will be able to define performance metrics, calculate sigma performance using the Defects Per Million Opportunities (DPMO) formula, calculate capability indices, and define the cost of quality and the cost of poor quality.	40
	Summary		20
Analyze	Overview	After completing the Analyze module, you will be able to use FMEA for root cause analysis, use comparison statements to formulate the question being tested, choose and conduct tests appropriate to the root causes being analyzed, distinguish the purpose of sources of variability (SOV) studies, and conduct correlation analysis and simple linear regression tests.	10
	Identify Potential Root Causes	After completing this learning object, you will be able to recognize the essential elements in a problem statement and perform a Pareto analysis using MINITAB.	40

Module	Learning Object	Module and Learning Object Objectives	Run Time ¹ (Minutes)
Analyze (continued)	Apply Failure Modes and Effects Analysis (FMEA)	After completing this learning object, you will be able to distinguish the two types of FMEA, recall when to use each type for root cause analysis, and be able to complete the FMEA worksheet.	15
	Implement Comparative Methods	After completing this learning object, you will be able to identify key elements of a comparison statement and use comparative methods to analyze improvement opportunities and verify root causes.	15
	Introduction to Hypothesis Testing	After completing this learning object, you will be able to develop a statistical comparison statement for your problem using the concepts and theories that support hypothesis testing.	40
	Assess Data Structure	After completing this learning object, you will be able to determine the required sample size for your project, apply confidence intervals to interpreting your data, assess the normality of your data, and describe when to use nonparametric tests.	50
	Choose Statistical Tests	After completing this learning object, you will be able to choose statistical tests and tools appropriate to the Ys and Xs being analyzed.	15
	Tests on the Mean	After completing this learning object, you will be able to identify, conduct, and interpret tests on the mean.	70
	Tests on the Median	After completing this learning object, you will be able to identify, conduct, and interpret tests on the median.	45
	Tests on the Standard Deviation	After completing this learning object, you will be able to identify, conduct, and interpret tests on standard deviation.	45
	Tests on Proportions	After completing this learning object, you will be able to identify, conduct, and interpret tests on proportions.	50

Module	Learning Object	Module and Learning Object Objectives	Run Time ¹ (Minutes)
Analyze (continued)	Conduct Sources of Variation Studies	After completing this learning object, you will be able to conduct multi-vari analysis (MVA) and identify the major sources of variation (SOV) in order to identify the largest sources of variation and potential root causes.	25
	Conduct Correlation and Regression Analysis	After completing this learning object, you will be able to conduct correlation analyses and simple linear regression to investigate potential root causes.	35
	Summary		15
Improve	Overview	After completing the Improve module, you will be able to generate alternative solutions to root causes of problems, rank and select potential solutions, identify the reasons for completing, the elements of, and the steps for completing a pilot plan, and recognize the elements of the Change Acceleration Framework.	10
	Generate Solutions	After completing this learning object, you will be able to recognize some methods for nontraditional idea generation and generate alternative solutions.	20
	Rank and Select Solutions	After completing this learning object, you will be able to rank and select solutions by considering expected impact to the big Y, Return on Investment (ROI), and the timeline.	30
	Develop and Execute a Pilot Plan	After completing this learning object, you will be able to identify the reasons for developing a pilot plan, the elements of a pilot plan, and the steps for completing a pilot plan.	20
	Manage Change	After completing this learning object, you will be able to identify the importance of managing and accelerating change to the success of a project and recognize the elements of the Change Acceleration Framework.	20
	Summary		20

Module	Learning Object	Module and Learning Object Objectives	Run Time ¹ (Minutes)
Control	Overview	After completing the Control module, you will be able to identify how to plan and implement your improvement solution, use Statistical Process Control (SPC) to monitor process stability, expand your solution through replication or standardization, and provide closure to your project by reviewing lessons learned and providing rewards and recognition.	5
	Plan and Implement Solution	After completing this learning object, you will be able to identify elements and key considerations of implementation planning, identify two types of mistake proofing, identify the benefits of Digital Six Sigma in enforcing compliance with procedures and standards, and identify the functions and elements of a process control system.	35
	Implement Statistical Process Control (SPC)	After completing this learning object, you will be able to identify the importance of Statistical Process Control (SPC) to process improvement, identify causes of process variation, identify the difference between specification limits and control limits, choose the correct control chart to use based on the measured characteristic, and determine whether a process is stable by using a control chart.	45
	Process Integration	After completing this learning object, you will be able to identify the benefits of and difference between replication and standardization, identify characteristics of implementation approaches, identify elements of process management systems, explain how quality system standards relate to Six Sigma, and recognize some common quality systems.	35
	Closure and Recognition	After completing this learning object, you will be able to explain the importance of documenting lessons learned from the sigma improvement process, identify benefits and drawbacks of team evaluations, and identify essential criteria for rewards and recognition.	15
	Summary		15
Summary			45
		Total	1281

¹ Run time is the length of time required for all of the audio, animations, and simulations to complete. Actual total user time completing all of the modules is approximately 30 hours.