BMGI
Problem Solved.

Six Sigma eYellow Belt® Courses

Six Sigma from 50,000 Feet (60 min)
Appropriate for all levels of the organization, this introductory course provides a high-level overview of the fundamentals of Six Sigma. It describes the Six Sigma methodology in detail, the meaning of the Six Sigma Black Belt, what it takes to create a Six Sigma culture and why Six Sigma works.

At the end of this module, students will be able to:

- Describe the basics of Six Sigma, including what it is, why it is important and how it works.
- Define the concept of a Six Sigma Black Belt.
- Describe and define the DMAIC methodology and how it can be applied to reduce variation.
- Define the Y=f(X) equation.
- Identify an ideal Six Sigma culture.

Six Sigma Literally Speaking (48 min)
This course explores the meaning behind the phrase "Six Sigma." It illustrates how Six Sigma can be put to practical use inside an organization to affect change and describes the fundamental concept of variation. In addition, the course explores the cost of quality to an organization. All concepts are explained in a simple-to-understand format appropriate for all levels of an organization.

At the end of this module, students will be able to:

- Describe the fundamental concepts of variation.
- Discuss the practical meaning of Six Sigma.
- List the possible sources of variation in a process.
- Explain the cost of quality.

Six Sigma Roles & Phases (50 min)
Designed for executives and managers, this course describes the key roles individuals play during the phases of the Six Sigma process. Every individual responsible for deploying Six Sigma within an organization should view this course.

At the end of this module, students will be able to:

- Describe the roles and responsibilities of key Six Sigma players, including:
  - Executives
  - Champions
  - Finance representatives
  - Master Black Belts
  - Black Belts
  - Green Belts
  - Process Owners
  - Team Members

DMAIC for Teams (75 min)
This course examines team member responsibilities and project objectives in each phase of the Six Sigma process. It is designed specifically for individuals who will be participating on a Six Sigma project team.

At the end of this module, students will be able to:

- Define the responsibilities of each team member in the D, M, A, I, C and R phases of Six Sigma.

Introduction to Statistics (64 min)
The ability to understand and use statistical data is crucial to the success of any Six Sigma project. This course introduces basic statistical concepts including populations and sampling, measures of central tendency, and measures of variation.

At the end of this module, students will be able to:

- Define the four types of data, including normal, ordinal, interval and ratio.
- Discuss the difference between a population and a sample.
- Calculate the measures of central tendency, including mode, median and mean.
- Identify the measures of variation, including range, variance and standard deviation.
- Identify the concepts of shape, including frequency of distributions and normality.
- Describe the difference between long term and short term distributions.
- List the sources of variation and the measurements for defects.
- Define Six Sigma in statistical terms.

Process Mapping and C&E Tools (89 min)
This module covers powerful team building tools including Process Maps, Fishbone Diagrams, C&E Matrices and FMEAs. Mastering these tools leads the way to more complex problem solving techniques. This course is both an ideal refresher course for existing Six Sigma practitioners and a key analytic skill builder for new team members.

At the end of this module, students will be able to:

- Discuss the attributes of the team brainstorming tools within Six Sigma, including:
  - Process Mapping
  - Fishbone Diagrams
  - C&E Matrices
  - FMEAs
- Construct the team brainstorming tools using historical data and facilitation techniques.

Basic Attribute Measurement Systems (40 min)
This course explains how to assess the capabilities of an attribute measurement system and why this task is critical to measurement success. Employees learn about Attribute R&R and where Gage R&R fits into the DMAIC roadmap. This course is ideal for introducing measurement system concepts to all levels of an organization, or as a refresher course for existing Six Sigma practitioners.

At the end of this module, students will be able to:

- Identify the need for Gage R&R within the DMAIC roadmap.
- Demonstrate Attribute R&R, including types of measurement systems, execution and application.

Basic Variable Measurement Systems (21 min)
This module introduces Variable R&R measurement systems and the related concepts of Accuracy, Resolution and Precision. This course is ideal for introducing measurement system concepts to all levels of your organization.

At the end of this module, students will be able to:

- Demonstrate Variable R&R.
- Define the concepts of accuracy, precision and resolution.

Data Collection (40 min)
Proper data collection is critical to the correct analysis and reporting of key business metrics. The fundamentals topics covered in this course include discrete vs. continuous data types, scales of measurement, specific data collection principles, converting attribute data to variable data, sample size considerations, sampling strategies and data gathering strategies. Six Sigma practitioners and team members responsible for data collection and analysis will find this course highly beneficial.

At the end of this module, students will be able to:

- Discuss the importance of data collection through each DMAIC phase.
- Explain the fundamentals of data and why it's necessary to collect it.
- Describe the difference between discrete and continuous data.
- Explain sample size consideration, sampling strategies and data gathering strategies.
- Convert attribute data to variable data.

Capability Analysis (75 min)
Six Sigma practitioners and project team members need to understand what it means to perform a capability analysis and the benefits of doing so. The course covers several concepts such as short-term vs. long-term capability, various capability metrics, and a four step process for calculating capability for attribute and variable performance characteristics.

At the end of this module, students will be able to:

- Explain what it means to perform a capability analysis.
- Identify where capability analysis should be applied within the DMAIC roadmap.
- Describe the difference between short-term and long-term capability.
- Discuss the metrics of capability analysis.
- Calculate capability using data gathered through the Measure phase of Six Sigma.

Understanding Graphs (96 min)
Understanding and graphing data is the best way to communicate information to a project team. This course explains how to easily convert data into useful information. Employees responsible for collecting, presenting, and/or analyzing data will find this presentation of great value.

At the end of this module, students will be able to:

- Explain the importance of collecting and communicating good data.
- Identify the different possible combinations of inputs (Y's) and outputs (X's), including:
  - Graphs for continuous y
  - Graphs for continuous y versus time
  - Graphs for categorical x versus continuous y
  - Graphs for categorical x versus categorical y
  - Graphs for continuous x versus continuous y
- Convert data into information for the purposes of describing a process.

Introduction to Hypothesis Testing (45 min)
Hypothesis Testing is a critical part of the Analyze Phase of a Six Sigma project, and a useful tool in daily decision making. Using Hypothesis Testing, students learn how to prove and disprove theories, leading to more sound and statistically-based decisions. This module teaches criteria for selecting and performing an appropriate hypothesis test, as well as how to properly analyze test results. Appropriate for anyone that desires a practical understanding of statistical testing. *(Understanding Graphs is a required prerequisite for this course.)*

At the end of this module, students will be able to:

- Describe the basic concepts of hypothesis testing.
- Explain the purpose of Hypothesis Testing within the DMAIC roadmap.
- Describe the method for calculating Hypothesis Tests and how to analyze their meaning.
- List the criteria for selecting an appropriate test.

Introduction to DOE (60 min)
Design of Experiments (DOE) is the most important tool in the Improve Phase of any Six Sigma curriculum. Using DOE, you'll learn how to model processes as equations to find the optimal situation where all of the requirements can be met at the lowest possible cost. Topics covered include the basic concepts and reasons for executing a DOE, and when to apply DOE for maximum effectiveness. *(Intro to Hypothesis Testing is a required prerequisite for this course.)*

At the end of this module, students will be able to:

- Describe the basic concepts and reasons for Design of Experiments (DOE).
- Compare strategies for determining which critical inputs drive important outputs.
- Describe the method for running DOEs.
- Discuss barriers that may exist when attempting to apply DOE to real processes.

Control Phase Tools (53 min)
Control phase fundamentals are explored in this course. A detailed overview of the control plan tool is provided along with a description of the various types of control methods. This course is intended for Six Sigma practitioners, process owners and team members who will be involved in implementing and maintaining the Six Sigma project solution.

At the end of this module, students will be able to:

- Discuss control phase fundamentals.
- Explain the need for detailed control plans.
- Describe and rank the control methods that exist within a process.

Introduction to SPC (60 min)
From the history of SPC to the difference between common cause and special cause variation, this course describes how to use SPC to measure and control process variation. Run Charts and Control Charts are illustrated and defined, and the rules for interpreting the charts are described in detail. Finally, the course discusses how Control Charts can be used to assess variation and take action to improve processes.

At the end of this module, students will be able to:

- Discuss the history of Statistical Process Control (SPC).
- Describe the types of control methods that exist within a process.
- Discuss the difference between run charts and control charts.
- Construct and interpret a control chart.